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

FOR YEAR ENDED DECEMBER 31, 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. (formerly International Wastewater Systems Inc.) (the "Company" or "SHARC") constitutes management's review of the factors that affected the Company's financial and operating performance for the year ended December 31, 2018. This MD&A has been prepared in compliance with the requirements of National Instrument 51-102 – Continuous Disclosure Obligations. The discussion should be read in conjunction with the audited financial statements of the Company for the years ended December 31, 2018 and 2017, 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 year ended December 31, 2018 are not necessarily indicative of the results that may be expected for any future period. Information contained herein is presented as at April 30, 2019 unless otherwise indicated.

The consolidated financial statements for the year ended December 31, 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").

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.

Message from CEO Lynn Mueller
A Practical Approach to Tackling Climate Change

After seven years of research and development by a dedicated team of engineers and designers, I am pleased to say that our innovative SHARC™ and PIRANHA™ heat recovery systems have successfully made harnessing the power of wastewater commercially viable. And with so many systems in place, we are now playing a tangible role in combatting climate change and contributing to a more sustainable environment. This success has allowed the company to move to a new level of growth and become a sales-focused, world-leading green energy engineering leader.

The model behind SHARC's rise is simple. It has tapped into a private sector business solution that that can mitigate and significantly reduce the $1 trillion USD in energy that is wasted down drains each and every year. That waste accounts for the 70 percent of all greenhouse gas emissions from buildings and the associated energy production needed to serve and replenish that waste.

SHARC is the most practical and easy-to-install technology on the market that is designed to address climate change. As we continue to attain success, the company intends to tell the story behind its rise and showcase its world-class clean energy solutions in key markets. We have developed an especially strong market niche with unparalleled results in carbon reduction in real estate developments and district energy hubs.

Some 36 industrialized countries have pledged to reduce their heat-trapping carbon emissions to specified levels and eliminate fossil fuels use within the next 20 years as part of new climate action policies. This positions SHARC to become a world-class player as governments the world over, on the municipal level and beyond, lead the charge around the world to transition into a green energy future.

Over the last eight years, the Company has had a number of achievements and successes. It has installed 21 systems providing heating and cooling to more than 10 million square feet of commercial, residential, and public spaces on four continents. Furthermore, it has explored new international markets and has successfully developed an efficient method of deploying this technology and supporting services.

The Company has developed a preferred system of service delivery through a focus on equipment sales and Heat Purchase Agreements ("HPA"). Through an efficient system of service delivery, SHARC continues to work with end-users to improve their energy efficiency and carbon reduction programs.

The worldwide threat to our planet posed by climate change demands a sustainable plan from every city and nation, from every resident and business in order to reduce carbon emissions and ensure a high quality of life for future generations.

Everyone has a role in this global struggle, and SHARC intends to do its part and become a world leader in fighting climate change and leaving the world a better place for future generations.

Lynn Mueller
President & CEO, SHARC International Systems Inc.

Description of Business

The Company was incorporated under the Business Corporations Act (British Columbia) on February 4th, 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 5th, 2017, the Company changed its name from International Wastewater Systems Inc. to SHARC International Systems Inc.

How the Idea of Wastewater Heat Recovery Was Realized

After a brief retirement from Earth Source Energy that lasted for three days, Lynn Mueller, soon to be President and CEO of SHARC International Systems Inc., believed that he still had more to contribute to preserve the world for future generations. With more than twenty-five years of experience in geothermal heat pump marketing and sales, while sitting in his kitchen and watching hot water go down the sink, he had a simple idea: "*What if we could recover the heat from the heated water going down the drain and re-use it?"* This led Mueller to do some more research on the concept's potential, and his findings on just how much water is wasted annually were staggering:

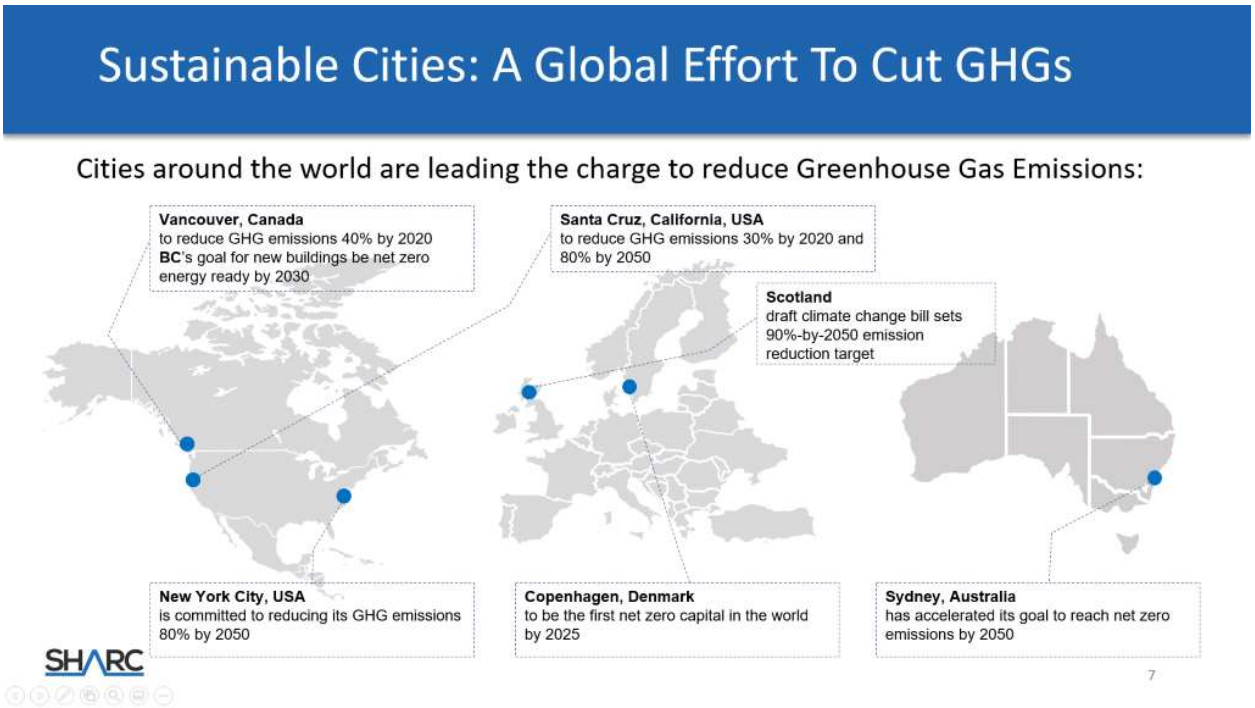
- Worldwide, one trillion dollars' worth of energy goes down the drain
- An average person in North America uses 60 gallons of water per day, 50% of which is heated and goes into the sewer system contributing to higher temperature levels
- $40 billion worth of recoverable thermal energy goes down the drain in residences across Canada and the United States

Recognizing the scale of the problem, Mueller reached out to his long-time friend and former colleague, Daryle Anderson, Director of SHARC International Systems Inc., to be his partner in what would become a new industry. Today, the idea has become reality with 21 operating installations and 2 installations underway globally. Around the world, governments at all levels are changing legislation to reduce greenhouse gas emissions.

