



# SHARC

ENERGY SYSTEMS

## CORPORATE PRESENTATION

September 2018

# Cautionary Statement

## Disclaimer

Each person to whom a copy of this company presentation (“Presentation”) is provided is a “User” and each User agrees to be bound to the terms of this agreement. The attached information has been prepared by SHARC International Systems Inc. using their best efforts to realistically and factually present the information contained. However, subjective opinion, dependence upon factors outside SHARC control and outside information sources unavoidably dictate that SHARC cannot warrant the information contained to be exhaustive, complete, or sufficient. In addition, many factors can affect information in the Presentation which could significantly alter the results intended by SHARC, rendering the projections in the Presentation unattainable or substantially altered. This Presentation does not constitute a prospectus or public offering for financing, and no guarantees are made or implied with regard to the success of SHARC proposed ventures.

## Forward-Looking Statements

This presentation contains forward-looking statements. Often, but not always, forward-looking statements can be identified by the use of words such as “plans,” “expects,” or “does not expect,” “estimates,” “intends,” “anticipates,” or “believes,” or variations of such words and phrases or state that certain actions, events, or results “may,” “could,” “would,” “might,” or “will” be taken, occur, or be achieved. Forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of SHARC to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Examples of such statements include discussions with respect to the future prospects of SHARC’s business and the intention to grow the business and operations of SHARC. Actual results and developments are likely to differ, and may differ materially, from those expressed or implied by the forward-looking statements contained in this presentation and SHARC’s preliminary short form prospectus. Such forward-looking statements are based on a number of assumptions which may prove to be incorrect, the ability of SHARC to obtain necessary financing, general economic conditions, consumer interest in the services and products of SHARC, competition, and anticipated and unanticipated costs. Such statements could also be materially affected by the impact of general imprecision of taxation policies, competition, the lack of available and qualified personnel or management, stock market volatility and the ability to access sufficient capital from internal or external sources. Actual results, performance or achievement could differ materially from those expressed herein. While SHARC anticipates that subsequent events and developments may cause its views to change, SHARC, except as required by law, specifically disclaims any obligation to update these forward-looking statements. These forward-looking statements should not be relied upon as representing SHARC’s views as of any date subsequent to the date of this presentation. Although SHARC has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking statements, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. There can be no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements. The factors identified above are not intended to represent a complete list of the factors that could affect SHARC International Systems Inc.

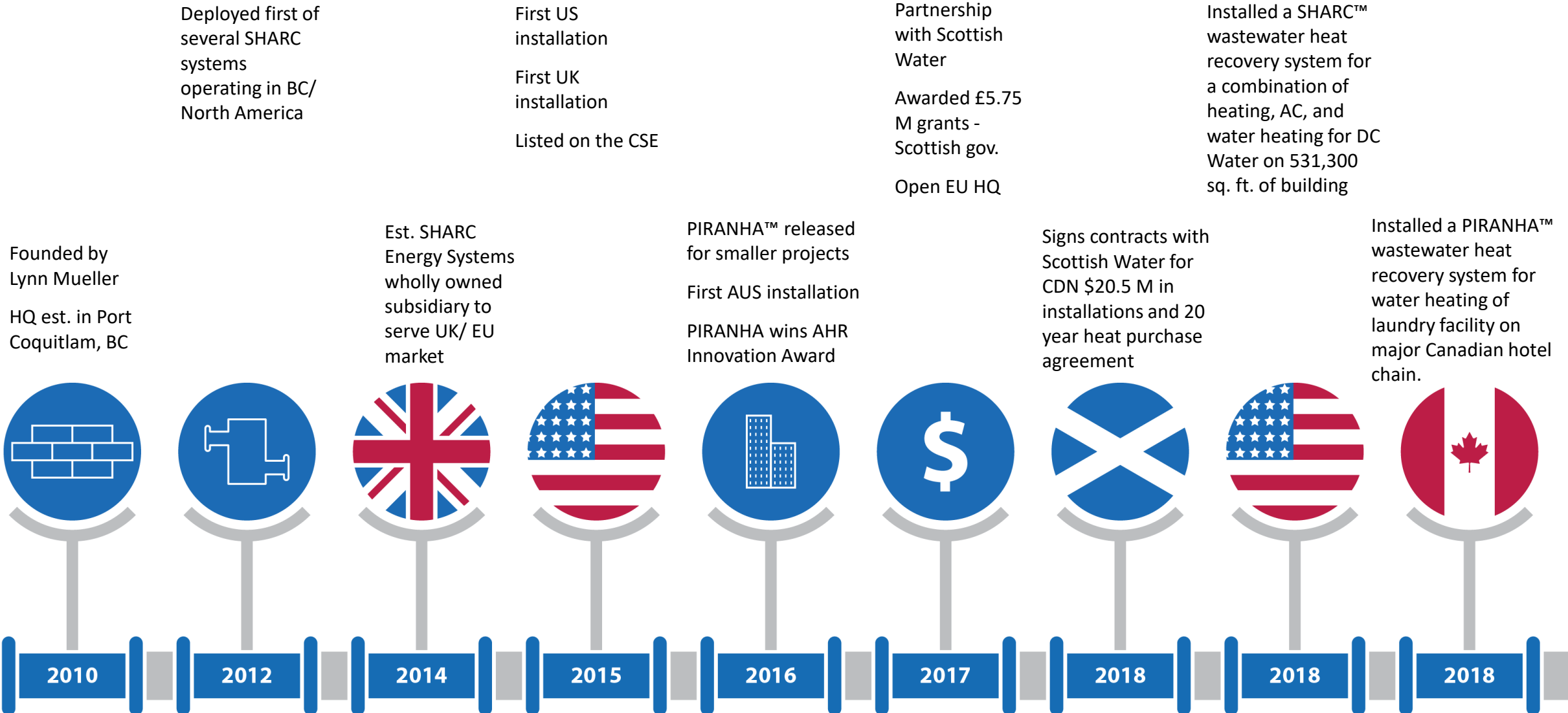




**WORLD LEADERS IN THERMAL ENERGY RECOVERY**



# Corporate Timeline



# Business Segments & Revenue Streams

## Original Equipment Manufacturer

- Manufacturing margins
- SHARC and PIRANHA Manufactured and Assembled in North America

