



**SHARC INTERNATIONAL SYSTEMS INC.
MANAGEMENT'S DISCUSSION AND ANALYSIS –**

FOR THE THREE AND SIX MONTHS ENDED JUNE 30, 2018

Introduction

The following management's discussion and analysis ("MD&A") of the financial condition and results of the operations of SHARC International Systems Inc. (the "Company" or "SHARC") for the three and six months ended June 30, 2018 has been prepared to provide material updates to the business operations, liquidity and capital resources of the Company since its last annual management discussion & analysis, being the Management Discussion and Analysis ("Annual MD&A") for the year ended December 31, 2017. This interim MD&A does not provide a general update to the Annual MD&A, or reflect any non-material events since the date of the Annual MD&A.

This MD&A has been prepared in compliance with the requirements of section 2.2.1 of Form 51-102F1, in accordance with National Instrument 51-102 – Continuous Disclosure Obligations. This discussion should be read in conjunction with the audited financial statements of the Company for the years ended December 31, 2017 and 2016, and the unaudited condensed consolidated interim financial statements for the six months ended June 30, 2018 together with the notes thereto. Results are reported in Canadian dollars, unless otherwise noted. In the opinion of management, all adjustments (which consist only of normal recurring adjustments) considered necessary for a fair presentation have been included. The result for the three and six months ended June 30, 2018 are not necessarily indicative of the results that may be expected for any future period. Information contained herein is presented as at August 29, 2018 unless otherwise indicated.

The unaudited condensed consolidated interim financial statements for the six months ended June 30, 2018, have been prepared using accounting policies consistent with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB") and interpretations issued by the International Financial Reporting Interpretations Committee ("IFRIC"). The unaudited condensed consolidated interim financial statements have been prepared in accordance with International Standard 34, Interim Financial Reporting.

For the purposes of preparing this MD&A, management, in conjunction with the Board of Directors, considers the materiality of information. Information is considered material if: (i) such information results in, or would reasonably be expected to result in, a significant change in the market price or value of SHARC's common shares; or (ii) there is a substantial likelihood that a reasonable investor would consider it important in making an investment decision; or (iii) it would significantly alter the total mix of information available to investors. Management, in conjunction with the Board of Directors, evaluates materiality with reference to all relevant circumstances, including potential market sensitivity.

Further information about the Company and its operations is available on SEDAR at www.sedar.com.

Caution Regarding Forward-Looking Statements

This MD&A contains certain forward-looking information and forward-looking statements, as defined in applicable securities laws (collectively referred to herein as "forward-looking statements"). These statements relate to future events or the Company's future performance. All statements other than statements of historical fact are forward-looking statements. Often, but not always, forward-looking statements can be identified by the use of words such as "plans", "expects", "is expected", "budget", "scheduled", "estimates", "continues", "forecasts", "projects", "predicts", "intends", "anticipates" or "believes", or variations of, or the negatives of, such words and phrases, or state that certain actions, events or results "may", "could", "would", "should", "might" or "will" be taken, occur or be achieved. Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause actual results to differ materially from those anticipated in such forward-looking statements. The

forward-looking statements in this MD&A speak only as of the date of this MD&A or as of the date specified in such statement.

Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause SHARC's actual results, performance or achievements to be materially different from any of its future results, performance or achievements expressed or implied by forward-looking statements. All forward-looking statements herein are qualified by this cautionary statement. Accordingly, readers should not place undue reliance on forward-looking statements. The Company undertakes no obligation to update publicly or otherwise revise any forward-looking statements, whether as a result of new information or future events or otherwise, except as may be required by law. If the Company does update one or more forward-looking statements, no inference should be drawn that it will make additional updates with respect to those or other forward-looking statements, unless required by law.

Description of Business

The Company was incorporated under the Business Corporations Act (British Columbia) on February 4, 2011. The Company's shares are listed on the Canadian Securities Exchange (the "CSE") under the trading symbol "SHRC". The Company provides wastewater heat exchange products and services. The registered office of the Company is located at 1443 Spitfire Place, Port Coquitlam, British Columbia, V3C 6L4.

On September 5, 2017, the Company changed its name from International Wastewater Systems Inc. to SHARC International Systems Inc.

The Company's wholly owned subsidiary, International Wastewater Heat Exchange Systems Inc. ("**IWHES**") was incorporated under the Business Corporations Act (British Columbia) on May 30, 2011. On October 27, 2015, the Company completed the acquisition (the "**Acquisition**") of IWHES pursuant to a share exchange agreement dated September 4, 2015 (the "**Agreement**"). The Acquisition constituted a reverse takeover ("**RTO**"). The Company also owns 100% of Sharc Energy Systems Ltd. (formerly IWWS (UK) Ltd.) ("**SHARC UK**")

The Company has invented, tested and installed three revolutionary machines which extract thermal heat from wastewater to provide cost-effective eco-friendly space conditioning and water heating. Heat energy accounts for over 50% of all energy consumption in buildings so it makes sense to seek out alternative energy sources that provide cost savings while reducing carbon emissions.

The models developed are as follows:

SHARC

The larger SHARC models are designed to extract heat from local wastewater resources and support the production of low carbon heat for District Heating and / or Large heat consuming customers. As a factory constructed Packaged Energy Centre the system includes:

- SHARC Unit;
- Heat pumps;
- Buffer tanks; and
- A Control System.

The Packaged Energy Centre is connected to the Heat Network and Interfaces with the Building. The system is monitored 24/7 from SHARC headquarters which provides support for all necessary maintenance. This system replaces most of the gas or electricity required to heat the hot water in the buildings in which it is installed in. Installations include:

- **Borders College**, Galashiels, Scotland (near Edinburgh). This system is connected to the local wastewater system and provides around 85% of the heat needed by the Galashiels Campus with no impact the normal operation of the waste water network. Alongside Scottish Water Horizons, the Company has helped Borders College win the “Best Newcomer” category at the prestigious Green Gown Awards & the “Innovation of the year” award at the Scottish Green Energy Awards.

Established in 2004, the Green Gown Awards recognize the exceptional sustainability initiatives being undertaken by universities and colleges. With sustainability becoming increasingly important, the Awards have become established as the most prestigious recognition of best practice within the further and higher education sector.

Established by Scottish Renewables, the voice of renewable energy in Scotland, the Scottish Green Energy Awards were set up to recognize, support and celebrate exceptional contributions from a wide range of stakeholders involved in the Scottish Energy revolution and assisting the Scottish Government to realise the full economic, social and environmental benefits of renewable energy for the country.