Mueller knew that being first to market in a new industry would necessitate:

- Education and awareness
- Training
- Setting the standards

R&D will be a continuous process in the evolution of "heat recovery" as the company continues to be the industry leader and ready for all markets. Notably, in many countries, the Herculean efforts to cut greenhouse gas emissions are being led at the municipal level, as represented by the figure on the following page:



As an example of this trend, the City of Vancouver in British Columbia, Canada, has set a goal of achieving net zero emissions for new construction by 2030. To work towards this, the City is implementing the BC Energy Step Code to incentivize developers to meet more stringent levels of energy-efficiency. Moreover, local utilities BC Hydro and FortisBC are themselves offering consumers incentives to support energy-saving technologies. These include:

Efficiency BC Custom Performance Program – Fortis BC

- For small-, medium-, or large-scale projects
- Will pay 100% of the incremental costs associated with purchasing and installing SHARC Energy Systems heat recovery equipment
- Maximum incentive of **$500,000** per year
- Also pays for an energy feasibility study up to a maximum of $25,000

EfficiencyBC Custom-Lite Program – BC Hydro

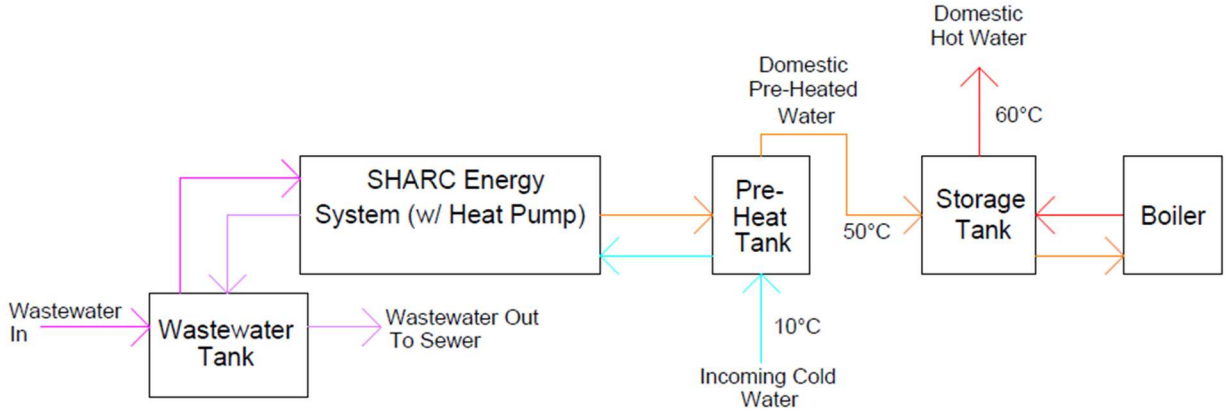
- For medium-scale projects
- Will fund a portion of the incremental costs associated with purchasing and installing SHARC Energy Systems heat recovery equipment
- The Program offers capital incentives up to maximum **$48,000** incentive per customer
- The Program also offers Energy Study funding up to a maximum of $2,000

EfficiencyBC Custom Program – BC Hydro

- For large-scale projects
- Will fund a portion of the incremental costs associated with purchasing and installing SHARC Energy Systems heat recovery equipment.
- The Program offers Capital Incentive of up to maximum **$200,000** incentive per customer.
- The Program also offers Energy Study funding up to a maximum of $25,000.

How SHARC Systems Work

The figure below shows a general schematic of a wastewater heat recovery system incorporated integrated into a traditional boiler system. The heat recovery technology serves to transfer heat from a wastewater flow into a facility's domestic water supply, thereby offsetting the energy demand on the boiler. This cuts the system's overall CO_2 emissions by reducing the amount of fossil fuels otherwise required for hot water production.



The benefits of the SHARC system include:

- Limitless supply of thermal energy from wastewater
- Significant reduction in global carbon emissions
- Lower utility bills for corporate and residential users
- Greater energy security
- Rapid cost recovery on capital investment
- Sustainable heating and cooling for a greener planet
- Odourless
- Industry acceptance with many international awards
- Government carbon reduction and efficiency incentives

The Company has a number of fringe competitors who offer an alternative for heat recovery. Because of the strength and robustness of SHARC's systems, the following competitors do not provide a threat with their current product portfolio:

HUBER ThermWin

Based in Germany, HUBER specializes in water and wastewater treatment. As part of that, they offer wastewater filtration and heat extraction equipment (called the ThermWin), but it in general the system lacks the flexibility to be integrated into the wide variety of projects that SHARC offers. The design team or client would have to consider both higher up-front capital costs and a reduced COP (coefficient of performance) due to equipment design. In addition, the equipment is not suitable for standard buildings due to their method of wastewater solids extraction and non-odour-free design.

Rabtherm

Rabtherm Energy Systems is another German manufacturer that takes an alternative approach to wastewater heat recovery. Unlike SHARC and HUBER, whose systems are external to the primary wastewater flow, Rabtherm's products are integrated into or replace the sewer line itself. They use heat exchangers lining the bottom of the pipe or embedded into the pipe walls with the intent of capturing the heat from the wastewater and transferring it to other equipment for reuse. Massive infrastructure costs and the issue of sediment build up on the bottom of the sewer pipe lead to long payback periods. Additionally, without a wastewater holding tank, it runs the risk of low-flow periods when heat cannot be recovered.

RenewABILITY Power-Pipe

The Power-Pipe is a heat recovery system produced by RenewABILITY Energy Inc., involving a heat extraction coil wrapped around a drainpipe. The intended purpose to capture wastewater heat as it passes through the drainpipe into the coil. The recovered heat is transferred to the building's hot water source.

The system is completely passive, with no moving parts, and so it requires no energy to operate. However, it entails extremely long payback periods due to low heat recovery rates (and thus energy cost savings) relative to installation costs. Moreover, in multi-family dwellings, one must consider the possibility of having to access the Power-Pipe though other owners' properties.