## System Sales & Project Development

- Sales, consulting & service revenue
- SHARC requires quarterly service & maintenance
- PIRANHA requires bi-annual service & maintenance

## Licensing & Leasing

- Royalties; long-term recurring revenue
- Leasing; long-term recurring revenue

## Energy Sales From Owned Projects

- Long-term recurring revenue from heat purchasing agreements
- Contracts in the U.K. enter a 20-year heat purchasing agreement with SHARC Energy Systems
- Clients will purchase heat from SHARC at discount to gas prices
- Provides immediate paybacks to users with reduced operational costs and no upfront Capital expenditure

# Business Drivers



- **Regulatory Compliance**
  - Zero Emission Building Plan , Vancouver, BC.
  - Energy Efficiency Standards for Residential and Non-Residential Buildings, California, USA.
  - Building code requirements
- **Incentives**
  - Renewable Heat Incentive, UK.
  - Developer Density Bonuses
- **Increasing Urban Density**
  - Geothermal= Impractical
  - Limited Space for Solar/ Wind
  - Limited Battery Storage for Thermal Energy Demands
- **Award-winning tech with a typical payback of 4 years, exceeding competing technologies**

# Partnerships In Thermal Energy

- **SHARC Energy President & CEO Lynn Mueller** served as President of Water Furnace Canada and Water Furnace International in the 1990s
  - Water Furnace manufactures and sells geothermal systems for homes
  - WFI went from \$0.30 per share to a takeover price of \$30.60 at a \$378 million market cap
- After noticing the tremendous amount of energy in hot water that is wasted and sent down the drain every day, Lynn Mueller **used his 25 years of experience in the heat-exchange industry to cofound SHARC International Systems Inc. with Daryle Anderson**
- Today, the Company has a wholly owned **UK subsidiary, SHARC Energy Systems**, and a distribution network across **Canada, the United States, U.K., Australia, and China**

## Strategic Partners / Customers



# Clyde Gateway Project Scotland

- Clyde Gateway regeneration project in Glasgow, Scotland was established to carry out the regeneration of 840 hectares across the east end of Glasgow and South Lanarkshire.
- On August 30<sup>th</sup> 2018, the Clyde Gateway Project will break ground.
- Clyde Gateway will bring derelict land back into use, enable quality new build premises and homes to be constructed, and to bring businesses to the area and encourage local businesses to grow.
- SHARC has been able to close the initial funding of £3.7 million (CDN \$6.37 million) grant and non repayable, with assistance from the Scottish Government's Low Carbon Infrastructure Transition Programme, supported by the 2014-2020 European Regional Development Fund programme.



Ground breaking at Clyde Gateway August 2018



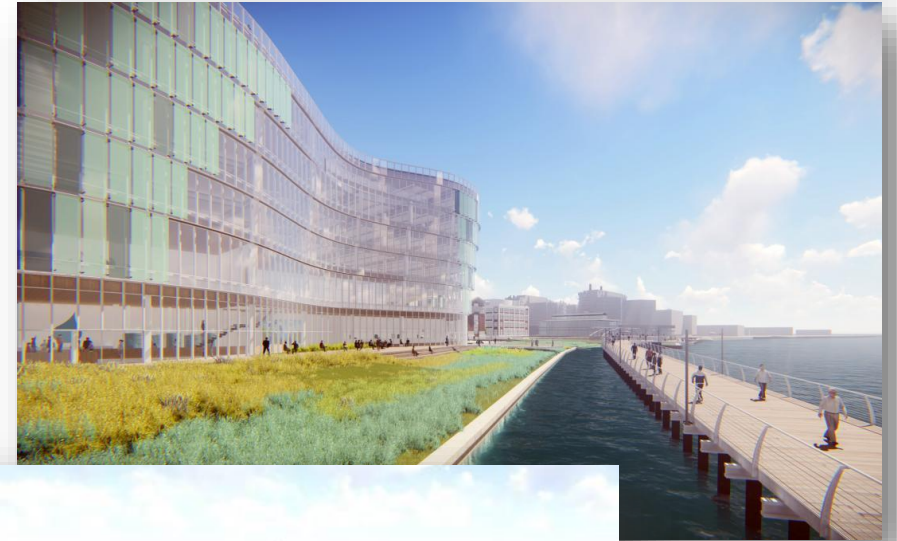
# Aqualibrium Project – Campbeltown, Scotland



- Aqualibrium Project broke ground on July 18, 2018.
- The Aqualibrium Leisure Centre in Campbeltown, Scotland provides a large swimming pool and a wide range of other leisure services.
- Installing SHARC technology at the site will help Argyll & Bute Council achieve their Renewable Energy Action Plan targets and deliver a long-term price certain solution.
- SHARC™ wastewater heat recovery system will have a peak capacity of 800KW and will aim to supply 95% of the leisure centre's annual demand.
- An estimated carbon saving of 144 tonnes of CO2 per year is expected, that will increase annually as the Electricity grid decarbonises.

