

Innovation for the world's water challenges



Corporate Presentation Spring 2023





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OUR WHY

- Everyone should have access to clean drinking water
- Drinking water must be safe, trusted and secure
- AN URGENT FOCUS ON water conservation is needed



















12 RESPONSIBLE CONSUMPTION









OUR STORY

PURAFY IS A CLEAN TECHNOLOGY COMPANY THAT PROVIDES ADVANCED, MARKET-LEADING SOLUTIONS TO THE WORLD'S WATER CHALLENGES.

- We are focused on leveraging and utilizing our proprietary and patented graphene products and applications to revolutionize the power, capacity, and cost-efficiency of existing water filtration technologies.
- We are a world class team of scientists, water experts, company founders and senior executives with a track record of creating shareholder value with more than \$1 billion in raises and exits.













OUR MISSION

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Lack of access to clean, safe drinking water is a massive global challenge affecting hundreds of millions of people.

By 2025, the WHO predicts that HALF the world's population will be living in waterstressed conditions.

In Canada, the average adult uses over 300L of clean water EVERY DAY. Yet boil-water advisories in Canada and the US have been plaguing communities for decades and continue today.

As if these statistics were not scary enough, water supply can be suddenly interrupted by a natural disaster, and the possibility of attacking the water supply of communities as an act of bioterrorism is a very real threat in many parts of the world.

The world is ready for a leader in filtration technology that will provide clean, safe water.





OUR STRENGTHS

1	A dynamic Executive Team with expertise in management, marketing, and engineering and a proven track record of de shareholder value
2	A seasoned, supportive and invested Board, which together Management Team hold a significant ownership position of company
3	Partnerships with key industry stakeholders, engineering con and manufacturers across the globe
4	Protected Intellectual Property (IP) including 2 granted pater several patents pending
5	Poised to capitalize on rising global demand for high-perform large capacity water filtration products, a high margin indust



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With our proprietary technology and strong management team, **Purafy** is set to disrupt the water filtration industry.

Quite simply, when it comes to water purity, no other filtration technology on the market today comes close to ours.







THE PURAFY MANAGEMENT TEAM **A PROVEN TRACK RECORD OF DELIVERING SHAREHOLDER VALUE**



- 25 years of global experience in executive management roles
- extensive global experience in mergers and acquisitions
- track record in delivering results while leading transitioning companies
- Geologist and accountant with more than 20 years experience in mining, management and corporate finance
- CFO with publicly-traded company experience
- M.Sc. (Geology), MBA, CMA

- 25 years' experience in sales, business development and brokering strategic partnerships
- Asia
- University lecturer





CAMERON RUNTE COO



ANDY ZHOU **VP RESEARCH AND** DEVELOPMENT

- Brokered more than \$100M in business partnerships across North America, Europe and
- B.Sc., M.Sc. in Microbiology and immunology, expertise in cellular mechanisms in human disease caused by pathogenic bacteria
- **Developing commercial** markets and partnerships for Purafy's proprietary graphene products
- B.Sc. in Nanotechnology Engineering and M.Sc. in Material Science and Engineering
- Leads product development, provides direction for product improvements and new emerging technologies.













KEY ADVISORS Strong support and industry experience with ownership interest





JEFFREY YORK, Chairman

BRAD Mcaninch

- Founding Partner in the company, actively involved
- CEO of Farm Boy Inc., an Ontariobased food store chain
- Led Giant Tiger Stores to become a national, billion-dollar company as President and CEO
- CEO of Modern Niagara Group Inc., an Ontario-based building service company that is one of Purafy's engineering and manufacturing partners
- International experience
- B.Sc. in Engineering





JEFF Westeinde

- Partner in THEIA, an environmentally and socially sustainable real estate developer
- Chairman of Milestone Environmental Contracting
- Executive Chairman of waste treatment company Envirogreen Technologies
- Leader in solar energy generation