SHARC is Getting Industry Recognition and Winning Awards

The industry is witnessing SHARC's success and it is being recognized by peers and competitors alike with the following awards:

- 2016 ARI Green Building Product of the Year Award
- 2017 Green Gown Award for Innovation
- 2017 Scottish Renewable Energy Innovation Award
- 2016 Green 50 Induction: Lynn Mueller
- 2018 Water Canada Company of the Year
- 2018 Water Canada Project/Technology of the Year
- 2018 Water Canada People/Private Sector Organization of the Year
- Nominated for the 2018 Manning Innovation Award

Going Public Transaction and Corporate Structure Overview

The Company's wholly owned subsidiary, Sharc Energy Systems Inc. (formerly International Wastewater Heat Exchange Systems Inc.) ("**SES**") was incorporated under the Business Corporations Act (British Columbia) on May 30th, 2011. On October 27th, 2015, the Company completed the acquisition (the "**Acquisition**") of SES pursuant to a share exchange agreement dated September 4th, 2015 (the "**Agreement**"). The Acquisition constituted a reverse takeover ("**RTO**"). The Company either wholly owns or owns a percentage of the following subsidiaries:

Company	Location	December 31, 2018 Ownership %
SHARC Energy Systems Inc. ("**SES**")	Canada	100
SHARC Energy Ltd (formerly IWWS (UK) Ltd. ("**SHARC UK**")	United Kingdom	100
SHARC Highlands Ltd. ("**Highlands**")	United Kingdom	100
Green SHARC Ltd. (1)	United Kingdom	100
SHARC Energy Services (UK) Ltd. (1)	United Kingdom	100
SHARC Energy Systems Australasia Pty Ltd. ("**SHARC Australasia")** (1)	Australia	80
2336882 Ontario Inc. (1)	Canada	100

(1) The subsidiary was inactive at period end.

Further to the above table, the Company owns 40% in SHARC Caledonia Ltd. ("**Caledonia**") and Bandwidth Energy Ltd. ("**Bandwidth**"). A visual of the corporate organizational chart can be found below:

Business Model

The UK business model provides customers with a full turnkey service covering system design, installation, and operating arrangements (DBO) to provide customers with a renewable energy service that offsets or negates the need for gas supplies. This model can also be expanded to include project finance (DBFO) and support the customers adoption of service through heat supply contracts. The models include:

- Work package procurement and operational oversight by the SHARC team
- Building services adjustments
- SHARC package plant room, including heat pumps, buffer vessels, and wider system controls
- Design and operational oversight by the SHARC team
- Heat Purchase Agreements (“HPA”)

Sales Cycle

The Company’s sales cycle is more extended than more established technologies. This is primarily because the projects supported by the Company are more widely infrastructure based, involving extended periods of development and planning. Moreover, the innovative and pioneering nature of the Company’s approach to heat delivery requires a significant amount of engagement and educational support to get customers and their technical engineering teams comfortable with the technology and its capability.

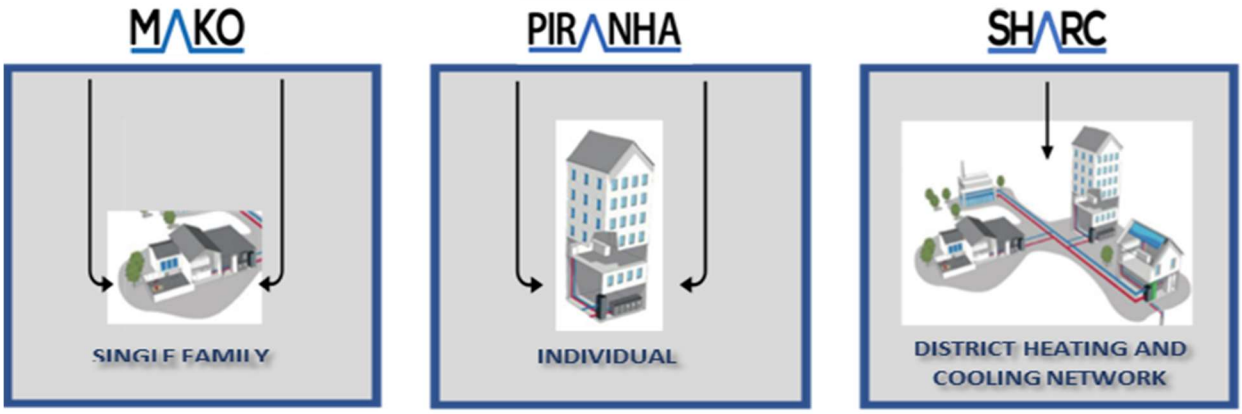
As a result of the experience gained through the Company’s development phase, including feedback from customers and other stakeholders, the Company is able to provide earlier and more detailed technical information to the customers in an effort to reduce the project gestation periods, which have historically ranged between 12 and 36 months. Additionally, through the development of strategic relationships with infrastructure partners such as ENGIE and AECOM, who trade in the public sector through framework agreements and established operating arrangements, the Company is seeing an increased pipeline of opportunity with an accelerated delivery plan.

Products

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:

- MAKO – Single-family home application
- PIRANHA – Multi-unit residential and commercial application
- SHARC – District heating and cooling network application

These products and their respective scopes of applications are illustrated in the figure below.



The associated research and development process involved building and testing the technology in-house. Thereafter, the technology was demonstrated in pilot projects in North America, Europe, Australia, and Asia to prove that SHARC technology can perform as designed. After seven years of R&D, the Company has moved to commercialization and is investing in commercial infrastructure to manage future growth and further establish identified green energy markets

The current R&D projects are as follows:

- MAKO - Single-family unit expected to be launched Q2 2020, currently undergoing testing in a single-family residence in Coquitlam, British Columbia
- PIRANHA HC - Designed for *heating* and *cooling*, expected to be launched in Q3 2020.

Commercialization Process

The commercialization process officially began in mid-2017, with proven revenue of $268k. In FY 2018, the Company's revenue achieved came to $2.14M. The Company anticipates top-line growth into 2019 and beyond.

Global Installations

To date we have completed 21 installations and have 2 projects under construction. The following is a sample of these 23 projects.

Installations and business models - *In order to test the scalable solutions for the organization the Company has embraced a variety of opportunities during the course of the year to establish the most productive and profitable route to market.*

In 2016 the company announced it has been successful in its bid to secure grant support from the Scottish Governments Low Carbon Infrastructure Transition Program **(LCITP).** This success stimulated a significant shift in the UK operation, establishing Scotland as the home of our design engineering and project delivery team.

In 2017, the company progressed the Aqualibrium and Clyde Gateway projects to ready status and achieved financial close on the subsidiary special purpose vehicles (SPV) established to build and operate the systems.

Alongside the provision of SHARC equipment, the UK operation also provides support for the enabling works to facilitate our service provision, including civil engineering to connect to the adjacent sewer systems and install buried heat distribution pipework, alongside building services adjustments to client properties enabling them to consume the SHARC heat supplies efficiently.

Through the SPVs (Bandwidth Energy Ltd – a joint venture with Scottish Water Horizons and SHARC Highlands, a wholly owned subsidiary established to construct the Clyde Gateway project the Company will benefit from Heat Purchase Agreements ("**HPA**") from these projects.