# DC Water Administrative Headquarters Building

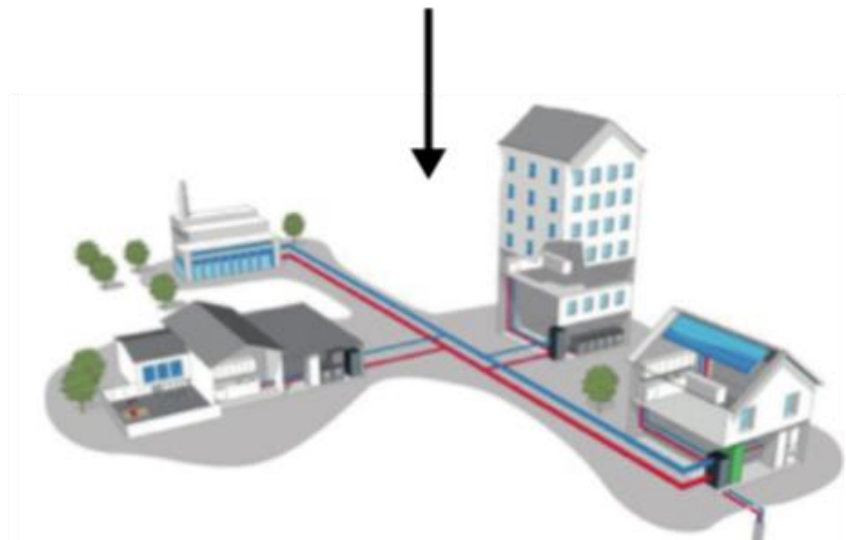
- On the banks of the Anacostia River a new administrative HQ for DC Water was completed and was commissioned in July 2018.
- SHARC Energy has installed a SHARC™ wastewater heat recovery system for a combination of heating, AC, and water heating on 167,180 sq. ft. of building.
- Savings projected to be 35% for cooling 85% for heating and save 5 M gallons per year of fresh water that would have been used by the cooling towers
- The new HQ will house approximately 350 employees and will allow DC Water to consolidate its administrative offices in a single location.
- The new Administrative Headquarters Building will be LEED Platinum Class A



# SHARC Energy Recovery Technology

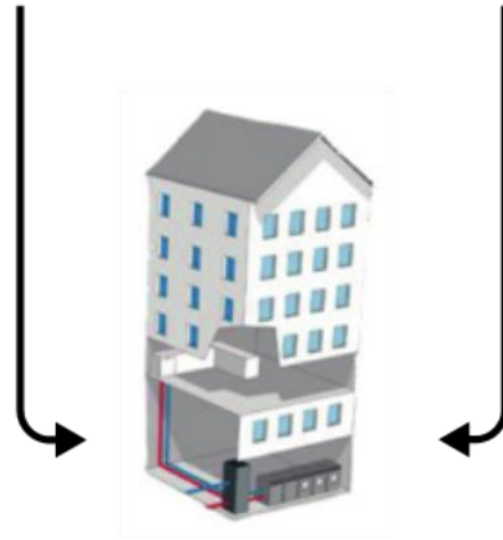
SHARC Energy's commercialized and patented technology recovers heat from wastewater for domestic hot water and forced air heating and cooling. The SHARC™ and PIRANHA™ and MAKO™ systems provide energy savings and lower carbon emissions to commercial and multi-unit residential buildings.

## SHARC



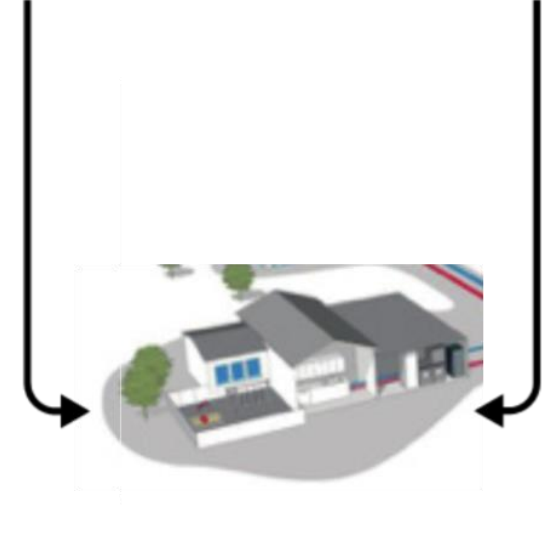
**DISTRICT HEATING AND COOLING NETWORK**

## PIRANHA



**INDIVIDUAL BUILDING**

## MAKO



**SINGLE FAMILY HOME**



# Wastewater Heat Recovery Technology

- Heating, air conditioning, water heating
  - Applicable for multi-unit residential (400+ units), commercial and district systems
  - Energy savings of 30-85%
- Water heating
  - Applicable for multi-unit residential (50-200 units), commercial buildings
  - 2016 AHR Expo Innovation Award for Green Building Innovation