- **Seven35 Building**, North Vancouver, Canada. Developed by Adera Developments, the Seven35 Building, situated on the north shores of Vancouver, offers a variety of features designed to uphold a deep commitment to sustainability. This multi-award-winning development consists of 60 urban-stacked town homes and was the site for the first installation of the SHARC sewage heat recovery system. The SHARC sewage heat recovery system recycles the heat from the raw sewage before it exits the building to the municipal sewer line.
- **The Gateway Theatre**, Richmond BC Canada. The Gateway Theatre project in Vancouver, completed in 2012 is a 50,000 sq. ft multi-use public theatre facility. As part of the city’s carbon reduction strategy the SHARC system was installed reducing the facilities emissions by 50 tonnes per year. The existing system was an incremental heat pump-based system supplied by a boiler and cooling tower using 29 heat pumps. With a design flow of 250 GPM from a city source 1 million btu/ hr are produced. This installation is the first waste water recovery system in a public facility in Canada.
- **Sail Condominium Project**, University of British Columbia, Canada. The Sail project is a new 172-unit condominium project. This is the largest SHARC installation to date and is the highlight of a sustainable community plan at the University British Columbia. The SHARC produces hot water and contributes to heating the building via radiant floor heating. The system generates 220,000 BTU’s per hour, reducing emissions by 100 tonnes per year and operates at 80% efficiency.

Piranha

- The medium sized Piranha models are designed to extract heat from the building’s wastewater. The PIRANHA HC is a self-contained heat exchange system specifically designed to provide domestic hot water pre-heating and space conditioning (heating and cooling). With its specially engineered direct expansion heat exchanger, the PIRANHA HC is designed for multi-unit residential (50-200 units) and stand-alone commercial applications.
- The PIRANHA HC is easily installed in new and retrofit construction projects, is attributable to LEED® credit criterion, and promotes the numerous environmental and energy-saving benefits of an expertly engineered wastewater heat exchange system.
- While SHARC’s signature PIRANHA™ system provides domestic water pre-heating, the PIRANHA HC’s added space conditioning feature provides even greater carbon reduction and energy savings. Whether

it's for a building's lobby, training facility, or conference room, the PIRANHA HC can provide strategic and specific space conditioning that eliminates the need for additional equipment. The PIRANHA HC's compact system frees up space for developers and building owners to add further amenities or suites, while improving the building's overall energy efficiency.

- The PIRANHA HC's multi-functionality provides a short payback for users as it operates at efficiencies of 400-600%. Water and space heating represent some of the highest operating costs for buildings and the PIRANHA HC works to significantly reduce these costs. With a robust design and lifecycle of 25+ years, the PIRANHA HC is dedicated to delivering clean energy for the long-term.

Mako

- The system is currently undergoing testing at a single detached home in Vancouver, British Columbia. The MAKO is the residential version of the award-winning SHARC energy system that until now has only been available to provide heating, cooling, and hot water for large-scale projects such as college campuses and high-rise apartment buildings.
- The MAKO meets LEED® Canada for Homes criteria, is easily installed in new and retrofit projects.
- The MAKO will provide families with immediate and long-term energy savings and carbon reduction and is expected to qualify for the Government of Canada's clean technology investment program.
- The average Vancouver household spends approximately \$1,550.00 per year on thermal energy that can be recovered by the MAKO. The estimated operating cost for the MAKO is \$350.00 per year, while it delivers annual savings of approximately \$1,200.00, paying for itself in less than four years.
- As more people around the world install the MAKO, it will cut GHG emissions significantly, offsetting an estimated three to four tonnes of CO2 emissions per year for each household. The MAKO can also be tied to a home's solar electric system allowing families to gain energy independence with an off-grid system.

In the coming year we expect to move strongly from the development stage of our business to the commercialization stage.

- SHARC Products. There appears to be a strong market internationally especially within big cities to utilize heat exchange units to recapture energy and to reduce the city's carbon footprint significantly. With the \$11 million Scottish projects underway, several Canadian and US cities are now realizing the effectiveness of SHARC's systems and have expressed interest in utilizing our systems. Currently, the City of Vancouver is testing our systems and for the last six months, SHARC has successfully been supplying heating solutions to over 5 million square feet of residential. Because of the lengthy sales cycle in dealing with large cities, we anticipate co-venturing with large engineering firms and public utilities which currently service the water and waste sectors of urban development.
- Piranha Products. Approximately 50% of all multi-residential building with greater than 50 units could retrofit the Piranha system into their buildings. This amounts to several million building worldwide. The Piranha system would reduce the carbon footprint of each building by several hundred kilograms annually and have an economic payback of less than four to five years. It is our plan to work provide financing incentives to buildings to convert to Piranhas both directly, and through gas and electric companies who currently provide the hot water heating options to these buildings.
- Mako Products. In colder climates, the Mako heat exchange unit has annual savings averaging at least \$1,200 annually. In sunnier climates, solar electric systems could increase these saving to around \$1,500 annually. With the cut of 3-4 tonnes of CO2 emissions per household and a about a 4-year payback, we will be marketing this product through both chains of stores directly and by gas and electric companies. We expect to commence marketing the Mako units by Q1 of 2019