- **Aqualibrium,** Campbelltown, Scotland. Working with Scottish Water Horizons, the Company has continued to promote the use of design-buildfinance-operate arrangements (DBFO) in the deployment of this project, with the capital investment being funded via grants from the LCITP and commercial debt from Scottish Water Horizons. The capital investment will be repaid via heat supply agreements entered into with Argyll & Bute Council enabling the council to adopt our products and services with no capital outlay at the commencement of the project. This is a model that the joint venture with Scottish Water Horizons favours exploring on all new projects

  This project broke ground on July 18th, 2018, and is expected to help the Argyll & Bute Council achieve their Renewable Energy Action Plan targets and deliver 144 tonnes of CO_2 emission reductions per year, anticipated to increase annually as the UK electricity grid decarbonizes.

  The Aqualibrium project asset is held within a 50% owned subsidiary, Bandwidth. The other 50% is held by Scottish Water Horizons ("**SWH**"). Refer to Growth Strategy – Scotland below for additional info on this partnership. This specific project has been financed through £517,517 of government grant funding provided by the Scottish Government's Low Carbon Infrastructure Transition Programme ("**LCITP**") and £604,726 in debt financing from SWH. The remainder of cost for the project is to be funded by the Company. SHARC Energy Ltd., a 100% wholly-owned subsidiary of the Company, is acting as the developer on the project. As of December 31st, 2018, the Company has recognized development revenue of $1,513,029 (£874,634) and costs to date of $2,038,793 (£1,178,561). Upon completion of Aqualibrium, the project will earn recurring heat supply revenue and government rebates. On March 23rd, 2019, Aqualibrium generated 1 kWh of energy which is a significant milestone for the project. Commissioning is scheduled for June 2019.

  The revenue earned from the development phase of the project are reported in the Company Consolidated Financial Statements as revenue and the costs as cost of goods sold in the Consolidated Statement of Loss and Comprehensive loss. Upon commissioning, the project will operate under a 20-year Heat Supply Agreement generating monthly cash flows. The income or loss generated by Bandwidth will be reported as a gain or loss on equity investment in the Consolidated Statement of Income/Loss and Comprehensive Income/loss with the Company's equity in the project reported on the Statement of Financial Position.

- **Clyde Gateway,** Glasgow, Scotland. The Company reached financial close on this project in June 2018, under which the company had secured project financing of $6.8M CAD to design, build, finance, and operate a new district heating service in the Dalmarnock area of the Clyde Gateway. SHARC technology is being deployed to provide 2 MW of heating and cooling capacity to supply the neighbouring properties to our energy center over the next 20 to 50 years.

  The anchor tenant, Muirhead Leather, has signed a 5-year Heat Supply Agreement, alongside the provision of a utility concession to supply the new occupiers of the buildings being constructed by Clyde Gateway in the area.

  Alongside the energy centre, the building will become the European headquarters for SHARC Energy, housing operations and design services in the 2000-ft² office accommodation and provide production and distribution facilities in the 8000-ft² factory.

  The Clyde Gateway project asset is held within a 100% wholly-owned subsidiary, SHARC Highlands Ltd. The project has been financed through LCITP grant funding of £1,684,188, of which £1,000,000 is from a debt facility provided by Energy Savings Trust ("**EST**") and £450,000 is being provided by Clyde Gateway Developments Ltd. The remainder of cost on the project is to be funded by the Company. As of December 31st, 2018, the Company has incurred costs to date of $2,154,566 (£1,245,486), which is net of $2,434,705 (£1,407,425) of LCITP funding. The Company anticipates total cost on projects to be £5.2M. Upon completion of Clyde Gateway, the project will earn recurring heat supply revenues and government rebates. This project broke ground on August 30th, 2018, while commissioning is scheduled for June 2019.

  The cost less the LCITP funding is shown as Property and Equipment on the Consolidated Statements of Financial Position. Review the following video here for future highlights of Clyde Gateway.

Future headquarters located on Clyde Gateway

The Company experienced cost overruns on these projects of approximately £1.5M that will be subsidized through financings in 2019. These overruns represent future improvements of this business model and investment into its relationship with a strategic partner. (Please refer to Growth Strategy – Capitalize on Learnings from Pilot Installations for more info.)

- **Stirling District Heating Project**, Stirling, Scotland. In a further exploration to test the scalable business model, the company entered into a subcontract agreement with FES to supply technology and know-how to the district heating plan being developed between Scottish Water and Stirling Council

Operating

- **DC Water Administrative Headquarters,** Washington, DC, United States. This system was completed and commissioned in July 2018 and provides the approximately 168,000-ft^2 building with a combination of heating, air conditioning, and water heating. Savings are projected to be 35% for cooling and 85% for heating while saving 5 million gallons of freshwater per year that otherwise would have been used by the cooling towers. This building is designed to LEED® Platinum Class A standards and is the greenest building in North America.

- **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, reducing the associated carbon footprint by 250 tonnes per year. Alongside Scottish Water Horizons, the Company has helped Borders College win the “Best Newcomer” category at the prestigious Green Gown Awards and 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 realize the full economic, social, and environmental benefits of renewable energy for the country.

  As of April 5th, 2019, Borders College has passed 2,000,000 kWh of heat delivered since it began operations.

  In a further development, the Company has agreed a second phase of works with the college, including an opportunity to optimize the project through the use of solar photovoltaic (“**Solar PV**”) technology and a capital

restructuring of the SHARC Caledonia SPV. This will enable the facility to be used to test a variety of new technologies that will improve efficiency of the SHARC's systems and provide a site to demonstrate for prospective targets the full range of benefits of moving to heat pump technology. Currently, Borders College creates a cash outflow for the Company without a means to subsidize the spend through the generation of income. This potential opportunity would provide the Company a chance to recoup its costs.

- **Lake Louise Inn,** Lake Louise, B.C., Canada. Lake Louise Inn, managed by international hotelier Atlific Hotels, is SHARC's first installation in Alberta and the fourth Piranha installation across Canada. It is also the first ever installation in a hotel, an enterprise that produces and wastes significant quantities of hot water. The system allows for the hotel to collect hot water from their laundry systems and reuse the heat in future laundry loads. This serves to reduce their energy use by approximately 85% and reduce carbon emissions by over 27 tonnes per year.

- **Southeast False Creek Neighbourhood Energy Utility**, Vancouver, B.C., Canada. This facility is a large-scale district heating network serving Vancouver's Olympic Village, in operation since 2010. It uses thermal energy from wastewater paired with water to water heat pump technology to provide space heating and hot water throughout the Southeast False Creek neighbourhood for 395,000 m^2 of residential, commercial, and institutional space. In 2017, two Sharc modules were installed for filtration of wastewater, with associated CO_2 reductions of 6,000 tonnes per year. It is expected to be expanded to further its capacity in the future.

