



**SHARC INTERNATIONAL SYSTEMS INC.  
(FORMERLY INTERNATIONAL WASTEWATER SYSTEMS INC.)  
MANAGEMENT'S DISCUSSION AND ANALYSIS –**

**FOR THE YEAR ENDED DECEMBER 31, 2017**

## 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, 2017. 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, 2017 and 2016, 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, 2017 are not necessarily indicative of the results that may be expected for any future period. Information contained herein is presented as at April 30, 2018 unless otherwise indicated.

The consolidated financial statements for the year ended December 31, 2017, 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](http://www.sedar.com).

## Caution Regarding Forward-Looking Statements

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

Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause SHARC's actual results, performance or achievements to be materially different from any of its future results, performance or achievements expressed or implied by forward-looking statements. All forward-looking statements herein are qualified by this cautionary statement. Accordingly, readers should not place undue reliance on forward-looking statements. The Company undertakes no obligation to update publicly or otherwise

revise any forward-looking statements, whether as a result of new information or future events or otherwise, except as may be required by law. If the Company does update one or more forward-looking statements, no inference should be drawn that it will make additional updates with respect to those or other forward-looking statements, unless required by law.

## Description of Business

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

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

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

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

The models developed are as follows:

### Sharc

The larger Sharc models are designed to extract heat from local wastewater resources. The Packaged Energy Centre includes:

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

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

- **Bandwidth.**
  - SHARC subsidiary, IWWS (UK) LTD. ("**IWWS**") has joined forces with Scottish Water Horizons ("**SWH**"), an executive non-departmental statutory corporation of the Scottish Government under the Water Industry Commission for Scotland ("**WICS**"), to establish a joint venture ("**JV**") which will enable them to expand and accelerate the deployment of wastewater heat recovery systems across Scotland.
  - The joint venture, to be called Bandwidth Energy Ltd. ("**Bandwidth**") has been set up to manage the installation and maintenance of a number of key green energy projects which are currently in the advanced stages of planning.

- Scottish Water Horizons will provide commercial funding for the projects, with SHARC providing the design, build and operational expertise for the green energy installations.
  - The Scottish Government is supporting the projects by providing 50 per cent grant capital support through its Low Carbon Infrastructure Transition Programme (“**LCITP**”).
  - The new alliance will support the Scottish Government’s ambitious renewable heat and carbon reduction targets for 2020. It is the result of three years of collaboration between SHARC and Scottish Water Horizons, which has created a **£20 million (\$36.8 million CAD)** pipeline of potential installations across Scotland that, when deployed, will generate 170 GWHs per year of heating and cooling to displace the fossil fuel currently used.
  - This joint venture follows the launch of the UK’s first Sewage Heat Recovery system, developed and installed by SHARC and facilitated by Scottish Water Horizons, at Borders College in Galashiels, which aims to displace 1.8 GWHs (Giga Watt hours) of natural gas and save over 150 tonnes of carbon emissions per year.
  - The system provides heating and cooling to customers through a heat supply agreement. This works much like that of any energy supplier, but the main difference is that customers have no up-front costs. Included in the heat supply agreement are the costs of design, installation, servicing and maintenance and the supply of equipment.
  - The innovative SHARC™ wastewater heat exchange system, which has been deployed in numerous international locations, intercepts wastewater from sewers and uses heat pump technology to amplify the natural warmth of wastewater. This generates an energy-saving, cost-effective and environmentally-friendly system for heating, cooling and hot water production in commercial and residential buildings.
- **Borders College**, Galashiels, Scotland (near Glasgow). This system now provides around 95% of the heat needed by the Galashiels Campus and does not impact the normal operation of the waste water network.
  - **Seven35 Building**, North Vancouver, Canada. Developed by Adera Developments, the Seven35 Building, situated on the north shores of Vancouver, offers a variety of features designed to uphold a deep commitment to sustainability. This multi-award winning development consists of 60 urban-stacked town homes and was the site for the first installation of the SHARC sewage heat recovery system. The SHARC sewage heat recovery system recycles the heat from the raw sewage before it exits the building to the municipal sewer line.
  - **The Gateway Theatre**, Richmond BC Canada. The Gateway Theatre project in Vancouver, completed in 2012 is a 50,000 sq. ft multi-use public theatre facility. As part of the city’s carbon reduction strategy the SHARC system was installed reducing the facilities emissions by 50 tonnes per year. The existing system was an incremental heat pump-based system supplied by a boiler and cooling tower using 29 heat pumps. With a design flow of 250 GPM from a city source 1 million btu/ hr are produced. This installation is the first waste water recovery system in a public facility in Canada.
  - **Sail Condominium Project**, University of British Columbia, Canada. The Sail project is a new 172-unit condominium project. This is the largest SHARC installation to date and is the highlight of a sustainable community plan at the University British Columbia. The SHARC produces hot water and contributes to heating the building via radiant floor heating. The system generates 220,000 BTU’s per hour, reducing emissions by 100 tonnes per year and operates at 80% efficiency.