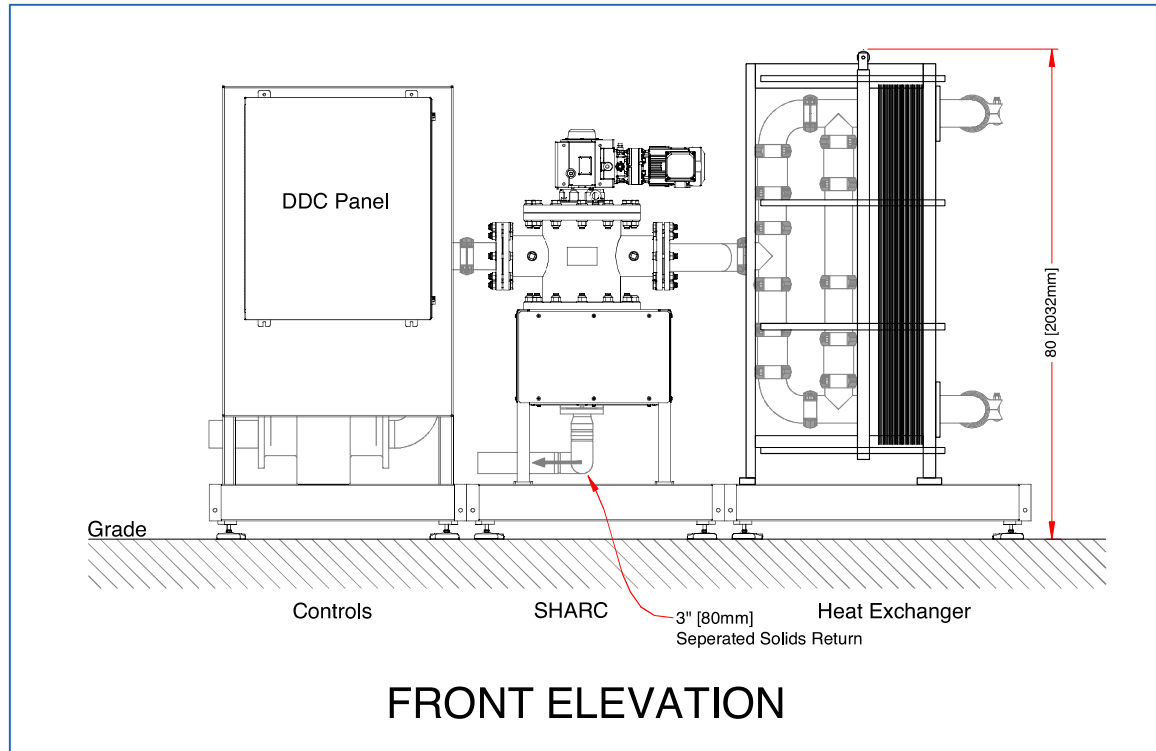
**SHARC**

**SHARC**

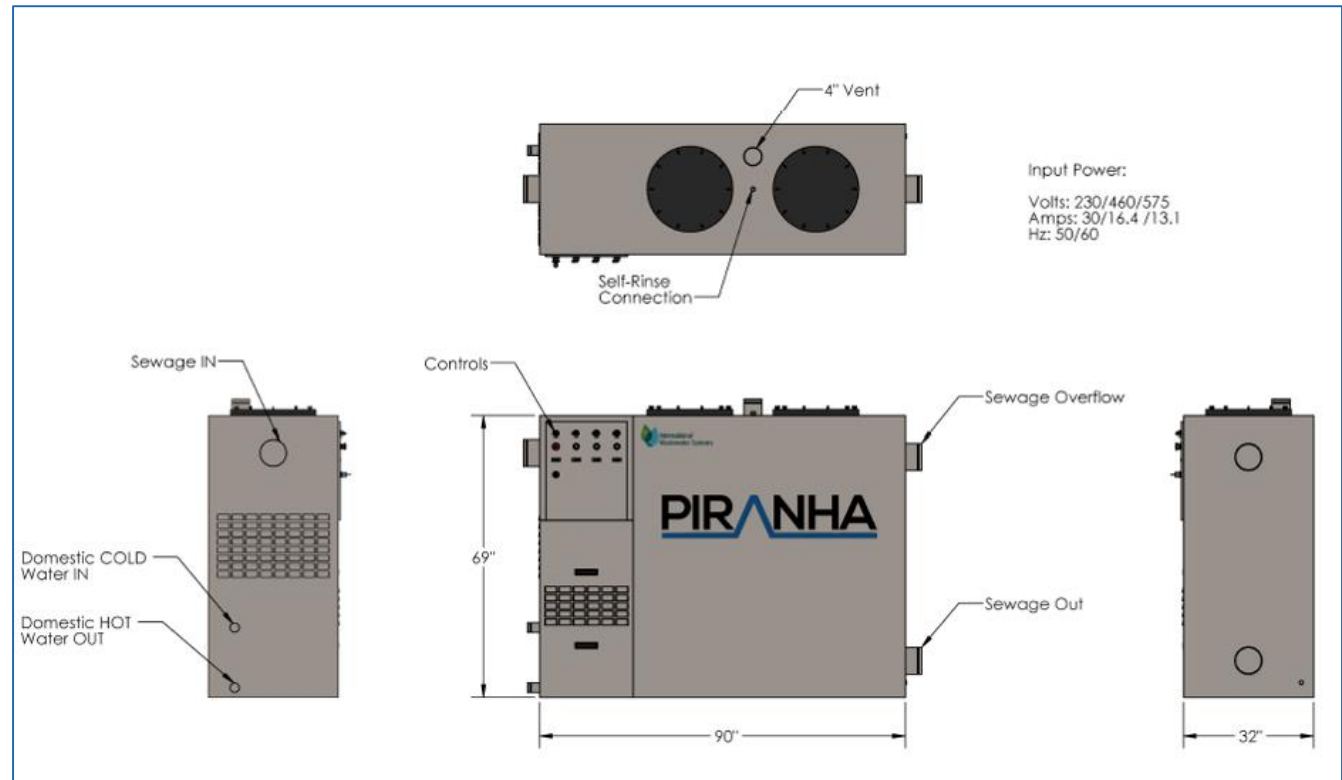


**PIRANHA**

# SHARC Recovery Technology

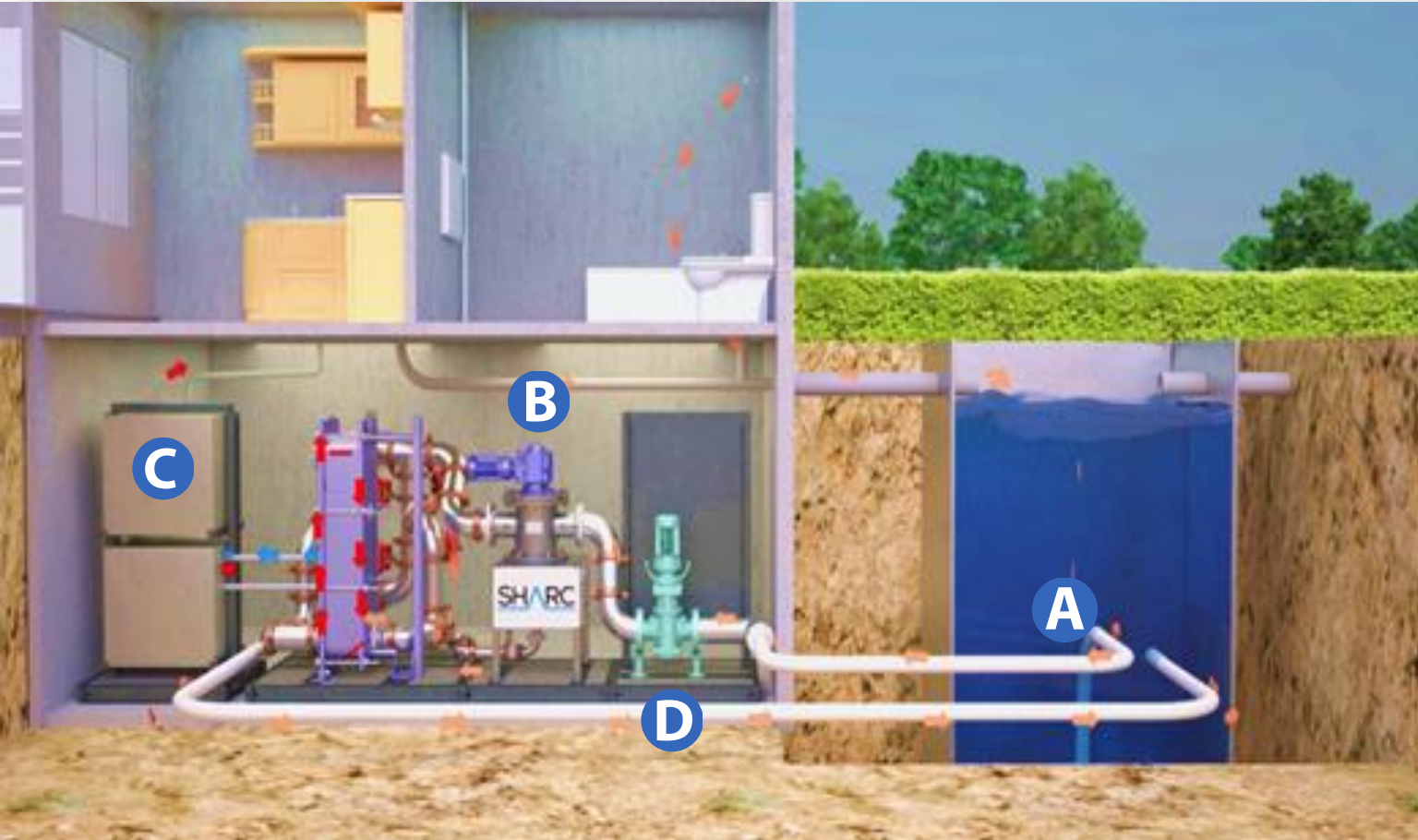


# PIRANHA Recovery Technology





# SHARC Technology Workings



**A**

Wastewater, typically  $\sim 21^{\circ}\text{C}$  ( $70^{\circ}\text{F}$ ), leaves a facility and is captured in an onsite tank. It can also be pulled from a city sewer main.

**B**

Solids are separated from the waste stream with SHARC Energy's patented SHARC™ or PIRANHA™ technology and the warm water is passed through a heat exchanger which transfers thermal energy from the contaminated water to a process loop

**C**

SHARC Energy systems can heat incoming water, and provide space conditioning at high efficiencies (400-600%)

**D**

Solids and contaminated water are released to the sewer system

# Investment Highlights



- **Thermal energy is one of the most promising sectors in renewable energy**
- **24 active installations across Canada, US, UK, and Australia**
- **Partnership with Scottish Water Horizon, a public water utility owned by the Scottish Government**
  - Partnership has identified five locations for approx. CAD \$20.5 million in installations across Scotland
  - Recurring revenue from 20-year heat purchasing agreement
  - Received CAD \$10.29 million grant from Scottish Government for the five installations
- **Licensing Agreement in Australasia**
- **Joint Ventures in Scotland & USA**
- **Distributers in Canada, USA, Australia**



A close-up photograph of several industrial pipes. The pipes are dark and metallic, with water flowing through them. The water is turbulent and splashing, creating a lot of white foam and bubbles. The background is dark and out of focus, showing more pipes and machinery. A blue horizontal bar is overlaid on the right side of the image, containing the text 'IN THE PIPELINE' in white, uppercase letters.

IN THE PIPELINE



# In The Pipeline

Revenue guidance of \$100 million from installations over the next two years.

## Canada

- Lake Louise Inn installation and commissioning Sept 2018
- Working with BC Hydro to implement SHARC systems in educational institutes
- Planning stages for district heating opportunities in Richmond, BC; Ottawa, ON; Toronto ON
- Working with major municipalities to implement technology in the building code

## USA

- DC Water headquarters commissioning fall 2018
- Joint Venture in California
- Signed in November 2016; Production expected Q4 2018
- Planning stages for district heating opportunities in Chicago, IL; Los Angeles, CA