- **Sechelt Water Resource Centre**, Sechelt, B.C., Canada. This project was implemented to supply space heating and cooling at a state-of-the-art wastewater treatment plant using their untreated influent. The SHARC system was commissioned in Spring 2015, contributing to LEED® Gold certification for the facility, eliminating the need for an air conditioning cooling tower. It provided typical heat transfer of 630,000 BTU/hr for heating and 500,000 BTU/hr for cooling, with a measured peak heat transfer of 1,500,000 BTU/hr and CO_2 emission reduction of 96 tonnes per year.

Per Paul Nash, project coordinator for the wastewater treatment plant:

"This place is a tertiary level treatment plant that was built with the specific purpose of producing really high-quality water for reclaimed water purposes. A unique feature of this treatment plant is the greenhouse. They help the treatment process, but also in winter the greenhouse has to be heated, and we didn't want to use electricity or natural gas to heat it, but the idea of getting the heat out of the wastewater itself was a great one. So the Sharc system is able to provide the space heating for the greenhouse and all the office areas of the building. We expect our actual outside energy use of electricity for heating will be about one quarter of what it would otherwise be if we had to do this in a normal way."

- **Wall Centre Central Park,** Vancouver, B.C, Canada. This two-phase real estate development showcases both SHARC and PIRANHA technology. Phase 1 contains 700 residential units and incorporates a Sharc 660 system, commissioned in July 2017. Phase 2 contains 350 residential units and implements two Piranha T10 units, commissioned in July 2018.

  The systems save approximately $50k in energy by utilizing waste heat recovery and reduces CO_2 emissions by 260 tonnes a year. This building was built to LEED® Gold Certification standards.

Growth Strategy

Strategic Plan and Budget FY 2019

As the Company embarks on the next fiscal year, the Company has articulated a formal strategic plan that is resourced with a budget. Highlights of the strategy include a published mission to achieve and to uphold a core value of environmental stewardship by saving 1,000,000 tonnes of carbon emissions by 2025 with a current level of approximately 156,000 tonnes carbon emissions savings. This means that the company has to:

- Develop a capital strategy to optimize human resources, strategic partners, and investor relations ot ensure clear messaging for brand development and increased sales
- Create educational material for the purposed of teaching and training on the “heat recovery” industry to strategic partners, developers, engineers, architects, and legislators
- Review and solidify the brand and sales process to capitalize on the market opportunity and the need to combat climate change

Capitalize on Learnings from Pilot Installations

In order to build the business, the Company was required to take on risks associated with the UK model. Through our learnings from the Borders, Aqualibrium, and Clyde Gateway installations, the Company has determined the following strategic initiatives to address these risks on future projects which will lead to improved profitability. The following is a summary of the strategic initiatives addressing these key learnings:

- Civil engineering is the key risk - key learnings from current activity
  - Procure civil package separate to building services and equipment packages
  - Ground condition surveys and utilities interface research essential ahead of procurement
  - Appoint specialist quality surveyor to procure and cost manage the civil engineering package
  - Either appoint civil contractor on a no-risk D&B package or place service with client / developer
- Building services adjustments are the secondary risk – key arrangements
  - Procure building services package separately
  - Heating engineers to provide design stage support for building side adjustments for heat delivery
  - Procure package through building services consultant to provide quality and cost control management during delivery
- SHARC package plant room – including heat pumps, buffer vessels, and wider system controls regime – limited risk and known design arrangements

    - In-house service procured through key supply partners and once Glasgow is operational, packages can be built in-house
- Design and operational oversight required from SHARC team to ensure:
    - Sewer interface design and execution by civil contract or meets the Company's operating requirements for sewer screening and management
    - Management of heat consumption in building to optimize system performance
    - Ongoing system management and maintenance services for life of agreement to prevent 3rd party failure to address maintenance issues

Further to the learning from a project construction management standpoint, the Company will continue to work with its joint venture partner Bandwidth.

Subsidize Overhead with Recurring Revenue Streams

Heat Purchase Agreements

- Enter into HPA arrangements similar to Clyde Gateway with Muirhead Leather as an anchor client

Service Agreements

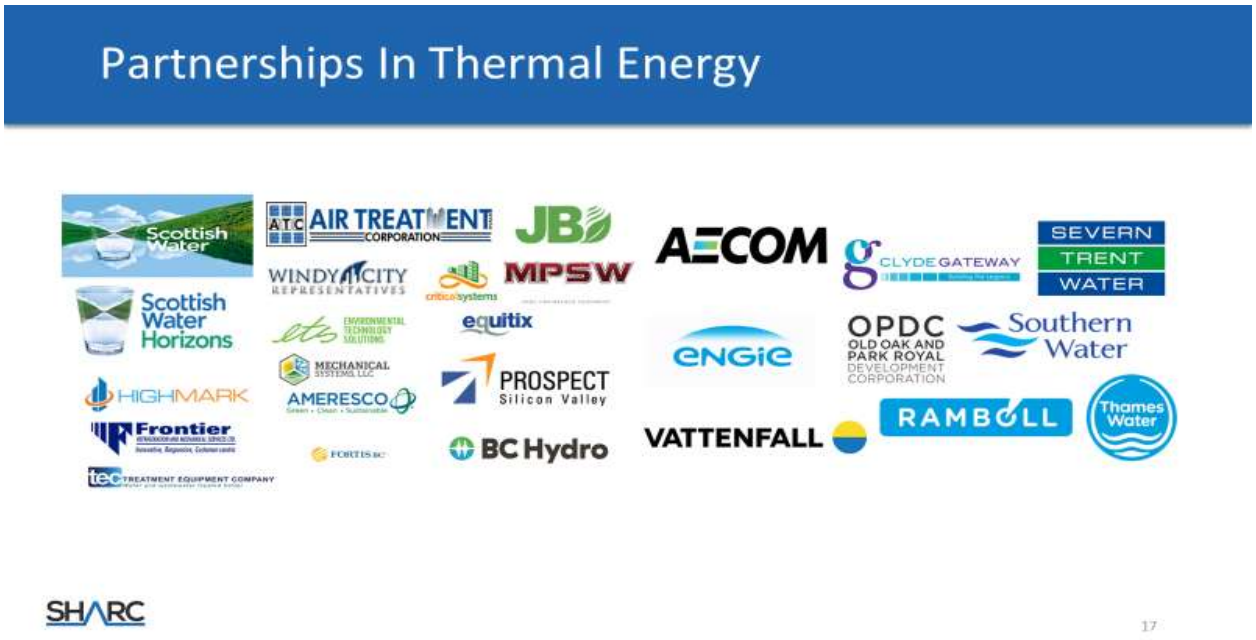
- Currently, the Company is earning approximately $25k for previous installs that are out of warranty
- For 2019, the Company has the opportunity to convert False Creek and Wall Centre Phase I into annual service arrangements with an approximate annualized recurring revenue of $70k

Who is Supporting the Company to Build Awareness around SHARC Technology?