Highlights

- On March 09, 2018 the Company announced that Environmental Technology Solutions Pty Ltd. ("**ETS**") has received its first purchase order for one PIRANHA™ wastewater heat recovery system. On October 26, 2017, the Company announced a strategic Licensing Agreement with ETS of Australia, for the commercialization of its PIRANHA™ and SHARC™ wastewater heat recovery systems in Australia and New Zealand. The Licensing Agreement gives SHARC a platform to launch its products throughout Australasia and to strengthen its first mover advantage in all parts of the world. Pursuant to the Agreement, SHARC received this initial purchase order from ETS. The order is intended to supply one of Australia's largest hotel operators, Meriton Property Services Pty Ltd, with one PIRANHA wastewater heat recovery system that will provide immediate and long-term economic and environmental savings. Meriton Suites is owned & operated by Meriton Property Services Pty Ltd and has 17 establishments and a total of 4,469 suites, making it Australia's largest owner of hotel rooms.
- On March 13, 2018, the Company announced it has completed the design and fabrication of the MAKO™ waste water heat exchange system. The system is currently undergoing testing at a single detached home in Vancouver, British Columbia. The MAKO is the residential version of the award-winning SHARC energy system that until now has only been available to provide heating, cooling, and hot water for large-scale projects such as college campuses and high-rise apartment buildings. The MAKO meets LEED® Canada for Homes criteria, is easily installed in new and retrofit projects. The MAKO will provide families with immediate and long-term energy savings and carbon reduction and is expected to qualify for the Government of Canada's clean technology investment program.
- On March 20, 2018, the Company announced that its SHARC subsidiary, Sharc UK has joined forces with Scottish Water Horizons ("**SWH**"), the commercial arm of Scottish Water to establish a joint venture which will enable them to expand and accelerate the deployment of wastewater heat recovery systems across Scotland.
- On March 23, 2018, the Company announced that it has entered Sales Representative Agreements with HIGHMARK NY, LLC ("**HIGHMARK**"). Under the terms of the Sales Agreement, HIGHMARK has been authorized to sell Vancouver-based SHARC products throughout the New York City metro area, effective immediately. The partnership combines SHARC's unique and innovative waste water energy recycling technology, which provides efficient and economical space heating and cooling for commercial, residential and industrial buildings, with HIGHMARK's commitment to reducing energy consumed and carbon emissions produced by New York City's buildings. New York City-based HIGHMARK is a pioneer in building efficiency as it searches the world for the most innovative products and technologies on the market. The team consists of a global network of HVAC professionals committed to ensuring buildings operate as efficiently as possible. Since its founding in 2013, the company has experienced double-digit annual growth, and continues to expand its extensive client base.
- On May 2, 2018, the Company announced CEO Lynn Mueller was invited to present SHARC to a panel of investors and industry experts at the U.S. Department of Energy's National Renewable Energy Laboratory ("**NREL**") hosted annual Industry Growth Forum ("**IGF**") in Denver, Colorado.
- On May 11, 2018, the Company closed the first tranche of a Non-Brokered Private Placement (the "Private Placement") raising gross proceeds of \$2,332,598 from the issuance and sale of 5,831,495 units (the "Offering"). Each Unit has a purchase price of \$0.40 per Unit, and the Unit consists of one (1) common share ("Common Share") of the Company and one (1) non-transferable share purchase warrant ("Warrant"). In the event that the Company's common shares trade at a closing price on the Exchange of greater than \$1.00 per share for a period of 10 consecutive trading days at any time after the closing date, the Company may accelerate the expiry date of the Warrants by giving notice to the holders thereof and in such case the Warrants will expire on the 30th day after the date hereafter referred to as the ("Eligible Acceleration Date") on which such notice is given by the Company. All securities issued in the financing will be subject to a statutory hold period expiring four months and one day after closing of the financing.

- On May 25, 2018, the Company announced that it has entered a Sales Representative Agreement with Air Treatment Corporation (“**Air Treatment**”). Under the terms of the Sales Agreement, Air Treatment has been authorized to sell Vancouver based SHARC products throughout the California, Arizona, Utah, Idaho, Colorado, Hawaii, Nevada and U.S island territory of Guam in Micronesia, effective immediately.
- On June 7, 2018, the Company closed the second tranche of a Non-Brokered Private Placement raising gross proceeds of \$1,578,500 from the issuance and sale of 3,946,250 units. Each Unit has a purchase price of \$0.40 per Unit, and the Unit consists of one (1) common share of the Company and one (1) non-transferable share purchase warrant. In the event that the Company's common shares trade at a closing price on the Exchange of greater than \$1.00 per share for a period of 10 consecutive trading days at any time after the closing date, the Company may accelerate the expiry date of the Warrants by giving notice to the holders thereof and in such case the Warrants will expire on the 30th day after the date hereafter referred to as the (“**Eligible Acceleration Date**”) on which such notice is given by the Company. All securities issued in the financing will be subject to a statutory hold period expiring four months and one day after closing of the financing
- On June 12, 2018, the Company announced it has entered into a Sales Representative Agreement with Frontier Refrigeration & Mechanical Services Ltd. Under the terms of the sale agreement, Frontier has been authorized to sell Vancouver based SHARC products throughout the Province of Manitoba.
- On June 18, 2018, the Company's UK subsidiary, SHARC Energy Systems has agreed to a funding deal through the 2014-2020 European Regional Development Fund to support the construction of the district heating scheme at the Clyde Gateway regeneration project in Glasgow, Scotland. The UK subsidiary was able to secure £3.7M (\$6.37M CDN) with repayable assistance from the Scottish Government's Low Carbon Infrastructure Transition Program (the “**LCITP**”) supported by the 2014-2020 European Regional Development Fund program. The LCITP support is matched to commercial loans and investments from the Energy Saving Trust, Clyde Gateway and SHARC Energy Systems.
- On July 9, 2018, the Company announced that the SHARC™ wastewater heat exchange system has won three top awards at the prestigious Water's Next Award program that honours the achievements of individuals and companies that successfully improve freshwater in Canada.
- On July 17, 2018, the Company announced that its CEO Lynn Mueller and the revolutionary SHARC™ wastewater heat exchange system has been nominated for the 2018 Ernest C. Manning Innovation Awards for the British Columbia and Yukon Region.
- On August 13, 2018, the Company announced that the Company's UK subsidiary SHARC Energy had won the tendering process with the UK Regeneration and Innovation team of the French Utility ENGIE who placed an open market invitation for wastewater heat recovery technologies in February 2018 to support the decarbonization of their established heat network portfolio, as well as creating new opportunities to partner on the development of standalone low carbon district heating networks.

Overall Performance

The unaudited condensed consolidated statements of financial position as of June 30, 2018, indicate a cash position of \$1,845,685 (December 31, 2017 - \$526,036) and total current assets of \$3,527,827 (December 31, 2017 - \$1,560,769). Current liabilities at June 30, 2018, total \$1,237,745 (December 31, 2017 - \$1,023,890).

Working capital, which is current assets less current liabilities, is \$2,216,836 (December 31, 2017 – working capital of \$536,879).

During the three and six months ended June 30, 2018, the Company reported a loss for the period of \$1,111,039 and \$1,907,340 (\$0.03 and \$0.06 basic and diluted loss per share) on revenue of \$39,862 and \$458,109,

respectively, and a gross margin of \$27,659 and \$246,711, respectively. This compared to a loss for the period of \$1,060,720 and \$2,172,101 (\$0.04 and \$0.08 basic and diluted loss per share) for the three and six months ended June 30, 2017 on revenue of \$207,387 and \$207,387, respectively, and a negative gross margin of \$102,241 and \$241,913.

Summary of Quarterly Results

A summary of selected information for each of the eight most recent quarters is as follows:

Three Months Ended	Total Revenue (\$)	Income (loss)		Total Assets (\$)
		Total (\$)	Per Share (\$)	
June 30, 2018	39,862	(1,111,039)	(0.03)	3,823,520
March 31, 2018	418,247	(796,301)	(0.03)	1,332,184
December 31, 2017	(113,114)	(1,627,928)	(0.06)	1,704,486
September 30, 2017	174,537	(721,512)	(0.03)	2,492,570
June 30, 2017	207,387	(1,060,720)	(0.04)	3,110,465
March 31, 2017	—	(1,111,381)	(0.05)	1,244,358
December 31, 2016	9,568	(2,510,345)	(0.10)	1,273,233
September 30, 2016	59,202	(902,433)	(0.04)	1,242,422

Discussion of Operations

SHARC has spent the last six years researching and developing its award-winning technology which recycles heat from wastewater on a carbon reduced basis, but very much on a true economic basis as well. The year ended December 31, 2017 marked the moment for the Company transitioning from research and development, to the commercialization of its innovative heat recycling technology.