### **Piranha**

- The medium sized Piranha models are designed to extract heat from the building’s wastewater. The PIRANHA HC is a self-contained heat exchange system specifically designed to provide domestic hot water pre-heating and space conditioning (heating and cooling). With its specially engineered direct expansion heat exchanger, the PIRANHA HC is designed for multi-unit residential (50-200 units) and stand-alone commercial applications.

- The PIRANHA HC is easily installed in new and retrofit construction projects, is attributable to LEED® credit criterion, and promotes the numerous environmental and energy-saving benefits of an expertly engineered wastewater heat exchange system.
- While SHARC's signature PIRANHA™ system provides domestic water pre-heating, the PIRANHA HC's added space conditioning feature provides even greater carbon reduction and energy savings. Whether it's for a building's lobby, training facility, or conference room, the PIRANHA HC can provide strategic and specific space conditioning that eliminates the need for additional equipment. The PIRANHA HC's compact system frees up space for developers and building owners to add further amenities or suites, while improving the building's overall energy efficiency.
- The PIRANHA HC's multi-functionality provides a short payback for users as it operates at efficiencies of 400-600%. Water and space heating represent some of the highest operating costs for buildings and the PIRANHA HC works to significantly reduce these costs. With a robust design and lifecycle of 25+ years, the PIRANHA HC is dedicated to delivering clean energy for the long-term.

### **Mako**

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

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

- Sharc Products. There appears to be a strong market internationally especially within big cities to utilize heat exchange units to recapture energy and to reduce the city's carbon footprint significantly. With the \$36 million Scottish projects underway, several Canadian and US cities are now realizing the effectiveness of Sharc's systems and have expressed interest in utilizing our systems. Currently, the City of Vancouver is testing our systems and for the last six months, Sharc has successfully been supplying heating solutions to over 5 million square feet of residential. Because of the lengthy sales cycle in dealing with large cities, we anticipate co-venturing with large engineering firms which currently service the water and waste sectors of urban development.
- Piranha Products. Approximately 50% of all multi-residential building with greater than 50 units could retrofit the Piranha system into their buildings. This amounts to several million building worldwide. The Piranha system would reduce the carbon footprint of each building by several hundred kilograms annually and have an economic payback of less than four to five years. It is our plan to work provide financing incentives to buildings to convert to Piranhas both directly, and through gas and electric companies who currently provide the hot water heating options to these buildings.

- Mako Products. In colder climates, the Mako heat exchange unit has annual savings averaging at least \$1,200 annually. In sunnier climates, solar electric systems could increase these saving to around \$1,500 annually. With the cut of 3-4 tonnes of CO2 emissions per household and a about a 4-year payback, we will be marketing this product through both chains of stores directly and by gas and electric companies. We expect to commence marketing the Mako units by Q1 of 2019.

## Highlights

- On January 5, 2017, the Company announced the that Mr. Steve Moddemeyer, Mr. Qu Yuxiu and Mr. Alfred Ng, have joined as members of the SHARC Advisory Board. See press release of January 5, 2017 for detailed biographies of each member.
- On February 7, 2017, the Company announced a partnership with Prospect Silicon Valley, a California-based urban technology accelerator (“Prospect Silicon Valley”). Prospect Silicon Valley focuses on the commercialization of urban technologies for sustainable, smart cities. They bring government, corporations and academia together with pioneering companies to accelerate innovations in transportation, energy and buildings.

Multi-partner projects are developed by Prospect Silicon Valley to bring next-generation approaches to the fore, and to assist early adopters in public sector applications. Prospect Silicon Valley has worked successfully with local governments in California to pilot advanced urban technologies, resulting in over 150 million lbs. of CO2 reductions committed over the next ten years.

Through this partnership, SHARC will have access to Prospect Silicon Valley’s network of property owners, trade groups and strategic partners in the California buildings sector. SHARC will work jointly with Prospect Silicon Valley in the planning and execution of the Company’s commercialization strategy, targeting early adopters of SHARC’s wastewater heat exchange technology in the California market.

- On February 27, 2017 and April 7, 2017, the Company completed a brokered private placement in two tranches pursuant to which the Company issued an additional 1,450,528 units at a price of \$1.05 per share for aggregate gross proceeds of \$1,523,055. Each unit consists of one common share and one common share purchase warrant of the Company. Each warrant entitles the holder to purchase one common share until February 27, 2019 at an exercise price of \$1.40 per share.