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 Scottish Water Horizons - the commercial operation of 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 – allowing us to develop the next phase of installations in Scotland, where construction has commenced on the Stirling DHN and a number of new plans are now moving to design stage for commencement during the second half of 2019. 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.

Additional partners of the Company include:



SHARC Energy Systems provides an economical, eco-friendly, and scalable solution that is helping to reduce carbon emissions around the world.

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.

- On September 25, 2018, the Company announced that it has started construction work at Clyde Gateway.

- On October 11, 2018, the Company announced that the Lake Louise Inn, managed by Atlific Hotels, is furthering its commitment to sustainability and maintaining the integrity of Alberta's resources by being one of the first hotel properties in the world to employ the Piranha T10 system.

- On November 22, 2018, the Company received a $1.3M loan at an annual interest rate of 18%. Pursuant to the loan, the Company issued 3,714,286 common share purchase warrants, exercisable at $0.35 with an expiry date of November 22, 2021. On December 19, 2018, the Company announced the repayment of these loans in full prior to the agreed maturity date of December 23, 2018.

- On December 10, 2018, the Company announced Mr. Jas Sahota, CPA, CGA has joined the Company as Senior Vice President of Finance.

- On January 15, 2019, the Company announced a strategic financing relationship with Partners Capital Group Inc. as an equipment finance partner for direct lender of equipment loans and leases.

- On March 8, 2019, the Company closed the sale of 810 convertible debenture units ("**Units**") for gross proceeds of $810,000 pursuant to a private placement (the "**Offering**") of Units led by Echelon Wealth Partners Inc. as sole agent and bookrunner (the "**Agent**"). Each unit consists of i) $1,000 principal amount of 8.0% unsecured convertible debentures (the "**Debentures**") and ii) 1,563 warrants (each a "**Warrant**").

  The Debentures bear interest from their issue date with interest payable semi-annually in arrears on June 30, 2019 and thereafter semi-annually on the last day of June and December in each year and mature three years following the date of issuance (the "**Maturity Date**"). The debentures are unsecured and rank pari passu in right of payment of principal and interest with all of the existing and future unsecured indebtedness of the Company.

  The Debentures (including any accrued and unpaid interest) are convertible at the option of the holder into common shares of the Company (the "**Common Shares"**) at any time after the first anniversary of the date of issuance and prior to 5:00 pm Pacific Standard Time on the last business day prior to the Maturity date at a conversion price of $0.32 per Common Share (the "**Conversion Price**"). If after the first anniversary of the date of issuance the closing price of the Common Shares on the Canadian Stock Exchange (**"CSE"**) is $0.64 or greater for 20 consecutive trading days, the Company may, at its option, convert the Debentures (including any accrued and unpaid interest) into Common Shares at the Conversion Price by disseminating a press

release, in which case the Debentures shall be converted into Common Shares on the second business day after dissemination of such press release.

Each Warrant is exercisable to acquire one Common Share (a "**Warrant Share**") at an exercise price of $0.40 per Warrant Share for a period of three years following the date of issuance.

In Connection with the Offering, the Company paid the Agent a cash fee of $48,600 and issued 49 compensation warrants to the Agent and other selling dealer group members (the "**Compensation Warrants").** Each Compensation Warrant entitles the holder thereof to purchase one Unit of the Company at an exercise price of $1,000 for a period of three years following the date of issuance. The Units issuable upon exercise of the Compensation Warrants are on the same terms as the Units sold under the Offering.

Overall Performance

The consolidated statements of financial position as of December 31, 2018, indicate a cash position of $1,899,657 (December 31, 2017 - $526,036) and total current assets of $3,575,789 (December 31, 2017 - $1,560,769). Current liabilities at December 31, 2018, total $4,565,657 (December 31, 2017 - $1,023,890).

For the year ended December 31, 2018, the Company had a working capital deficit of $989,868 (December 31, 2017 – working capital of $536,879).

During the year ended December 31, 2018, the Company reported net loss of $5,896,476 ($0.17 basic and diluted loss per share) on revenue of $2,136,398 and a negative gross margin of $298,907. This compared to a net loss of $4,521,541 ($0.16 basic and diluted loss per share) for the year ended December 31, 2017 on revenue of $268,810 and a gross margin of $61,324.

Selected Annual Financial Information

	Year Ended December 31, 2018	**Year Ended December 31, 2017**	**Year Ended December 31, 2016**
Net loss	(5,896,476)	(4,521,541)	(4,491,026)
Basic and Diluted Loss Per Share	(0.17)	(0.16)	(0.18)
	As at December 31, 2018	**As at December 31, 2017**	**As at December 31, 2016**
Total assets	5,878,525	1,704,486	1,273,233
Long-term liabilities	3,605,524	1,911,974	63,373

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 ($)	Per Share ($)	
December 31, 2018	1,441,482	(2,921,085)	(0.08)	5,878,525
September 30, 2018	236,807	(1,068,051)	(0.03)	2,725,098
June 30, 2018	39,862	(1,111,039)	(0.03)	3,806,163
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

Discussion of Operations

Three months ended December 31, 2018 compared with three months ended December 31, 2017

SHARC's loss for the period totaled $2,921,086 for the three months ended December 31, 2018, with basic and diluted loss per share of $0.08. This compares with net loss of $1,627,928 with basic and diluted loss per share of $0.06 for the three months ended December 31, 2017. The increase of $1,293,158 in net loss was principally because:

- For the three months ended December 31, 2018, revenue increased by $1,554,596, cost of sales increased $2,267,463 and the gross margin decreased by $529,771. The increase in revenue and cost of sales and decrease in margin is due to installation revenues and cost of sales for the Aqualibrium project. The Company has realized a loss on this contract due to cost overruns on the project. The Company has used the learnings from this to improve future installation agreements and considers this an investment into its relationship with SWH.

- For the three months ended December 31, 2018, interest and financing expense increased by $912,577. The increase is attributable to accretion expense related to convertible debt issued in the three months ended June 30, 2017, and fair value of warrants issued and interest and finance fees incurred for $1.3M in short term loans that were required to claim the LCITP funding for Clyde Gateway.

- For the three months ended December 31, 2018, consulting expenses decreased by $96,483. The decrease is attributable to the reduction in use of general and administrative and capital markets related consultants.

- For the three months ended December 31, 2018, depreciation expenses decreased by $169,824. The decrease is attributable to demonstration units with a 1-year useful life were put into use during 2017 but were not recorded until the three months ended December 31, 2017.

- For the three months ended December 31, 2018, the Company had $331,188 in share-based

payments versus $423,643 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.