As part of this transition, the Company changed its name from International Wastewater Systems Inc. to SHARC International Systems Inc., as it better reflects the strategy as the Company moves into commercialization and embarks on a sales and deployment program to ensure SHARC is strengthening its first to market advantage to all parts of the world.

Over the last 6 years, the Company has installed 14 systems providing heating and cooling to over 5 million square feet on several continents, explored new international markets, refined and developed the SHARC™ and PIRANHA™ through pilot projects and rigorous testing, and we have successfully developed the most efficient method of deploying our technology and services.

The Company has developed a preferred system of service delivery through a focus on equipment sales and Heat Purchase Agreements (“HPA”). Through the Company’s efficient system of service delivery, SHARC continues to work with end users to improve their energy efficiency and carbon reduction program.

Scotland and California have provided receptive environments as regulatory compliance has driven a demand for clean energy technology. Both jurisdictions have set aggressive emission targets and have invested heavily in creating a cleaner economy, thereby meeting their ambitions to mitigate climate change.

Scotland

Established on the principles of economic and resource sustainability, Scotland has led the international arena in adopting renewable energy solutions to power its economy. With over 2/3rds of Scotland’s power supply delivered from renewable energy sources, last December the Scottish Government published its “Scottish Energy Strategy” document describing long term vision for the country to further decarbonize its energy mix with strong emphasis on decarbonizing the country’s heating supply through wider adoption of emerging technologies. With a combination of strong policy, public sector engagement and commercial incentive the Scottish Government have shown great leadership that has created a very positive market for the SHARC family of technologies and allied services and we continue to be encouraged by the developing pipeline of activity we are creating.

The Company’s strategic alliance with the Scottish Government’s public water utility, Scottish Water, has enabled the company to establish our regional flagship operation at the Borders College in Galashiels and allowed us to establish a formal Joint Venture (**Bandwidth Energy Ltd**) with Scottish Water Horizons – the commercial operation of Scottish Water – allowing us to develop the next phase of installations in Scotland. Construction has commenced on a number of schemes, and completion is expected during H2 - 2018. As a global leader in combating climate change, Scotland has also provided the ideal location for the SHARC’s newly established European Headquarters, from which the Company expects to expand throughout Scotland and the rest of European Union. Our offices in Glasgow were opened in August 2017.

- **Bandwidth Energy Ltd.**

- Bandwidth Energy Ltd is the formal Joint Venture between SHARC subsidiary, SHARC Energy Systems Ltd. (“**SHARC UK**”) and Scottish Water Horizons (“**SWH**”), the commercial arm of Scottish water, with the aim of expanding and accelerate the deployment of SHARC wastewater heat recovery systems across Scotland.
- Adopting the innovative approach, championed by SHARC UK on the Borders project, of using heat supply agreements to support customers with a low cost and low risk adoption of our technology, Scottish Water Horizons will provide business development support and commercial funding for the projects, with SHARC providing the design, build and operational expertise for the green energy installations.
- The initial portfolio of schemes to be delivered by the JV, will be supported by the Scottish Government’s Low Carbon Infrastructure Transition Programme (“**LCITP**”) who will be providing 50 per cent grant capital support.
- The outcome of three years of collaboration between SHARC and Scottish Water Horizons, the JV was formally announced in March of this year and will support the Scottish Government’s ambitious renewable heat and carbon reduction targets for 2020 and beyond. An active pipeline of **£20 million (\$36.8 million CAD)** of potential installations across Scotland, when deployed, will generate 170 GWHs per year of heating and cooling to displace the fossil fuel currently used.
- This joint venture follows the launch of the UK’s first Sewage Heat Recovery system, developed and installed by SHARC and facilitated by Scottish Water Horizons, at Borders College in Galashiels, which aims to displace 1.2 GWHs (Giga Watt hours) of natural gas and save over 120 tonnes of carbon emissions per year.

Furthermore, SHARC UK 100% subsidiary, SHARC Highlands Ltd. (“**HIGHLANDS**”) has agreed to a funding deal through the 2014-2020 European Regional Development Fund to support the construction of the district heating scheme at the Clyde Gateway regeneration project in Glasgow, Scotland. The Company was able to secure £3.7M (\$6.37M CDN) with repayable assistance from the Scottish Government’s Low Carbon Infrastructure Transition Program supported by the 2014-2020 European Regional Development Fund program. The LCITP support is matched to commercial loans and investments from the Energy Saving Trust, Clyde Gateway and SHARC Energy Systems.

- **Clyde Gateway Development**

- SHARC Highlands Ltd. is a 100% owned SHARC subsidiary.
- Upon completion of Phase I, scheduled for estimated completion in March 2019, the Company will own an 11,000 square foot facility housing the Energy center of 6 SHARC units and associated heat pumps that will supply heat to the owners/tenants of the development, as well as providing our new factory / distribution facility and office accommodation that will support the growing demand for our products in Scotland and the wider UK.
- The Company has secured its Anchor load Heat Customer in Andrew Muirhead & Son Limited which will provide the Company with recurring heat sales revenue starting upon completion of Phase I.
- Subsequent phases will build out as the wider development progresses and the Energy Center will eventually be providing heating and cooling services to 15 customers occupying and additional 100,000 square feet of commercial space around our facility.
- We have secured £1,684,188.11 grant from the LCITP sponsored by the European Regional Development Fund, covering approximately 50% of the construction cost of the project.
- The Company secured a £1,000,000 loan facility from Energy Savings Trust with an interest rate of 3.5% that is repayable over 15 years. Payments begin 4 months from initial draw.
- Clyde Gateway Developments has provided a facility of £450,000 at 4.73% per annum.

California

In California, the California Energy Commission has played an instrumental role in the State's energy policy and its transition from fossil fuels, providing the ideal marketplace for the Company's wastewater heat recycling technology.

On April 3, 2017, the Scottish Government and the Government of California signed a joint venture agreement to commit to working together in the fight against climate change. The conducting of the necessary research and development through the early stages of the Company's lifespan has provided a platform in both Scotland and California to launch into commercialization and expand in both markets.

SHARC has created strategic alliances with local partners for growth, such as Prospect Silicon Valley and RENEW Energy Partners LLC. During the year, the Company has been legally allowed to commence completing sales in California.