In connection with the placement, the Company paid finder’s fees of \$122,380 and issued 86,790 finders’ warrants. Each finders’ warrant entitles the holder to purchase one common share until February 27, 2019 at an exercise price of \$1.05 per share.

- On March 2, 2017, the Company announced that it is currently collaborating with a licensed marijuana cultivator operating an industrial growing facility in the United States (“Cannabis Cultivation Facility”).

The collaboration enables SHARC and the Cannabis Cultivation Facility to exchange data and evaluate the application of SHARC’s thermal energy exchange technology in an industrial marijuana growing facility.

- On April 12, 2017, the Company announced that it has completed the installation of a SHARC thermal energy exchange system at the South East False Creek Neighborhood Energy Utility in Vancouver under the collaboration with Metro Vancouver which was originally announced in August 2016.

- On May 2, 2017, the Company announced it has been awarded a US\$330,000 (\$478,000) contract to supply its innovative SHARC thermal energy exchange system to the new headquarters of the District of Columbia Water and Sewer Authority (“DC Water”) in Washington, DC.

The new \$60 million headquarters (“DC Water HQ”) is being constructed on the waterfront of the Anacostia River in Southeast Washington, DC and will serve as the new public face for the agency. DC Water’s green initiatives will be showcased in a deeply innovative facility featuring a bold and distinctive design developed by SmithGroupJJR in collaboration with Skanska. The building is designed to achieve LEED Platinum certification from the U.S. Green Building Council and will also employ many advanced strategies that will surpass LEED Platinum certification.

The SHARC system will allow DC Water HQ to use its own wastewater as a source of thermal energy to condition the building. This project represents a historic HVAC first. The DC Water HQ building will be the first ever deployment of this technology used to both heat and cool a building in the USA.

With two-thirds of all the outflow from DC’s sewers flowing through the underground infrastructure on the site, the system will have a virtually uninterrupted supply of thermal energy. Utilizing this technology, the design team has calculated that the DC Water HQ will take its place as one of the lowest energy-consuming office buildings in the region.

- On May 8, 2017, the Company announced Yaron Conforti will be leaving his role as the Company’s Chief Financial Officer and a member of its Board of Directors, to pursue new opportunities and the appointment of Mr. David Alexander, CA, CPA as the Company’s Chief Financial Officer.
- On May 10, 2017, the Company announced IWWS has been awarded grant support to facilitate the installation of SHARC wastewater heat recovery systems at five locations across Scotland totaling £9.8 million.

Funding from the Low Carbon Infrastructure Transition Programme (LCITP) – managed through the Scottish Government – has been granted to enable the development of five new projects that will play a pioneering role in transforming heating systems at various commercial and local authority sites.

Under the plans, SHARC’s ‘heat-from-wastewater’ technology is earmarked to heat Kelvingrove Museum in Glasgow, a leisure centre and public library in Campeltown, a leisure centre in Orkney and a new district heating scheme at the Clyde Gateway regeneration project in Glasgow. The LCITP funding is being matched by commercial finance that will facilitate the required capital investment to establish local energy centres that will generate their income from sales of heat to the customers involved.

- On May 30, 2017 and June 29, 2017, the Company issued two tranches of senior unsecured convertible debenture units with total principal amounts of \$1,320,000 and \$1,023,000. The debentures mature on May 30, 2020 and June 29, 2020, respectively, and bear interest at an annual rate of 12% due semi-annually. The debentures are convertible, in whole or in part, at the option of the holder at any time prior to the maturity date into common shares of the Company at a conversion price of \$1.05 per common share.

Each debenture unit consisted of one \$1,000 principal amount senior unsecured convertible debenture and 714 share purchase warrants, each exercisable into one common share of the Company at \$1.05 per share three years from issuance.

- On July 28, 2017, the Company announced the appointment of Mr. Saško (Sashko) Despotovski to its board of directors. Mr. Despotovski is a seasoned investment banker and an active investor in both private and public companies. He is a Canadian national living in the Nordics, with international corporate finance experience in the energy, real estate, and technology sectors. Sashko has held posts within several funds and hedge funds in the investment banking capacity in USA and Canadian markets, as well as on the operational side as management and as a director for a number of companies.
- On August 8, 2017, the Company announced the opening of its European Headquarters at Clyde Gateway's Red Tree Building in Bridgeton, Glasgow.
- On September 5, 2017, the Company changed its name from International Wastewater Systems Inc. to Sharc International Systems Inc. and completed the share consolidation of its issued and outstanding common shares on the basis of 1 post-consolidation common share for every 3.5 pre-consolidation common shares.
- On October 3, 2017, the Company announced the listing of the Company onto the OTC-QB exchange under the trading symbol of INTWD.
- On October 23, 2017, the Company announced the appointment of the former Premier of British Columbia, the Honourable Michael "Mike" Harcourt, BA, LL.B., as a Director of the Company
- On October 26, 2017, the Company announced a strategic Licensing Agreement with Environmental Technology Solutions Pty Ltd. ("ETS") of Australia, for the commercialization of its PIRANHA™ and SHARC™ wastewater heat recovery systems in Australia and New Zealand.