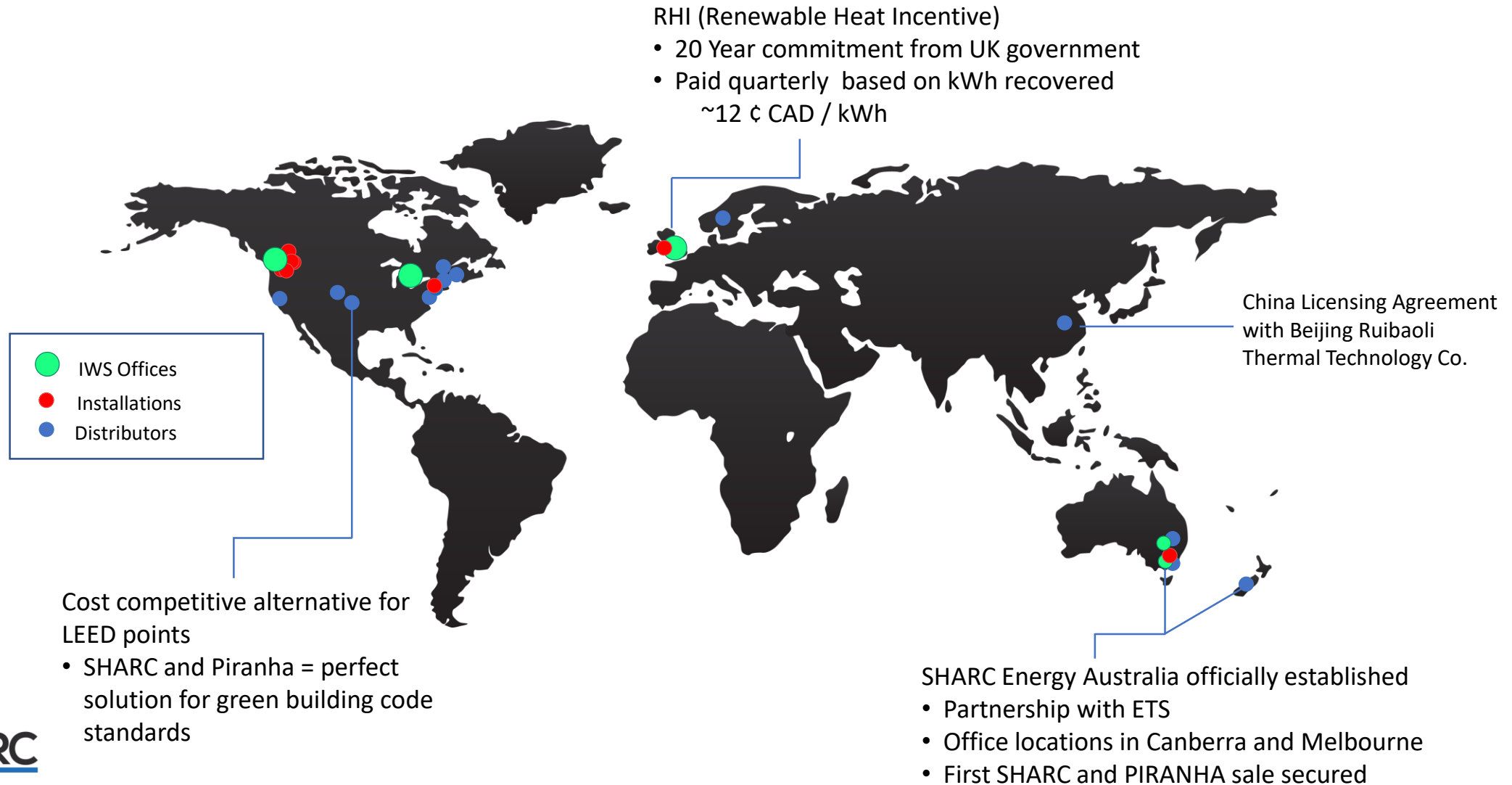
## Australia & New Zealand

- Distribution agreement with Environmental Technology Solutions (ETS).
- Several sites identified for SHARC and PIRANHA systems are in planning stages.
- Installed the first PIRANHA at Meriton Suites in Australia.

## United Kingdom

- SHARC Secures collaboration with energy giant ENGIE Group
- Clyde Gateway construction commenced
- Strategic alliance with Scottish Water Horizons Ltd., a public water utility owned by the Scottish Government.
- Secured projects for five locations across Scotland for approx.. CAD \$20.5 million in installations.
- Recurring revenue through 20-year heat purchase agreement for five sites.

# Global Presence



# Capitalization - (As of August 31, 2018)

**CSE: SHRC**

**FSE: IWIA**

**OTCQB: INTWF**

52 Week Low-High	0.30 – 1.16
Shares Outstanding	<b>38,697,003</b>
Warrants Outstanding	<b>14,372,636</b>
Options Outstanding	<b>2,692,858</b>
Convertible Debentures	<b>2,231,429 (2,343,000 FV / 1.05 conversion)</b>
Fully Diluted	<b>57,993,926</b>
Insider/ Founder Ownership	<b>34.3%</b>



# MANAGEMENT & BOARD OF DIRECTORS



## Lynn Mueller - **CEO & Chairman**

Mr. Mueller is the co-founder and Chief Executive Officer of SHARC International Systems Inc. Mr. Mueller has over 25 years of experience in geothermal heat pump sales. He has served as president of WaterFurnace Canada and WaterFurnace International and founded Pacific Geo-Exchange Inc. and Earth Source Energy Inc. Over his career, Mr. Mueller pioneered many innovative approaches to geothermal installation.



## Hanspaul Pannu, CPA - **CFO**

Mr. Pannu has worked in the Canadian small cap public company space for over 5 years providing financial reporting, corporate secretary, listing and general accounting support. He is currently the Chief Financial Officer of APPx Crypto Technologies Inc., a blockchain technology and mobile application company and Marapharm Ventures Inc. (CSE: MDM), a Canadian and US Cannabis company and has held or currently holds a senior financial position with LED Medical Diagnostics Inc. (TSX-V: LMD), Aequus Pharmaceuticals Inc. (TSX-V: AQS, OTCQB: AQSZF), Veritas Pharma Inc. (CSE: VRT) and Blok Technologies Inc. (CSE: BLK). He is a Chartered Professional Accountant.

# MANAGEMENT & BOARD OF DIRECTORS



## Russ Burton – **COO**

A chartered surveyor with a 30-year career in real estate management leading the client-side agenda for several FTSE 100 businesses, Russ's career has focused on managing income growth through asset and corporate acquisition activity, Capex and the progressive delivery of efficiency in the OPEX program. Following a successful 15 years as Director of Property for Enterprise Inns PLC, Russ realized his ambition to start a renewable energy business, supporting property owning clients to recognize the value of their energy consumption as a lever to support investment into renewable energy schemes. In 2014 Russ met Lynn Mueller and formed the UK operation of SHARC Energy, with the intention of developing a Design, Build, Operate and Finance service that delivered energy savings to clients, whilst retaining long term income and asset ownership opportunities to the company.