Lynn Mueller CEO stated, "Six years of building and developing the SHARC systems with a hard-working team of engineers and designers has brought us to this next chapter. We look forward to showing everyone this world class clean energy technology the team has brought us, as we all becoming stronger together on combating climate change."

Three months ended June 30, 2018 compared with three months ended June 30, 2017

SHARC's loss for the period totaled \$1,111,039 for the three months ended June 30, 2018, with basic and diluted loss per share of \$0.03. This compares with net loss of \$1,060,720 with basic and diluted loss per share of \$0.04 for the three months ended June 30, 2017. The increase of \$50,319 in net loss was principally because:

- For the three months ended June 30, 2018, revenue decreased by \$167,525, cost of sales decreased \$297,425 and the gross margin increased by \$129,900. The decreases were due to their being no contracts completed by SHARC in the three months ended June 30, 2018 compared to June 30, 2017 where there was a completed contract. The Company has started the Clyde Gateway Project that doesn't provide for revenue recognition initially but will result in the financials showing the increase in property and equipment until the asset is put into use on completion of Phase I.
- For the three months ended June 30, 2018, consulting expenses increased by \$86,393. The increase is attributable to the increased activity of the Company's consultants and the increased capital markets activities of the Company.
- For the three months ended June 30, 2018, research and development expenses increased by \$78,588. The increase is attributable to the parts and fees associated with the development of the Piranha units, SHARC panel controls, Mako development and development work on the Borders College unit.
- For the three months ended June 30, 2018, advertising and promotion expenses increased by \$63,581. The increase is attributable to shareholder information provided through investor relations and news releases as well as corporate marketing campaign.
- For the three months ended June 30, 2018, the Company had \$2,387 in share-based payments versus \$172,362 in the comparable period. The share-based payments were the result of the

vesting of stock options granted to certain directors, officers, employees and consultants.

- For the three months ended June 30, 2018, interest and financing expense increased by \$110,877. The increase is attributable to accretion expense related to convertible debt issued in the three months ended June 30, 2017.
- For the three months ended June 30, 2018, wages and benefits decreased by \$176,992. This is due to cost cutting initiatives and the capitalization of applicable wages to cost of inventory.

Six months ended June 30, 2018 compared with Six months ended June 30, 2017

SHARC's loss for the period totaled \$1,907,340 for the six months ended June 30, 2018, with basic and diluted loss per share of \$0.06. This compares with net loss of \$2,172,101 with basic and diluted loss per share of \$0.08 for the six months ended June 30, 2017. The increase of \$50,319 in net loss was principally because:

- For the six months ended June 30, 2018, revenue increased by \$250,722, cost of sales decreased \$237,902 and the gross margin increased by \$488,624. The increases were due to the Company shipping a SHARC 440 to a US based customer compared to a Piranha unit in the comparable period. The Company has started the Clyde Gateway Project that doesn't provide for revenue recognition initially but will result in the financials showing the increase in property and equipment until the asset is put into use on completion of Phase I. At this time, the Heat Supply Arrangement with the key Heat Customer will commence.
- For the six months ended June 30, 2018, consulting expenses increased by \$107,425. The increase is attributable to the increased activity of the Company's consultants and the increased capital markets activities of the Company.
- For the six months ended June 30, 2018, research and development expenses increased by \$78,588. The increase is attributable to the parts and fees associated with the development of the Piranha units, SHARC panel controls, Mako development and development work on the Borders College unit.
- For the six months ended June 30, 2018, advertising and promotion expenses increased by \$97,625. The increase is attributable to shareholder information provided through investor relations and news releases as well as corporate marketing campaign.
- For the six months ended June 30, 2018, the Company had \$105,065 in share-based payments versus \$368,673 in the comparable period. The share-based payments were the result of the vesting of stock options granted to certain directors, officers, employees and consultants.
- For the six months ended June 30, 2018, interest and financing expense increased by \$198,220. The increase is attributable to accretion expense related to convertible debt issued in the three months ended June 30, 2017.
- For the six months ended June 30, 2018, wages and benefits decreased by \$128,251. This is due to cost cutting initiatives and the capitalization of applicable wages to cost of inventory.

Liquidity and Financial Position

As at June 30, 2018, the Company's cash balance was \$1,845,685 (December 31, 2017 - \$526,036) and the Company had working capital of \$2,216,836 (December 31, 2017 – working capital of \$536,879).

As of June 30, 2018, the Company had 38,696,993 common shares issued and outstanding, 14,262,912 warrants outstanding that would raise \$11,185,337 if exercised in full and 2,692,858 options outstanding that would raise \$1,573,024 if exercised in full. The Company does not know when or if the warrants or options will be exercised.

Cash used in operating activities was \$2,179,446 for the six months ended June 30, 2018. Operating activities were affected by the loss for the period of \$1,907,340 partially offset by non-cash expenses of \$302,315 and a negative change in non-cash working capital balances of \$474,421 largely because of an increase in prepaid expenses, inventory and a reduction in deferred revenue offset by an increase in accounts payable and accrued liabilities of \$304,167.

Related Party Transactions

Key management personnel are those persons having authority and responsibility for planning, directing and controlling the activities of the Company, directly or indirectly. Key management personnel include officers and directors.

During the three and six months ended June 30, 2018 (three and six months ended June 30, 2017), the Company incurred the following charges with key management personnel:

- (i) Consulting fees of \$26,936 and \$41,936 (\$51,000 and \$81,000) to companies controlled by, Yaron Conforti, former CFO, David Alexander, CFO, Russ Burton, COO and Ian Craft, Director of SHARC UK.
- (ii) Wages and benefits of \$94,466 and \$193,753 (\$78,558 and \$160,608) to the Lynn Mueller, CEO, Daryle Anderson, Director and Russ Burton.
- (iii) Inventory costs of \$23,736 and \$23,796 (\$Nil and \$Nil) to a company controlled by Russ Burton.
- (iv) Research and development expense of \$3,145 and \$3,145 (\$Nil and \$Nil) to a company controlled by Ian Craft.

The following table summarizes the above compensation paid to each related party.

	Three months ended June 30, 2018 (\$)	Three months ended June 30, 2017 (\$)	Six months ended June 30, 2018 (\$)	Six months ended June 30, 2017 (\$)
Lynn Mueller	39,000	39,000	78,000	78,000
Daryle Anderson	22,500	22,500	45,000	45,000
Yaron Conforti	—	41,000	—	71,000
David Alexander	15,000	10,000	30,000	10,000
Russ Burton	65,493	17,058	103,280	37,608
Ian Craft	6,290	—	6,290	—
Total	148,283	129,558	262,570	241,608

(v) Share-based payments of \$Nil (2017 - \$142,111) for the three months ended June 30, 2018 and \$Nil (2017 - \$303,961) was recognized in connection with the vesting of options granted to directors and officers of the Company and directors of the subsidiaries.