Under the terms of the agreement, SHARC has granted ETS an exclusive license for the commercialization of PIRANHA and SHARC systems across Australasia. In return for these rights, SHARC will receive royalties and an undisclosed payment on the manufacturing of PIRANHA and SHARC systems.

ETS anticipates installing approximately 20 PIRANHA™ units in the current fiscal year followed by 27 and 36 units in the subsequent two fiscal years, and 4 SHARC™ installations in the current fiscal year, with 6 and 8 units in the subsequent two fiscal years.

- On October 31, 2017, the Company announced completed the in-house design of the newest PIRANHA™ wastewater heat exchange system, (the "PIRANHA HC").

The PIRANHA HC is a self-contained heat exchange system specifically designed to provide domestic hot water pre-heating and space conditioning (heating and cooling). With its specially engineered direct expansion heat exchanger, the PIRANHA HC is designed for multi-unit residential (50-200 units) and stand-alone commercial applications.

The PIRANHA HC is easily installed in new and retrofit construction projects, is attributable to LEED® credit criterion, and promotes the numerous environmental and energy-saving benefits of an expertly engineered wastewater heat exchange system.

- On November 7, 2017, the Company announced that the SHARC 660 system fabrication for DC Water, the headquarters for the District of Columbia Water Authority is complete and currently being installed and tested.



- On November 15, 2017, the Company announced that it has entered Sales Representative Agreements with Midwest Machinery Co. and Johnson Barrow Inc.

Under the terms of the Agreement, Midwest Machinery has been authorized to sell and promote the sale of SHARC products throughout the Midwestern United States. Midwest has offices located in St. Louis, Denver, Kansas City, Oklahoma City and Tulsa.

- On November 15, 2017, the Company announced that the revolutionary SHARC wastewater heat exchange system has helped Borders College win a top award at the prestigious Green Gown 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.

The Green Gown Awards' Best Newcomer Award was won for the work Borders College did alongside SHARC and Scottish Water Horizons.

- On December 1, 2017 the Company announced that Sharc International Systems Inc. had won the Best Innovation Award at the Scottish Green Energy Awards. The Awards, hosted by Scottish Renewables, honour the determination and creative thinking which defines new approaches to sustainable energy. SHARC and Scottish Water Horizons were nominated in the Innovation category for their ground-breaking project at Borders College, Galashiels, which was launched in 2015.
- 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 ("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 ("Meriton Suites"), 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, IWWS (UK) LTD. ("SHARC UK") has joined forces with Scottish Water Horizons ("SWH"), an executive non-departmental statutory corporation of the Scottish Government under the Water Industry Commission for Scotland ("WICS"), to establish a joint venture ("JV") which will enable them to expand and accelerate the deployment of wastewater heat recovery systems across Scotland.
  - The joint venture, to be called Bandwidth Energy Ltd. ("Bandwidth") has been set up to manage the installation and maintenance of a number of key green energy projects which are currently

in the advanced stages of planning. Scottish Water Horizons will provide commercial funding for the projects, with SHARC providing the design, build and operational expertise for the green energy installations. The Scottish Government is supporting the projects by providing 50 per cent grant capital support through its Low Carbon Infrastructure Transition Programme ("LCITP").