DR. MICHAEL E. Shannon

- Deputy Surgeon General for Canada (retired)
- Led the creation of a new blood services agency within Health Canada in 1996
- Medical doctor with post-grad degrees in neurochemistry and physiology





WHY INVEST IN WATER

The Fundamentals

- Underserviced basic need; fixed supply for increasing demand
- Growing issue given climate and demographic change. The increased need for solutions are strong fundamental investment drivers for the long run
- ESG investment at its core. Investment bring solutions to water scarcity, efficiency and quality challenges

Global warming and population growth are threatening the world's freshwater supplies. Governments, organizations and businesses are trying to tackle water scarcity as part of the United Nations 2030 Agenda for Sustainable Development 🖄, but 2.2 billion people still lack access 🖄 to safely managed drinking water.



Wealth Management

The rising demand for water efficiency and management solutions opens up an array of investment opportunities in new technologies, infrastructure and innovation. The water market, which is <u>expected to reach US\$914.9 billion by 2023</u>, could provide an opportunity to grow wealth, while also investing in companies that seek to create a better tomorrow.

\$55 Billion Investment in Clean Water

On November 15, 2021, President Biden signed into law the <u>Infrastructure Investment and Jobs Act</u>. The bipartisan infrastructure bill authorizes \$1.2 trillion in spending, which includes \$55 billion allocated to create clean drinking water...



hand le increased need or the long run water scarcity,

Water investing has provided a favorable risk/return

Risk/return: April 2005 to June 2020





U.S. Water Purifier Market Size, 2018-2029 (USD Billion)





THE WATER CRISIS





Low (929)

Moderate (1192)

Water Supply Sustainability Risk Index (2050)



High (608)

Extreme (412)

10

THE WATER CRISIS



population will be living in water-stressed



Could Water Scarcity Prompt A Battle Between U.S. and Canada?



Ottawa pressed to make good on promise to end all long-term drinking-water advisories for First **Nations**



ADRIAN MORROW > U.S. CORRESPONDENT JACKSON, MISSISSIPPI PUBLISHED YESTERDAY



Lack of access to clean, safe drinking water is a massive global challenge affecting hundreds of millions of people. By 2025, HALF of the world's





California imposes water restrictions as drought drags on

KATHLEEN RONAYNE SACRAMENTO, CALIF THE ASSOCIATED PRESS PUBLISHED JANUARY 4, 2022

Drinking Water Advisories

The number of active drinking water advisories in First Nations communities across Canada



LARGE-SCALE MARKET GROWTH FORECAST





The market for home water purification units is estimated at USD \$ 11.48 billion. It is anticipated to grow to USD \$ 24.11 billion by 2025.



- Compound annual growth rate (CAGR) of 15.9%.
- Changing lifestyles, especially in urban areas in developing countries, are driving the growth of the global home water filtration unit market, along with greater awareness of the risks of water contamination.



Purafy plans to enter the market at cost-competitive price points, while offering products that both last longer and provide higher water purity.



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PURAFY WATER FILTRATION PRODUCTS AND SOLUTIONS

- The **PORTAGE** a proprietary, portable, lightweight system used for disaster relief, emergencies, military deployments, campgrounds, and general usage in remote locations where drinking water is not easily accessible.
- The SHIELD a point-of-entry treatment system designed for residential use that filters running water throughout the home.
- The **REVOLUTION** is a proprietary in-home system that sits in a utility room and filters greywater to reduce your water consumption by 65%









PATH TO COMMERCIALIZATION





Enercare for pilot of SHIELD and co-development of REVOLUTION)

COMMERCIALIZATION

PHASED STRATEGY TO CAPTURE AND SCALE KEY MARKET SEGMENTS



FY2023

In-market trial with Natl. Service Provider (market leader in Canada); expand penetration with US military; grow indigenous sales; paid pilots of Revolution in-market in CA and AZ



FY2024

Rollout with Natl. Service Provider; expand to allied military forces; strategic partnership with Indigenous Services and AFN; Accelerate Revolution sales in US







FY2025

Expand to International Service Providers companies in US and beyond; expansion of Revolution into key markets; Territory rights for international markets FY2026+

Continued international expansion; policy advocacy for in-home water conservation technologies; targeted acquisition of Purafy



OUR GRAPHENE-BASED TECHNOLOGY

Most potable (drinking water) filtration units on the market today use a combination of reverse osmosis (RO), activated carbon adsorption, and ultraviolet (UV-based) filtration technology, which is effective in removing 90-99% of contaminants.