Other transactions with related parties included:

Cost of sales of \$Nil (\$2,832) for the three and six months ended June 30, 2018 was paid to a company controlled by a director of IWWS, Ian Craft.

Included in accounts payable is \$202,054 (December 31, 2017 - \$205,587) due to related parties.

	June 30, 2018 (\$)	December 31, 2017 (\$)
Lynn Mueller	—	2,408
Daryle Anderson	195,000	150,000
Yaron Conforti	—	—
Company controlled by Ian Craft	833	51,342
Company controlled by David Alexander	6,221	2,107
Company controlled by Russ Burton	23,432	—
Total	225,486	205,587

Loans receivable

During the year ended December 31, 2015 the Company advanced \$80,000 to the CEO of the Company. During the year ended December 31, 2016, \$40,000 was repaid. The advance bears interest at a rate of 3% per annum and is due on demand. As at June 30, 2018 the outstanding balance was \$Nil (\$41,832) as the loan was repaid. In addition, there is an advance of \$Nil (December 31, 2017- \$27,702) to the CEO which has been repaid during the six months ended June 30, 2018.

Share Capital

As of the date of this MD&A, the Company had 38,696,993 (June 30, 2018 – 38,696,993) issued and outstanding common shares.

Warrants outstanding for the Company at the date of this MD&A were as follows:

Warrants	Expiry Date	Exercise Price
59,429	September 2, 2018	\$0.70
21,429	October 21, 2018	\$1.58
650,095	December 23, 2018	\$1.40
36,464	December 23, 2018	\$1.05
1,450,528	February 27, 2019	\$1.40
86,790	February 27, 2019	\$1.05
942,857	May 30, 2020	\$1.05
66,000	May 30, 2019	\$1.40
28,571	June 6, 2019	\$1.40
730,714	June 29, 2020	\$1.05
44,900	June 29, 2019	\$1.40
5,964,495	May 11, 2020	\$0.60
4,180,640	June 7, 2020	\$0.60

Stock options outstanding for the Company at the date of this MD&A were as follows:

Options	Expiry Date	Exercise Price
752,750	July 28, 2018	\$0.63
142,858	October, 27, 2020	\$1.47
100,000	July 12, 2021	\$1.05
1,247,250	October 3, 2018	\$0.44
200,000	October 23, 2018	\$0.60
250,000	March 23, 2019	\$0.46

As at the date of this MD&A 2,014,285 (December 31, 2017 – 4,028,572) shares were held in escrow

Subsequent Events.

- (i) Subsequent to June 30, 2018, 109,714 warrants expired unexercised.

Recent Accounting Pronouncements

Certain pronouncements were issued by the IASB or the IFRIC that are mandatory for accounting periods after January 1, 2019. Pronouncements that are not applicable to the Company have been excluded from this note.

IFRS 16, Leases ("IFRS 16") was issued in January 2016, and supersedes IAS 17, Leases. This standard introduces a single lessee accounting model and will affect the initial present value of unavoidable future lease payments as lease assets and lease liabilities on the statement of financial position, including for most leases which are currently accounted for as operating leases. The Standard is effective for annual periods beginning on or after January 1, 2019.

The Company has not yet completed the process of assessing the impact of IFRS 16 will have on the consolidated financial statements.

Financial Instruments

Financial instruments measured at fair value are classified into one of three levels in the fair value hierarchy according to the relative reliability of the inputs used to estimate the fair values. The three levels of the fair value hierarchy are:

Level 1 – Unadjusted quoted prices in active markets for identical assets or liabilities;

Level 2 – Inputs other than quoted prices that are observable for the asset or liability either directly or indirectly;

Level 3 – Inputs that are not based on observable market data.

The fair value of the Company's receivables, loans receivable, accounts payable and accrued liabilities, loans payable and convertible debentures approximate their carrying values due to the short-term to maturity. The Company's cash is measured at fair value using Level 1 inputs.

The Company is exposed to varying degrees to a variety of financial instrument related risks:

Foreign Exchange Risk

Foreign exchange risk is the risk that the fair value of future cash flows will fluctuate as a result of changes in foreign exchange rates. As at June 30, 2018 the Company has exposure to the British pound that is subject to fluctuations as a result of exchange rate variations to the extent that transactions are made and balances are held in this currency. The Company has not hedged its exposure to currency fluctuations. The sensitivity of the Company's net loss to changes in the exchange rate between the Canadian dollar and the British pound resulting from a 10% change in the British pound exchange rate relative to the Canadian dollar would change the Company's net loss by approximately \$40,490 (December 31, 2017 - \$5,000).

Credit Risk

Credit risk is the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation. The Company's cash and receivables are exposed to credit risk. The Company reduces its credit risk on cash by placing these instruments with institutions of high credit worthiness. Receivables are primarily from sales or loans. The Company believes these parties to be of sound creditworthiness, and to date, all receivables have been settled in accordance with agreed upon terms and conditions. As at June 30, 2018 and December 31, 2017, the Company is exposed to credit risk arising from receivables and loans receivable.

Interest Rate Risk

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. As at June 30, 2018 and December 31, 2017, the Company is not exposed to any significant interest rate risk.

Liquidity Risk

Liquidity risk is the risk that the Company will encounter difficulty in meeting obligations associated with financial liabilities. The Company manages liquidity risk by maintaining sufficient cash balances to enable settlement of transactions on the due date. The Company addresses its liquidity through debt financing. While the Company has been successful in securing financings in the past, there is no assurance that it will be able to do so in the future.

Risks and Uncertainties

Manufacturing Risks

For the successful development of the Company's manufacturing operations, the Company will require maintenance of production equipment, hiring and retaining of managerial personnel and skilled labour and maintaining of desirable levels of production. There can be no assurance that the Company will be able to achieve and sustain these goals. The Company's future success also depends on its ability to successfully achieve expected manufacturing capacity in a cost-effective and efficient manner. If the Company cannot do so, it may be unable to achieve and sustain profitability. The Company's ability to achieve expected production capacity is subject to significant risks and uncertainties, including the following: (a) delays and cost overruns as a result of a number of factors, many of which may be beyond the Company's control, such as its ability to secure successful contracts with equipment vendors, (b) failure to effectively break in new equipment, (c) delays or denial of required approvals by relevant government authorities, (d) unavailability of manufacturing inputs; and (e) failure to execute its expansion plans effectively.