- The new alliance will support the Scottish Government's ambitious renewable heat and carbon reduction targets for 2020. It is the result of three years of collaboration between SHARC and Scottish Water Horizons, which has created a £20 million (\$36.8 million CAD) pipeline of potential installations across Scotland that, when deployed, will generate 170 GWHs per year of heating and cooling to displace the fossil fuel currently used. This joint venture follows the launch of the UK's first Sewage Heat Recovery system, developed and installed by SHARC and facilitated by Scottish Water Horizons, at Borders College in Galashiels, which aims to displace 1.8 GWHs (Giga Watt hours) of natural gas and save over 150 tonnes of carbon emissions per year.
  - The system provides heating and cooling to customers through a heat supply agreement. This works much like that of any energy supplier, but the main difference is that customers have no up-front costs. Included in the heat supply agreement are the costs of design, installation, servicing and maintenance and the supply of equipment.
  - The innovative SHARC™ wastewater heat exchange system, which has been deployed in numerous international locations, intercepts wastewater from sewers and uses heat pump technology to amplify the natural warmth of wastewater. This generates an energy-saving, cost-effective and environmentally-friendly system for heating, cooling and hot water production in commercial and residential buildings.
- On March 23, 2018, the Company announced that it has entered Sales Representative Agreements ("Sales Agreement") 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 April 19, 2018, the Company announced a Non-Brokered Private Placement (the "Private Placement") and will be issued in connection with the creation and issue of an aggregate of 6,250,000 Units ("Units") or 8,750,000 Units, if the Over-Allotment Option ("Over-Allotment") is exercised in full, for aggregate gross subscription proceeds of \$2,500,000 or \$3,500,000 if the Over-Allotment is exercised in full, to be sold by the Corporation by private placement (the "Offering"). Each Unit at 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"). The "Over-Allotment Option" means the option of the Corporation, exercisable up to 48 hours prior to the Closing (as defined below), to sell up to an additional 2,500,000 Units at \$0.40 per Unit. Each Warrant will entitle the holder to acquire one (1) Common Share at an exercise price of \$0.60 for a period of 24 months from the closing date of the Private Placement. 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. Completion of the financing is subject to a number of conditions, including, without limitation, receipt of all regulatory approvals, including approval of the Canadian Securities Exchange ("CSE"). The Company

## Overall Performance

The consolidated statements of financial position as of December 31, 2017, indicate a cash position of \$526,036 (December 31, 2016 - \$373,430) and total current assets of \$1,560,769 (December 31, 2016 - \$1,230,157). Current liabilities at December 31, 2017, total \$1,023,890 (December 31, 2016 - \$893,243).

Working capital, which is current assets less current liabilities, is \$536,879 (December 31, 2016 – working capital of \$336,914).

During the year ended December 31, 2017, the Company reported net loss of \$4,521,541 (\$0.16 basic and diluted loss per share) on revenue of \$268,810 a gross margin of \$61,324. This compared to a net loss of \$4,491,026 (\$0.16 basic and diluted loss per share) for the year ended December 31, 2016 on revenue of \$1,019,021 and a gross margin of \$204,570.

## Selected Annual Financial Information

|                                  | Year Ended<br>December 31,<br>2017 | Year Ended<br>December 31,<br>2016 | Year Ended<br>December 31,<br>2015 |
|----------------------------------|------------------------------------|------------------------------------|------------------------------------|
| Net loss                         | (4,521,541)                        | (4,491,026)                        | (3,267,212)                        |
| Basic and Diluted Loss Per Share | (0.16)                             | (0.18)                             | (0.15)                             |
|                                  | As at<br>December 31,<br>2017      | As at<br>December 31,<br>2016      | As at<br>December 31,<br>2015      |
| Total assets                     | 1,704,486                          | 1,273,233                          | 1,694,095                          |
| Long-term liabilities            | 1,911,974                          | 63,373                             | 99,581                             |

## Summary of Quarterly Results

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

| Three Months<br>Ended | Total<br>Revenue<br>(\$) | Income (loss) |                   | Total Assets<br>(\$) |
|-----------------------|--------------------------|---------------|-------------------|----------------------|
|                       |                          | Total<br>(\$) | Per Share<br>(\$) |                      |
| December 31, 2017     | (113,114)                | (1,627,928)   | (0.06)            | 1,704,486            |
| September 30, 2017    | 174,537                  | (721,512)     | (0.03)            | 2,492,570            |
| June 30, 2017         | 207,387                  | (1,060,720)   | (0.04)            | 3,110,465            |
| March 31, 2017        | —                        | (1,111,381)   | (0.05)            | 1,244,358            |
| December 31, 2016     | 9,568                    | (2,510,345)   | (0.10)            | 1,273,233            |
| September 30, 2016    | 59,202                   | (902,433)     | (0.04)            | 1,242,422            |
| June 30, 2016         | 924,773                  | 299,028       | 0.00              | 1,082,378            |
| March 31, 2016        | 25,478                   | (1,377,276)   | (0.04)            | 1,693,610            |

## **Discussion of Operations**

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

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

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

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

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

### **Scotland**

The Scottish Government is committed to aggressively cut carbon emissions through the implementation of clean technology. Their renewable energy policies and incentives continue to provide a thriving market for SHARC technology. The Company’s strategic alliance with the Scottish Government’s public water utility, Scottish Water, has established five initial projects. Construction has commenced and completion is expected by Q3- 2018. As a global leader in combating climate change, Scotland has also provided the ideal location for the SHARC’s newly established European Headquarters, from which the Company expects to expand throughout Scotland and the rest of European Union. Our offices in Glasgow were opened in August 2017.