## Richard Mort - **UK FD & Group Head of Finance**

Richard is a chartered accountant with a career in the engineering contracting & water utilities sector where he has held several senior financial positions and was heavily involved in the development and delivery of PPP/PFI/DBFO projects in the water, wastewater, waste and renewable energy sectors.

Working with United Utilities Richard held the role of CFO with Sophia Water on a 2-year contract supporting the development of water infrastructure in the Sophia region of Bulgaria.

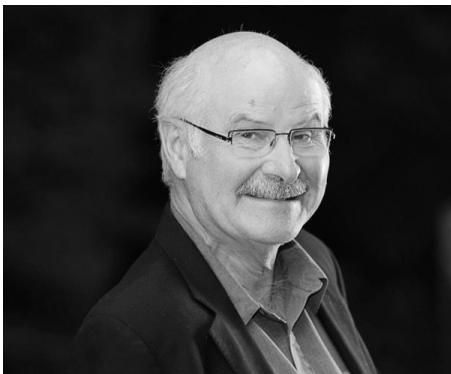
In 2013, following a period with Grant Thornton & Earthtech, Richard invested into researching the opportunities for Sewage Heat Recovery and was introduced to SHARC through his work with Thermowatt.

# MANAGEMENT & BOARD OF DIRECTORS



**Mark McCooey – Director**

Mr. McCooey has been the Chief Executive Officer and Chief Financial Officer of SEI Industries for over 25 years. SEI is a world leader in the design, engineering and manufacturing of products from innovative industrial fabrics. Mr. McCooey has an extensive background in the renewable energy sector and has acted as a senior executive and board member for a number of private and public companies in the areas of sustainable development.



**Mike Harcourt – Director**

As former premier of British Columbia 1991-96, recipient of the Order of Canada, and Mayor of Vancouver, Mike Harcourt helped BC earn its reputation as one of the most liveable, accessible and inclusive places in the world. Mr. Harcourt was appointed by the Prime Minister to serve as a member of the National Round Table on the Environment and Economy, where he served on the Executive Committee and Chaired the Urban Sustainability Program. He was a federally appointed B.C. Treaty Commissioner.

Mike Harcourt is currently Chair of University of British Columbia's Centre for Interactive Research on Sustainability. In addition, he is Chairman of Quality Urban Energy Systems for Tomorrow (QUEST). He is also the lead faculty in United Way's Public Policy Institute, member of Canada's ECOFISCAL, and Chair of AGE-WELL a national research and training network of university, industry and public sector partners aimed at helping older Canadians to maintain their independence, health and quality of life.



# MANAGEMENT & BOARD OF DIRECTORS



**Daryle Anderson - Director**

Daryle Anderson is a co-founder of SHARC International Systems Inc. and brings a wealth of expertise to IWS. Mr. Anderson has over 35 years' experience in mechanical contracting and new residential/commercial construction. He has received his certificate of qualification in plumbing, heating, gas and sprinkler systems and is the President and Owner of CIR Mechanical Ltd. located in Burnaby BC, for the past 30 years. Mr. Anderson has vast knowledge of plumbing, heating and district energy systems and related installation solutions.



**Sashko Despotovski – Director**

Sashko Despotovski is an active investor and an investment banker. He is a Canadian national living in the Nordics, with over a decade of international experience in the technology and energy sectors. Sashko has held posts within several funds and hedge funds in the investment banking capacity in US and Canadian markets, as well as on the operational side in the upper management and as a director for a number of companies. Sashko until recently was an M&A Director at one of the Big Four, and currently serves a Special Advisor to the firm, working closely with the members of Global Origination team in CEE, focusing on cross border transactions. His specialties are fundraising and fund dissemination. He serves as an advisor to a number of public and private firms.



A close-up photograph of a circular metal grate set into a lush green lawn. The grate is made of a dark, diamond-patterned metal mesh and is slightly recessed into the grass. The surrounding grass is vibrant green and appears to be well-maintained. The lighting is bright, creating some shadows and highlights on the blades of grass.

**WORLD LEADING ADVISORY BOARD**



# SHARC ENERGY ADVISORY BOARD



**Mr. Alfred Ng** is an engineer with over 40 years' experience in the HVAC industry. Mr. Ng co-founded and established numerous manufacturing facilities in China since 1985, and is currently the Chairman & Co-Founder of Mammoth China. Mr. Ng is a pioneer in the geothermal energy industry in China, and has worked as an advisor to the Canadian Government Energy Saving Project with the Chinese Ministry of Construction. His renewable energy products have been used in thousands of projects around the world, totaling more than 200 million square feet of development over the last ten years. His many awards include: Top Ten Leaders in Building Energy Saving in China in 2009, Pioneer in China Geothermal Heat Pump Industry in 2010, Top Ten China HVAC Outstanding Entrepreneur in 2010, Best Leader in China HVAC Sales & Marketing in 2011. Mr. Ng holds a B.Sc. in Mechanical Engineering from the University of Manitoba in Canada, and is a Life Member of ASHRAE and an International Rep for The International Ground Source Heat Pump Association (IGSHPA).