Regulatory Risks

The activities of the Company will be subject to intense regulation by governmental authorities. Achievement of the Company's business objectives are contingent, in part, upon compliance with regulatory requirements enacted by these governmental authorities and obtaining all regulatory approvals, where necessary, for the sale of its products. The Company cannot predict the time required to secure all appropriate regulatory approvals for its products, or the extent of testing and documentation that may be required by governmental authorities. Any delays in obtaining, or failure to obtain regulatory approvals would significantly delay the development of markets and products and could have a material adverse effect on the business, results of operations and financial condition of the Company.

Change in Laws, Regulations and Guidelines

The Company's operations will be subject to a variety of laws, regulations and guidelines relating to the manufacture, management, transportation, storage and disposal of untreated waste water but also including laws and regulations relating to health and safety, the conduct of operations and the protection of the environment. Changes to such laws, regulations and guidelines due to matters beyond the control of the Company may cause adverse effects to the Company's operations.

Lack of Operating History

The Company has only recently started to carry on its business. The Company is therefore subject to many of the risks common to early-stage enterprises, including under-capitalization, cash shortages, limitations with

respect to personnel, financial, and other resources and lack of revenues. The failure by the Company to meet any of these conditions could have a materially adverse effect on the Company and may force it to reduce, curtail, or discontinue operations. There is no assurance that the Company will be successful in achieving a return on shareholders' investment and the likelihood of success must be considered in light of the early stage of operations. The Company may not successfully address all of the risks and uncertainties or successfully implement its existing and new products and services. If the Company fails to do so, it could materially harm its business and impair the value of its common stock, resulting in a loss to shareholders. Even if the Company accomplishes these objectives, the Company may not generate the anticipated positive cash flows or profits. No assurance can be given that the Company can or will ever be successful in its operations and operate profitably.

Reliance on Management and Key Personnel

The success of the Company is dependent upon the ability, expertise, judgment, discretion and good faith of its senior management. While employment agreements are customarily used as a primary method of retaining the services of key employees, these agreements cannot assure the continued services of such employees. The Company attempts to enhance its management and technical expertise by recruiting qualified individuals who possess desired skills and experience in certain targeted areas. The Company's inability to retain employees and attract and retain sufficient additional employees as well as information technology, engineering, and technical support resources could have a material adverse impact on the Company's financial condition and results of operation. Any loss of the services of such individuals could have a material adverse effect on the Company's business, operating results or financial condition.

Additional Financing

The Company's future capital requirements depend on many factors, including its ability to market products successfully, cash flows from operations, locating and retaining talent, and competing market developments. The Company's business model requires spending money in order to generate revenue. Based on the Company's current financial situation, the Company may have difficulty continuing operations at the current level, or at all, if it does not raise additional financing in the near future.

In order to execute the Company's business plan, the Company will require some additional equity and/or debt financing to undertake capital expenditures. There can be no assurance that additional financing will be available to the Company when needed or on terms which are acceptable. The Company's inability to raise financing to support on-going operations or to fund capital expenditures could limit the Company's operations and may have a material adverse effect upon future profitability. The Company may require additional financing to fund its operations to the point where it is generating positive cash flows.

If additional funds are raised through further issuances of equity or convertible debt securities, existing shareholders could suffer significant dilution, and any new equity securities issued could have rights, preferences and privileges superior to those of holders of Company Shares. Any debt financing secured in the future could involve restrictive covenants relating to capital raising activities and other financial and operational matters, which may make it more difficult for the Company to obtain additional capital or to pursue business opportunities, including potential acquisitions. If adequate funds are not obtained, the Company may be required to reduce, curtail, or discontinue operations. There is no assurance that the Company's existing cash flow will be adequate to satisfy its existing operating expenses and capital requirements.

Competition

There is potential that the Company will face intense competition from numerous other companies, some of which can be expected to have longer operating histories and more financial resources and manufacturing and marketing experience than the Company. Increased competition by larger and better financed competitors

could materially and adversely affect the business, financial condition and results of operations of the Company.

Because of early stage of the industry in which the Company operates, the Company expects to face additional competition from new entrants. To remain competitive, the Company will require a continued high level of investment in research and development, marketing, sales and client support. The Company may not have sufficient resources to maintain research and development, marketing, sales and client support efforts on a competitive basis which could materially and adversely affect the business, financial condition and results of operations of the Company.

Intellectual Property Risks

The Company's ability to compete largely depends on the superiority, uniqueness, and value of its intellectual property and technology, including both internally-developed technology and the ability to acquire patent protection and/or trademark protection. To protect its proprietary rights, the Company will rely on a combination of trademark, copyright, and trade secret laws, trademark and patent applications, confidentiality agreements with its employees and third parties, and protective contractual provisions. Despite these efforts, certain risks may reduce the value of the Company's intellectual property. The Company's applications for trademarks and copyrights relating to its business may not be granted, and if granted, may be challenged or invalidated. There is no guarantee that issued trademarks and registered copyrights will provide the Company with any competitive advantages. The Company's efforts to protect its intellectual property rights may not be effective in preventing misappropriation of its technology and may not prevent the development and design by others of products or technology similar to, competitive with, or superior to those the Company develops. There is a risk that another party may obtain a blocking patent and the Company would need to either obtain a license or design around the patent in order to continue to offer the contested feature or service in its products.

New Market Risks

Extracting heat from raw sewage flows is a relatively new market and its long-term growth prospects are uncertain. Should the raw sewage heat market fail to expand, it would have a materially adverse effect on our business and financial position.

Product Development Risks

The development of additional products is subject to the risks of failure inherent in the development of new, state of the art products, laboratory devices and products based on new technologies. These risks include: (i) delays in product development or manufacturing; (ii) unplanned expenditures for product development or manufacturing; (iii) failure of new products to have the desired effect or an acceptable accuracy profile; (iv) emergence of superior or equivalent products; (v) failure by any potential collaborative partners to successfully develop products; and (vi) the dependence on third parties for the manufacture, development and sale of the Company's products. Because of these risks, our research and development efforts or those of potential collaborative partners may not result in any commercially viable products. If a significant portion of these development efforts is not successfully completed, or any products are not commercially successful, we are less likely to generate significant revenues, or become profitable. The failure to perform such activities could have a material adverse effect on the Company's business, financial condition and results of its operations.

The areas in which we plan to commercialize, distribute, and/or sell products involves rapidly developing technology. There can be no assurance that we will be able to establish ourselves in such fields, or, if established, that we will be able to maintain our market position, if any. There can be no assurance that the development by others of new or improved products will not make our present and future products, if any, superfluous or obsolete.