### **California**

In California, the California Energy Commission has played an instrumental role in the State’s energy policy and its transition from fossil fuels, providing the ideal marketplace for the Company’s wastewater heat recycling technology. SHARC has created strategic alliances with local partners for growth, such as Prospect Silicon Valley and RENEW Energy Partners LLC. During the year, the Company has been legally allowed to commence completing sales in California.

While conducting the necessary research and development through pilot projects, tests, and certifications, has caused delays to the Company’s Scotland and California projects thus far, these processes have provided SHARC with the necessary foundation to launch into commercialization and expand across the globe.

Lynn Mueller CEO stated, “Six years of building and developing the SHARC systems with a hard-working team of engineers and designers has brought us to this next chapter. We look forward to showing everyone this world

class clean energy technology the team has brought us, as we all becoming stronger together on combating climate change."

Three months ended December 31, 2017 compared with three months ended December 31, 2016

SHARC's net loss totaled \$1,627,928 for the three months ended December 31, 2017, with basic and diluted loss per share of \$0.06. This compares with net loss of \$2,510,345 with basic and diluted loss per share of \$0.10 for the three months ended December 31, 2016. The decrease of \$882,417 in net loss was principally because:

- For the three months ended December 31, 2017, revenue decreased by \$122,682, cost of sales increased \$133,327 and the gross margin increased \$10,645. The increases were due to their being no contracts completed by IWHES in the three months ended December 31, 2016. The decrease in revenue is due to prior quarter revenue adjustments being recorded in the three months ended December 31, 2017.
- For the three months ended December 31, 2017, consulting expenses increased by \$247,813. The increase is attributable to the increased activity of the Company's consultants and the increased capital markets activities of the Company.
- For the three months ended December 31, 2017, depreciation expenses increased by \$173,295. The increase 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, 2017, advertising and promotion expenses increased by \$94,954. The increase is attributable to a market awareness program undertaken in Europe.
- For the three months ended December 31, 2017, the Company had \$423,643 in share-based payments versus \$1,486,983 in the comparable period. The share-based payments were the result of the vesting of stock options granted to certain directors, officers, employees and consultants.
- For the three months ended December 31, 2017, warranty expenses decreased by \$361,490. The decrease is attributable to decreased warranty expenses incurred on IWWS projects and warranty periods coming to an end.

### Year ended December 31, 2017 compared with year ended December 31, 2016

SHARC's net loss totaled \$4,521,541 for the year ended December 31, 2017, with basic and diluted loss per share of \$0.16. This compares with net loss of \$4,491,026 with basic and diluted income per share of \$0.18 for the year ended December 31, 2016. The decrease of \$30,515 in net loss was principally because:

- For the year ended December 31, 2017, revenue decreased by \$750,211, cost of sales decreased \$606,965 and the gross margin decreased \$143,246. The decreases were due to their being less projects installed in 2017 compared to 2016.
- For the year ended December 31, 2017, consulting expenses increased by \$249,481. The increase is attributable to the increased activity of the Company's consultants and the increased capital markets activities of the Company.
- For the year ended December 31, 2017, the Company had \$630,083 in share-based payments versus \$1,580,489 in the comparable period. The share-based payments were the result of the vesting of stock options granted to certain directors, officers, employees and consultants.
- For the year ended December 31, 2017, advertising and promotion increased by \$223,747 in advertising and promotion expense. This was due to market awareness campaign spending in Europe.
- For the year ended December 31, 2017, depreciation increased by \$156,832. The increase is attributable to demonstration units being put into use in the current year that have 1-year useful lives.
- For the year ended December 31, 2017, interest expense increased by \$71,823. The increase is attributable the interest and accretion recorded on loans payable and convertible debentures in the current period.
- For the year ended December 31, 2017, warranty expenses decreased by \$402,600. The decrease is attributable to decreased warranty expenses incurred on IWWS projects and warranty periods coming to an end. Furthermore, the Company had less installs this year than the comparative period

### **Liquidity and Financial Position**

As at December 31, 2017, the Company's cash balance was \$526,036 (December 31, 2016 - \$373,430) and the Company had working capital of \$536,879 (December 31, 2016 – working capital of \$336,914).

As of December 31, 2017, the Company had 28,419,258 common shares issued and outstanding, 4,227,491 warrants outstanding that would raise \$5,174,949 if exercised in full and 2,642,858 options outstanding that would raise \$1,546,024 if exercised in full. The Company does not know when or if the warrants or options will be exercised.

Cash used in operating activities was \$3,654,671 for the year ended December 31, 2017. Operating activities were affected by the net loss of \$4,521,541 partially offset by non-cash expenses of \$1,054,092 and a negative change in non-cash working capital balances of \$187,222 largely because of a decrease in inventory.