Year ended December 31, 2018 compared with Year ended December 31, 2017

SHARC's loss for the period totaled $5,896,476 for the year ended December 31, 2018, with basic and diluted loss per share of $0.17. This compares with net loss of $4,521,541 with basic and diluted loss per share of $0.16 for the year ended December 31, 2017. The increase of $1,374,935 in net loss was principally because:

- For the year ended December 31, 2018, revenue increased by $1,867,588, cost of sales increased $2,227,819 and the gross margin decreased by $360,231. The increase in revenue and cost of sales and decrease in margin is due to installation revenues and cost of sales for the Aqualibrium project. The Company has realized a loss on this contract due to cost overruns on the project. The Company has used the learnings from this to improve future installation agreements and considers this an investment into its relationship with SWH. Equipment and related service and rental revenue was $530,864 for the year, with $285,141 in cost of sales and a gross margin of $245,723.

- For the year ended December 31, 2018, interest and financing expense increased by $1,117,077. The increase is attributable to accretion expense related to convertible debt issued in the three months ended June 30, 2017, fair value of warrants issued and interest and finance fees incurred for $1.3M in short term loans that were required to claim the LCITP funding for Clyde Gateway and interest paid on short term loans to supplement working capital cash flow needs.

- For the year ended December 31, 2018, consulting expenses increased by $84,989. The increase is attributable to the increased activity in the use of general and administrative and capital markets related consultants. As mentioned, this activity was decreased during three months ended December 31, 2018 and the Company expects to see this trend going forward.

- For the year ended December 31, 2018, depreciation expenses decreased by $196,468. The decrease is attributable to demonstration units with a 1-year useful life were put into use during 2017.

- For the year ended December 31, 2018, the Company had $436,452 in share-based payments versus $630,083 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.

Liquidity and Financial Position

As at December 31, 2018, the Company's cash balance was $1,899,657 (December 31, 2017 - $526,036) and the Company had negative working capital of $989,868 (December 31, 2017 – working capital of $536,879).

As of December 31, 2018, the Company had 38,720,176 common shares issued and outstanding, 17,209,791 warrants outstanding that would raise $11,461,465 if exercised in full and 3,181,858 options outstanding that would raise $1,437,601 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 $3,781,111 for the year ended December 31, 2018. Operating activities were affected by the net loss of $5,896,476 partially offset by non-cash expenses of $1,769,716 and a change

in non-cash working capital balances of ($312,825) largely because of an increase in accounts payable and accrued liabilities.

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.

The Company incurred the following charges with key management personnel:

	Year Ended December 31, 2018 $	Year Ended December 31, 2017 $
Consulting fees [i]	94,516	111,000
Wages and benefits [ii]	392,898	371,400
Inventory/cost of sales/research and development [iii]	32,202	98,862
	519,616	**581,262**

[i] The Company paid consulting fees to companies controlled by the current and former Chief Financial Officer, Chief Operating Officer and a Director of Sharc UK.

[ii] The Company paid wages and and benefits to the Chief Executive Officer and Director, a Director, the Chief Operating Officer and Senior Vice President of Finance.

[iii] The Company paid consulting fees to companies controlled by the Chief Operating Officer and a Director of Sharc UK that were capitalized to inventory costs and expensed to cost of sales or research and development expense.

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

	Year ended December 31, 2018 ($)	Year ended December 31, 2017 ($)
Lynn Mueller	162,955	156,000
Daryle Anderson	90,000	90,000
Yaron Conforti	—	71,000
David Alexander	35,000	40,000
Russ Burton	178,181	125,400
Hanspaul Pannu	30,000	—
Jas Sahota	10,200	—
Ian Craft	13,280	98,862
Total	**519,616**	**581,262**

(i) Share-based payments of $186,974 (2017 – 196,143) for the year ended December 31, 2018 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:

Other transactions with related parties included rent of $Nil (2017 - $11,671) due to a company controlled by a director of a subsidiary.

Included in accounts payable is $252,024 (December 31, 2017 – $205,587) due to related parties.

	December 31, 2018 ($)	December 31, 2017 ($)
Lynn Mueller	4,162	2,408
Daryle Anderson	240,000	150,000
Company controlled by Ian Craft	2,350	51,342
Company controlled by David Alexander	—	2,107
Jas Sahota	2,519	—
Russ Burton	2,994	—
Total	**252,025**	**205,587**

During the year ended December 31, 2018, the Company entered into an installation agreement with Bandwidth whereby the Company sold a SHARC unit with associated installation services to Bandwidth. In relation to the sale, the Company recognized $1,513,030 of revenue during the year ended December 31, 2018. The associated costs of the project were $2,038,793 which are included in cost of sales. As the project resulted in a loss, the total revenue and cost of sale of the project have been recognized. At December 31, 2018, included in receivables is $292,858 due from Bandwidth.

Share Capital

As of the date of this MD&A, the Company had 38,720,176 (December 31, 2018 – 38,720,176) 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
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
3,714,286	November 22, 2021	$0.35
1,266,030	May 7, 2022	$0.40

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

Options	Expiry Date	Exercise Price
142,858	October, 27, 2020	$1.47
100,000	July 12, 2021	$1.05
800,000	December 18, 2019	$0.28
400,000	September 4, 2021	$0.47
1,489,000	October 1, 2021	$0.40

Subsequent Events

[a] Subsequent to December 31, 2018, the Company had 250,000 stock options expire unexercised

[b] Subsequent to December 31, 2018, the Company had 1,537,318 common share purchase warrants expire unexercised

[c] On March 8, 2019, the Company closed the sale of 810 convertible debenture units ("Units") for gross proceeds of $810,000. Each unit consists of i) $1,000 principal amount of 8.0% unsecured convertible debentures (the "Debentures") and ii) 1,563 warrants (each a "Warrant").

The Debentures bear interest at 8% per annum and mature three years following the date of issuance. The Debentures are unsecured and rank pari passu in right of payment of principal and interest with all of the existing and future unsecured indebtedness of the Company.

The Debentures (including any accrued and unpaid interest) are convertible at the option of the holder into common shares of the Company at a conversion price of $0.32 per common share. If after the first anniversary of the date of issuance the closing price of the common shares on the CSE is $0.64 or greater for 20 consecutive trading days, the Company may, at its option, convert the Debentures (including any accrued and unpaid interest) into common shares at the conversion price by disseminating a press release, in which case the Debentures shall be converted into common shares on the second business day after dissemination of such press release.

Each Warrant is exercisable to acquire one common share at an exercise price of $0.40 per share for a period of three years following the date of issuance.

The Company paid the Agent a cash fee of $48,600 and issued 49 compensation warrants to the Agent and other selling dealer group members ("**Compensation Warrants").** Each Compensation Warrant entitles the holder thereof to purchase one Unit of the Company at an exercise price of $1,000 for a period of three years following the date of issuance. The Units issuable upon exercise of the Compensation Warrants are on the same terms as the Units sold under the Offering.

[d] In April 2019, the Company received a $150,000 loan from a third-party lender. The loan is guaranteed by the CEO, bears interest at 12% and matures three months from receipt.