Product Liability

The devices and products that we intend to develop may expose us to potential liability from personal injury claims by end-users of the product. We intend to carry product liability insurance to protect us against the risk that in the future a product liability claim or product recall could materially and adversely affect our business. Inability to obtain sufficient insurance coverage at an acceptable cost or otherwise to protect against potential product liability claims could prevent or inhibit the commercialization of our intended products. We cannot assure you that if and when we commence distribution of our product that we will be able to obtain or maintain adequate coverage on acceptable terms, or that such insurance will provide adequate coverage against all potential claims. Moreover, even if we maintain adequate insurance, any successful claim could materially and adversely affect our reputation and prospects and divert management's time and attention. If we are sued for any injury allegedly caused by our future products our liability could exceed our total assets and our ability to pay the liability.

Product Defects

The Company's products are complex and, accordingly, they may contain defects or errors, particularly when first introduced or as new versions are released. We may not discover such defects or errors until after a product has been released and used by end-customers. Defects and errors could materially and adversely affect our reputation, result in significant costs to us or the termination of an agreement, delay planned release dates and impair our ability to sell our products in the future. The costs incurred in correcting any product defects or errors may be substantial and could adversely affect our operating margins. Furthermore, there can be no assurance that our efforts to monitor, develop, modify and implement appropriate test and manufacturing processes for our products will be sufficient to permit us to avoid a rate of failure in our products that results in substantial delays, significant repair or replacement costs or potential damage to our reputation, any of which could have a material adverse effect on our business, results of operations and financial condition.

We may also be subject to claims that our products are defective or that some function or malfunction of our products caused or contributed to damages. While we attempt to minimize this risk by incorporating provisions into our standard agreements that are designed to limit our exposure to potential claims of liability, we are not always able to negotiate such protections. In addition, no assurance can be given that all claims will be barred by the contractual provisions limiting liability or that the provisions will be enforceable. We may be liable for failure regarding the use of our products or services. A significant liability claim against us could have a material adverse effect on our operating results and financial position

Reliance on Key Inputs

The Company's business will be dependent on a number of key inputs and their related costs including raw materials and supplies related to its growing operations, as well as electricity, water and other local utilities. Any significant interruption or negative change in the availability or economics of the supply chain for key inputs could materially impact the business, financial condition and operating results of the Company. Some of these inputs may only be available from a single supplier or a limited group of suppliers. If a sole source supplier was to go out of business, the Company might be unable to find a replacement for such source in a timely manner or at all. If sole source supplier were to be acquired by a competitor, that competitor may elect not to sell to the Company in the future. Any inability to secure required supplies and services or to do so on appropriate terms could have a materially adverse impact on the business, financial condition and operating results of the Company.

Dependence on Suppliers and Skilled Labour

The ability of the Company to compete and grow will be dependent on it having access, at a reasonable cost and in a timely manner, to skilled labour, equipment, parts and components. No assurances can be given that the Company will be successful in maintaining its required supply of skilled labour, equipment, parts and components.

Management of Growth

The Company has, and may in the future, experience rapid growth and development in a relatively short period of time by aggressively marketing its products and services. The Company may be subject to growth related risks including capacity constraints and pressure on its internal systems and controls. The ability of the Company to manage growth effectively will require it to continue to implement and improve its operational and financial systems and to expand, train and manage its employee base. The inability of the Company to deal with this growth may have a material adverse effect on the Company's business, financial condition, results of operations and prospects

Conflicts of Interest

Certain of the directors and officers of the Company are also directors and officers of other companies, and conflicts of interest may arise between their duties as officers and directors of the Company and as officers and directors of such other companies.

Litigation

The Company may be forced to litigate, enforce, or defend its intellectual property rights, protect its trade secrets, or determine the validity and scope of other parties' proprietary rights. Such litigation would be a drain on the financial and management resources of the Company which may affect the operations and business of the Company.

The Company may become party to litigation from time to time in the ordinary course of business which could adversely affect its business. Should any litigation in which the Company becomes involved be determined against the Company such a decision could adversely affect the Company's ability to continue operating and the market price for Company Shares and could use significant resources. Even if the Company is involved in litigation and wins, litigation can redirect significant company resources.

The Market Price of Company Shares May Be Subject to Wide Price Fluctuations

The market price of Company Shares may be subject to wide fluctuations in response to many factors, including variations in the operating results of the Company, divergence in financial results from analysts' expectations, changes in earnings estimates by stock market analysts, changes in the business prospects for the Company, general economic conditions, legislative changes, and other events and factors outside of the Company's control. In addition, stock markets have from time to time experienced extreme price and volume fluctuations, which, as well as general economic and political conditions, could adversely affect the market price for Company Shares.

Environmental and Employee Health and Safety Regulations

The Company's operations will be subject to environmental and safety laws and regulations concerning, among other things, emissions and discharges to water, air and land, the handling and disposal of hazardous and non-hazardous materials and wastes, and employee health and safety. The Company will incur ongoing costs and obligations related to compliance with environmental and employee health and safety matters.

Failure to comply with environmental and safety laws and regulations may result in additional costs for corrective measures, penalties or in restrictions on our manufacturing operations. In addition, changes in environmental, employee health and safety or other laws, more vigorous enforcement thereof or other unanticipated events could require extensive changes to the Company's operations or give rise to material liabilities, which could have a material adverse effect on the business, results of operations and financial condition of the Company.

Disclosure of Internal Controls

Management has established processes to provide them sufficient knowledge to support representations that they have exercised reasonable diligence that (i) the consolidated financial statements do not contain any untrue statement of material fact or omit to state a material fact required to be stated or that is necessary to make a statement not misleading in light of the circumstances under which it is made, as of the date of and for the periods presented by the consolidated financial statements; and (ii) the consolidated financial statements fairly present in all material respects the financial condition, results of operations and cash flows of the Company, as of the date of and for the periods presented.

In contrast to the certificate required for non-venture issuers under National Instrument 52-109 Certification of Disclosure in Issuers' Annual and Interim Filings ("NI 52-109"), this Venture Issuer Basic Certificate does not include representations relating to the establishment and maintenance of disclosure controls and procedures ("DC&P") and internal control over financial reporting ("ICFR"), as defined in NI 52-109. In particular, the certifying officers filing this certificate are not making any representations relating to the establishment and maintenance of:

- i) controls and other procedures designed to provide reasonable assurance that information required to be disclosed by the issuer in its annual filings, interim filings or other reports filed or submitted under securities legislation is recorded, processed, summarized and reported within the time periods specified in securities legislation; and
- ii) a process to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with the issuer's GAAP (IFRS).

The issuer's certifying officers are responsible for ensuring that processes are in place to provide them with sufficient knowledge to support the representations they are making in this certificate. Investors should be aware that inherent limitations on the ability of certifying officers of a venture issuer to design and implement on a cost-effective basis DC&P and ICFR as defined in NI 52-109 may result in additional risks to the quality, reliability, transparency and timeliness of interim and annual filings and other reports provided under securities legislation.