## Related Party Transactions

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

During the year ended December 31, 2017 (year ended December 31, 2016), the Company incurred the following charges with key management personnel:

(i) Consulting fees of \$111,000 (\$169,966) to companies controlled by Daryle Anderson, Director, Yaron Conforti, former CFO, David Alexander, CFO and Russ Burton, COO.

(ii) Wages and benefits of \$371,400 (\$337,611) to the Lynn Mueller, CEO, Daryle Anderson and Russ Burton.

(iii) Accounting fees of \$Nil (\$4,000) to a company controlled by a Daryle Anderson.

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

|                 | Year ended<br>December 31, 2017 (\$) | Year ended<br>December 31, 2016 (\$) |
|-----------------|--------------------------------------|--------------------------------------|
| Lynn Mueller    | 156,000                              | 156,000                              |
| Daryle Anderson | 90,000                               | 100,743                              |
| Yaron Conforti  | 71,000                               | 120,000                              |
| David Alexander | 40,000                               | —                                    |
| Russ Burton     | 125,400                              | 134,834                              |
| <b>Total</b>    | <b>482,400</b>                       | <b>511,577</b>                       |

(iv) Share-based payments of \$196,143 (\$1,303,204) 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:

Rent of \$11,671 (\$11,123), cost of sales of \$Nil (\$10,300) and expenses associated with ongoing projects capitalized to inventory or research and development costs which have been expensed of \$98,862 (\$Nil) due to a company controlled by a director of IWWS, Ian Craft.

Included in accounts payable is \$205,857 (December 31, 2016 - \$134,729) due to related parties.

|                                       | December 31, 2017 (\$) | December 31, 2016 (\$) |
|---------------------------------------|------------------------|------------------------|
| Lynn Mueller                          | 2,408                  | 3,304                  |
| Daryle Anderson                       | 150,000                | 60,000                 |
| Yaron Conforti                        | —                      | 3,065                  |
| Company controlled by Ian Craft       | 51,342                 | 68,360                 |
| Company controlled by David Alexander | 2,107                  | —                      |
| <b>Total</b>                          | <b>205,857</b>         | <b>134,729</b>         |

### Loans receivable

During the year ended December 31, 2015 the Company advanced \$80,000 to the CEO of the Company. During the year ended December 31, 2016, \$40,000 was repaid. The advance bears interest at a rate of 3% per annum and is due on demand. As at December 31, 2017 the outstanding balance was \$42,788 (\$41,523). In addition, there is an advance of \$27,702 (December 31, 2016 - \$27,702) to the CEO which is non-interest bearing and is due on demand. Subsequent to December 31, 2017, both loans were repaid to the Company.



## Share Capital

As of the date of this MD&A, the Company had 28,819,258 (December 31, 2017 – 28,419,258) 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 |
|-----------|-------------------|----------------|
| 109,714   | August 22, 2018   | \$0.70         |
| 59,429    | September 2, 2018 | \$0.70         |
| 21,429    | October 21, 2018  | \$1.58         |
| 650,095   | December 23, 2018 | \$1.40         |
| 36,464    | December 23, 2018 | \$1.05         |
| 1,450,528 | February 27, 2019 | \$1.40         |
| 86,790    | February 27, 2019 | \$1.05         |
| 942,857   | May 30, 2020      | \$1.05         |
| 66,000    | May 30, 2019      | \$1.40         |
| 28,571    | June 6, 2019      | \$1.40         |
| 730,714   | June 29, 2020     | \$1.05         |
| 44,900    | June 29, 2019     | \$1.40         |

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

| Options   | Expiry Date          | Exercise Price |
|-----------|----------------------|----------------|
| 752,750   | July 28, 2018        | \$0.63         |
| 142,858   | October, 27,<br>2020 | \$1.47         |
| 100,000   | July 12, 2021        | \$1.05         |
| 1,247,250 | October 3, 2018      | \$0.44         |
| 200,000   | October 23, 2018     | \$0.60         |
| 100,000   | March 13, 2019       | \$0.36         |
| 250,000   | March 23, 2019       | \$0.46         |

As at the date of this MD&A 2,014,285 (December 31, 2016 – 4,028,572) shares were held in escrow (December 31, 2016 – 8,057,143).

## Subsequent Events

- (i) On March 13, 2018, the Company issued 300,000 stock options at an exercise price of \$0.36 per share for 1 year.
- (ii) On March 23, 2018, the Company issued 250,000 stock options at an exercise price of \$0.46 per share for 1 year.
- (iii) Subsequent to December 31, 2017, 400,000 stock options were exercised for proceeds of \$160,000.
- (iv) Subsequent to December 31, 2017, the Company announced its intention to complete a private placement of 6,250,000 units at a price of \$0.40 per unit for aggregated gross proceeds of \$2,500,000. The Company received an additional \$388,850 in subscription proceeds towards the financing.