**Mr. David Hatherton** has been a leader in the domestic and international geothermal, renewable, and energy efficiency industries for 25 years. Companies that Mr. Hatherton has co-founded have installed over 250,000 systems, accounting for approximately US\$2.5 billion in retail sales. David was the cofounder of companies including EarthSystems/WaterFurnace Canada, WaterFurnace International (Fort Wayne, Indiana), and NextEnergy Inc. Among his many contributions to industry associations, Mr. Hatherton was the founding President of the Canadian Earth Energy Association and initiated the Ontario Hydro GSHP incentive program with 7,000+ installations. During the administration of President Clinton, Mr. Hatherton was the key industry representative providing successful congressional testimony in the launch of the US\$100 million Department of Energy (DOE) – Geothermal Heat Pump Consortium's National Earth Comfort Program, part of the Clinton/Gore Climate Change Action Plan



# SHARC ENERGY ADVISORY BOARD



**Mr. Qu Yuxiu** is President of Beijing Ruibaoli Thermal Technology Co., Ltd., (BRTT), a leader in the manufacturing and installation of wastewater heat exchange systems in China with a track record of successful projects including the Beijing South Train Station (1.5 million square feet), Beijing Kunlun Hall (1.1 million square feet) and the Shenyang District Energy System (3.5 million square feet). BRTT has installed thermal heat recovery projects in 17 Chinese provinces and 20 cities, serving over 50 million square feet of new and retro-fit real estate projects.



**Mr. Steve Moddemeyer** has over 24 years of experience leading governments, land owners, and project teams towards increased sustainability. He is a principal at CollinsWoerman, a Seattle-based architecture, planning, and sustainable development firm, and previously served as Senior Strategic Advisor to Seattle Public Utilities and the Seattle Department of Planning and Development. He specializes in advanced sustainability strategies for cities, utilities, and Tribes.

Mr. Moddemeyer has worked globally with the International Water Association to help launch the Cities of the Future Program, which seeks to help cities build infrastructure appropriate for the rapidly escalating challenges they face in the 21st century. Steve is currently leading the development of resilience performance standards in Boulder County, Colorado and works with the National Academy of Sciences on a resilience pilot project in the Seattle region. He was the principal author of the Seattle Green Factor, a powerful land use regulation, and led the Sustainable District Study for the Yesler Terrace redevelopment in Seattle that identified cost-effective district scale approaches for sustainable energy, water and solid waste.

# SHARC ENERGY ADVISORY BOARD



**Mr. Bruno Thielmann** has played a key role in many of the largest development projects in the Greater Vancouver Area as well as the provinces of British Columbia and Alberta, with 40 years' experience in multi-family, commercial and industrial land developments. As Director of Land Development at WesGroup Income Properties LP, Mr. Thielmann provided construction management and land development expertise for a wide range of projects. Mr. Thielmann has worked with numerous First Nations groups throughout his career aiding their vision of economic independence through run-of-river power projects, forestry, and aqua-culture. He currently serves as a Director for the Klahoose First Nation Development Corporation and advises the Musqueam First Nation in the development of a 22-acre site for 1.25 million square feet of mixed use residential projects.



**Mr. Pär Dalin** is currently the Chairman and Partner at Devcco AB (District Energy Venture) in Stockholm, Sweden, a developer of international energy utility and district energy projects. Devcco's partners have led several of the world's largest and most pioneering District Cooling and multi utility developments for the last two decades. Mr. Dalin was previously a co-founder and CEO of Capital Cooling Holding AB where he led energy utility development partnerships with a focus on District Cooling in the US, China, Middle East, Europe and the Caribbean. Mr. Dalin currently serves as a District Energy advisor to both the Swedish Environmental Protection Agency and the United Nations. He also serves as the Swedish representative and Chairman of the District Cooling group of Euroheat & Power, a Brussels-based group representing the District Energy sector with public and private sector representatives from over thirty countries. Mr. Dalin holds a Bachelor degree from Thayer School of Engineering in Hanover, USA, and a Masters degree from the Royal Institute of Technology, Stockholm.

# SHARC ENERGY ADVISORY BOARD



**Dr. Hadi Dowlatabadi** is the Canada Research Chair & Professor in Applied Mathematics and Global Change at the University of British Columbia; a University Fellow at Resources for the Future, a Washington DC think tank; and an Adjunct Professor at Carnegie Mellon University's Department of Engineering & Public Policy. Dr. Dowlatabadi received a BSc in Physics from Edinburgh University (1980) and a PhD in physics (focussing on integrated energy systems) from the Cavendish Laboratories at the University of Cambridge (1984). His research focuses on interacting social, economic and environmental systems, and how these systems create and respond to challenges over time, at the interface of technology, energy, the environment, public health and public policy. In 2004 Dr. Dowlatabadi co-founded the non-profit Offsetters Climate Neutral Society, a leading provider of sustainability and carbon-management solutions. Offsetters made the 2010 Vancouver Winter Olympics climate neutral and has been a pioneer in GHG reduction strategies. In 2007 Dr. Dowlatabadi co-founded Green-Erg Technologies, a Company focused on energy efficiency projects. Green-Erg is currently building the first off-grid biomass based community energy system (3MWth, 720kWe) in Canada. 2 In 2012 Dr. Dowlatabadi co-founded HydroRun a company that is developing a novel hydrokinetic device to generate electricity from the energy of free-flowing streams, with the goal of dispatchable renewable electricity generation at competitive prices to the grid. Dr. Dowlatabadi was a lead author on the Intergovernmental Panel on Climate Change and also on the Millennium Ecosystem Assessment



# CONTACT

## HEAD OFFICE

**SHARC International Systems Inc.**  
1443 Spitfire Pl.,  
Port Coquitlam, BC, V3C 6L4

Phone: **(604) 475-7710**

**info@sharcenergy.com**

## UK OFFICE

**SHARC Energy Systems Ltd**  
Unit 10, Stephenson Court, Stephenson  
Way, Brunel Park, Newark, UK  
NG24 2TQ

Phone: **+44 (0) 141 404 0670**  
**info@sharcenergy.com**



## CONTACT

Lynn Mueller, **CEO & Chairman of the Board**  
**lynn.mueller@sharcenergy.com**

C:+1 604-219-2838

Jamie Hyland, Corporate Advisor  
**jamie.hyland@sharcenergy.com**

C: +1 604-442-2425

For more information, please visit: **www.sharcenergy.com**