Estimates, Judgments and Assumptions

The preparation of the Company's consolidated financial statements requires management to make judgments, estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Estimates and assumptions are continually evaluated and are based on management's experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. Actual results could differ from these estimates.

The areas which require management to make significant judgments, estimates and assumptions in determining carrying values include, but are not limited to:

Critical Judgments

The following are critical judgments that management has made in the process of applying accounting policies and that have the most significant effect on the amounts recognized in the Financial Statements:

i. Research costs are recognized as an expense when incurred but development costs may be capitalized as intangible assets if certain conditions are met as described in IAS 38, *Intangible Assets*. Management has determined that development costs do not meet the conditions for capitalization under IAS 38 and all research and development costs have been expensed.

ii. Management is required to assess the functional currency of the Company. The determination of functional currency often requires significant judgment where the primary economic environment in which they operate may not be clear. This can have a significant impact on the consolidated results of the Company based on the foreign currency translation method.

iii. The determination of categories of financial assets and financial liabilities has been identified as an accounting policy which involves judgments or assessments made by management.

iv. Management is required to determine whether or not the going concern assumption is appropriate for the Company at the end of each reporting period. Considerations taken into account include available information about the future including the availability of financing and revenue projection, as well as current working capital balance and future commitments of the Company.

v. The Company recognizes the deferred tax benefit related to deferred income and resource tax assets to the extent recovery is probable. Assessing the recoverability of deferred tax assets requires management to make significant estimates of future taxable profit. In addition, future changes in tax laws could limit the ability of the Company to obtain tax deductions from deferred income and resource tax assets.

Estimation Uncertainty

The following are key assumptions concerning the future and other key sources of estimation uncertainty that have a significant risk of resulting in a material adjustment to the carrying amount of assets and liabilities within the next financial year:

i. Provisions for income taxes are made using the best estimate of the amount expected to be paid based on a qualitative assessment of all relevant factors. The Company reviews the adequacy of these provisions at the end of the reporting period. However, it is possible that at some future date an additional liability could result from audits by taxation authorities. Where the final outcome of these tax-related matters is different from the amounts that were originally recorded, such differences will affect the tax provisions in the period in which such determination is made.

ii. The fair value of accrued liabilities at the time of initial recognition is made using the best estimate of the amount expected to be paid based on a qualitative assessment of all relevant factors.

iii. Warranty provisions are recognized for the future obligations to provide services for the repairs and maintenance of products sold to its customers. The Company assesses its warranty provision based on experience. Actual costs incurred may differ from those amounts estimated.

iv. The Company estimates the net realizable values of inventories, taking into account the most reliable evidence available at each reporting date. The future realization of these inventories may be affected by future technology or other market drive changes that may reduce future selling prices.

v. The Company has service agreements with regards to some of its product sales which requires management to make judgments regarding the timing and allocation of revenue. Specifically, installation is generally not assumed to have standalone value and is often recognized on the same basis as the remainder of the services fees. However, the Company defers the recognition of revenue associated with fees for services agreements or warranty costs that are built in to the original sales price and recognizes the associated revenue evenly over the term of the service or warranty is provided.

vi. Revenue on development of heat supply infrastructure projects, predominantly based out of the UK, require the Company to make estimates of the percentage of completion of the project in order to determine the amount of revenue to recognize. Management uses costs and third-party evidence to determine estimated progress of development as of the period end dates.

Recent Accounting Pronouncements

New Standards Recently Adopted

The following is an overview of new accounting standards that the Company adopted effective January 1, 2018:

- **IFRS 9** *Financial Instruments* - This standard provides added guidance on the classification and measurement of financial liabilities.

- **IFRS 15** *Revenue from Contracts with Customers* - This standard covers principles for reporting about the nature, amount, timing and uncertainty of revenue and cash flows arising from contracts with customers. The core principle in IFRS 15 is that a company should recognize revenue to depict the transfer of promised goods or services to the customer in an amount that reflects the consideration to which the company expects to be entitled in exchange for those goods or services. To recognize revenue, a company would apply the following steps:

    1. Identify the contract(s) with the customer
    2. Identify the performance obligations in the contract
    3. Determine the transaction price
    4. Allocate the transaction price
    5. Recognize revenue when a performance obligation is satisfied

The adoption of the above standards did not have a material impact on the Financial Statements.

New Standards Not Yet Effective

The following is an overview of a new accounting standard that the Company will be required to adopt this year.

- **IFRS 16** *Leases* - This standard specifies how an IFRS reporter will recognize, measure, present and disclose leases. The standard provides a single lessee accounting model, requiring lessees to recognize assets and liabilities for all leases unless the lease term is 12 months or less or the underlying asset has a low value. Lessors continue to classify leases as operating or finance, with

IFRS 16's approach to lessor accounting substantially unchanged from its predecessor, IAS 17. This standard is effective January 1, 2019 and the Company will use the modified retrospective method of recognition. Under this method, financial information will not be restated and will continue to be reported under the accounting standards in effect for those periods. The Company will recognize lease obligations related to its lease commitments for its vehicles and office lease. It will be measured at the present value of the remaining lease payments, discounted using the Company's incremental borrowing rate as at January 1, 2019. The associated right of use asset will be measured at the lease obligation amount, less prepaid lease payments, resulting in no adjustment to the opening balance of retained earnings.

As at January 1, 2019, the Company expects to recognize approximately $107,657 in right-of-use assets and an incremental lease obligation.

Capital Management

The Company's objective when managing capital is to safeguard the Company's ability to continue as a going concern in order to support the development of its business and maintain the necessary corporate and administration functions to facilitate these activities. The capital of the Company consists of items included in shareholders' equity.

The Company manages and adjusts its capital structure when changes to the risk characteristics of the underlying assets or changes in economic conditions occur. To maintain or adjust the capital structure, the Company may attempt to raise new funds.

There were no changes to the Company's approach to capital management during the year. The Company is not subject to externally imposed capital requirements.

Financial Instruments

Fair value

IFRS 13 establishes a fair value hierarchy for financial instruments measured at fair value that reflects the significance of inputs used in making fair value measurements as follows:

Level 1 – quoted prices in active markets for identical assets or liabilities;
Level 2 – inputs other than quoted prices included in Level 1 that are observable for the asset or liabilities, either directly (i.e. as prices) or indirectly (i.e. from derived prices); and
Level 3 – inputs for the asset or liability that are not based upon observable market data.

The fair value of cash is based on Level 1 inputs. 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 fair value of long-term liabilities are initially recorded at fair value and subsequently carried at amortized cost using rates comparable to market interest rates.

[a] 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 December 31, 2018 and December 31, 2017, the Company is exposed to credit risk arising from receivables and loans receivable.

[b] 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.

[c] Market risk

[i] 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 December 31, 2018, the Company is not exposed to any significant interest rate risk.

[ii] Currency 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 December 31, 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 $6,527 (December 31, 2017 - $5,000)

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.