## 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:

### Significant judgments

#### (i) Deferred taxes

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.

#### (ii) Functional currency

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) Going concern

The preparation of the consolidated financial statements requires management to make judgments regarding the going concern of the Company as previously discussed in note 1 of the Annual Financial Statements.

## Significant estimates

### (i) Warranty provisions

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.

### (ii) Inventories

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-driven changes that may reduce future selling prices.

### (iii) Revenue recognition

The Company has service agreements with regards to some of its product sales which requires management to make judgements 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 service fees. However, the Company defers the recognition of revenue associated with fees for service agreements or warranty costs that are built in to the original sales price and recognizes the associated revenue evenly over the term the service or warranty is provided.

## **Recent Accounting Pronouncements**

Certain pronouncements were issued by the IASB or the IFRIC that are mandatory for accounting periods after January 1, 2018. Pronouncements that are not applicable to the Company have been excluded from this note.

IFRS 15 - Revenue from Contracts with Customers - Establishes a new single five-step control-based revenue recognition model for determining the nature, amount, timing and uncertainty of revenue and cash flows arising from a contract with a customer. IFRS 15 is effective for annual periods beginning on or after January 1, 2018.

IFRS 9 – Financial instruments (“IFRS 9”) was issued by the IASB in October 2010 and will replace IAS 39 Financial Instruments: Recognition and Measurement (“IAS 39”). IFRS 9 uses a single approach to determine whether a financial asset is measured at amortized cost or fair value, replacing the multiple rules in IAS 39. The approach in IFRS 9 is based on how an entity manages its financial instruments in the context of its business model and the contractual cash flow characteristics of the financial assets. Most of the requirements in IAS 39 for classification and measurement of financial liabilities were carried forward unchanged to IFRS 9. IFRS 9 is effective for annual periods beginning on or after January 1, 2018.

The Company has analyzed the impact of adopting IFRS 9 and IFRS 15 and anticipates there will be no material changes as a result of adopting these new standards.

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

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

## **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**

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

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

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

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

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

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

### **Foreign Exchange Risk**

Foreign exchange risk is the risk that the fair value of future cash flows will fluctuate as a result of changes in foreign exchange rates. As at December 31, 2017 and December 31, 2016, 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 \$5,000 (2016 - \$38,000).

### **Credit Risk**

Credit risk is the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation. The Company's cash and receivables are exposed to credit risk. The Company reduces its credit risk on cash by placing these instruments with institutions of high credit worthiness. Receivables are primarily from sales or loans. The Company believes these parties to be of sound creditworthiness, and to date, all receivables have been settled in accordance with agreed upon terms and conditions. As at December 31, 2017 and December 31, 2016, the Company is exposed to credit risk arising from receivables and loans receivable.

## **Interest Rate Risk**

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. As at December 31, 2017 and December 31, 2016, the Company is not exposed to any significant interest rate risk.

## **Liquidity Risk**

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

## **Risks and Uncertainties**

### **Manufacturing Risks**

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

### **Regulatory Risks**

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

### **Change in Laws, Regulations and Guidelines**

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

### **Lack of Operating History**

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

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

### **Reliance on Management and Key Personnel**

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

### **Additional Financing**

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

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

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

## **Competition**

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

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

## **Intellectual Property Risks**

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

## **New Market Risks**

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

## **Product Development Risks**

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

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

### **Product Liability**

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

### **Product Defects**

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

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



### **Reliance on Key Inputs**

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

### **Dependence on Suppliers and Skilled Labour**

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

### **Management of Growth**

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

## **Conflicts of Interest**

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

## **Litigation**

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

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

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

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

## **Environmental and Employee Health and Safety Regulations**

The Company's operations will be subject to environmental and safety laws and regulations concerning, among other things, emissions and discharges to water, air and land, the handling and disposal of hazardous and non-hazardous materials and wastes, and employee health and safety. The Company will incur ongoing costs and obligations related to compliance with environmental and employee health and safety matters. Failure to comply with environmental and safety laws and regulations may result in additional costs for corrective measures, penalties or in restrictions on our manufacturing operations. In addition, changes in environmental, employee health and safety or other laws, more vigorous enforcement thereof or other unanticipated events could require extensive changes to the Company's operations or give rise to material liabilities, which could have a material adverse effect on the business, results of operations and financial condition of the Company.

## Disclosure of Internal Controls

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

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

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

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