Purafy's products feature ultrafiltration elements that eliminate all material greater than 10nm (nanometres) in size, matching or surpassing competitors in removing microorganisms (99.9% reduction), while simultaneously achieving up to a 10x improvement in flow rate and reducing the requirement for applied pressure across the membrane, improving energy efficiency overall. The key to this improvement is the use of our proprietary graphene filters, which revolutionize the water filtration industry and remove all contaminants from water, including:

- Cryptosporidium
- Giardia
- Chemical solvents
- Heavy metals
- Dissolved contaminants

- Amoeba
- Paramecium
- Insecticides
- Bacteria (99.999%)
- Viruses (99.99%)



Purify G10 + advanced ultrafiltration

Activated carbon + ultraviolet

Unfiltered lake water





G10 GRAPHENE FILTERS

- Proprietary products that contain a blend of graphene media that sets their filtration efficiency and capacity performance for heavy metal contaminants (mercury, arsenic, lead, etc.) apart from that of competitors' activated carbon-based products
- These cartridges are among the best-performing available on the market today. While customers may require pricing and/or other incentives to try our filters, we are confident that they will quickly develop a fealty to the brand based on its superior performance.







PORTAGE

CHALLENGE



Natural Disasters like hurricanes leave millions WITH NO SAFE **DRINKING WATER**



Portable, rapidly deployable solution for Access to clean drinking water for Military and humanitarian use









SOLUTION

THE PORTAGE DELIVERS HIGH-QUALITY DRINKING WATER, FROM ANY SURFACE OR GROUNDWATER SOURCE.

IMPACT



Hundreds of millions of dollars saved



Eliminates Massive Environmental Impact



THE PORTAGE: FOR DISASTER RELIEF AND REMOTE APPLICATIONS

- V Delivers high-quality drinking water from almost any water source
- Portable, easy to transport & setup, and can be monitored digitally
- V Drinking water flow averages over 300L per hour (1800 gallons per day)









THE PORTAGE: FOR DISASTER RELIEF AND REMOTE APPLICATIONS







THE SHIELD: ADVANCED WHOLE HOME WATER FILTRATION SYSTEM

Removes Algae

Removes Bacteria

Removes Pesticides

 \checkmark

 \checkmark

 \checkmark

 \checkmark

App.







The SHIELD is a unique, whole home water filtration system powered by Purafy's Advanced Ultrafiltration and Adsorption technologies. SHIELD can be installed at point-of-entry for significant improvements to water taste, purity, and protection throughout the entire home.

The filters capture and remove bacteria, viruses, microplastics, and many more common water contaminants; safeguarding your home!

SHIELD continues to work even if the electrical power goes out.

The internal filters design is readily accessible for quick and easy servicing.

Performance of SHIELD can be easily monitored with the Purafy mobile

SHIELD is the most energy efficient solution for premium water filtration and whole home protection!



SHIELD

CHALLENGE

BOIL water advisories are now common even in major urban areas



Indigenous and remote communities have been without clean drinking water for decades





Best in class home water filtration Onboard smart technology

SOLUTION



SHIELD

- Performance maintained during power outage
- Cost effective, decentralized solution



Whole home clean, safe drinking water that is easy and fast to deploy



Eliminates need for massive infrastructure projects Saving \$Millions



THE SHIELD: ADVANCED WHOLE HOME WATER FILTRATION SYSTEM



https://www.youtube.com/watch?v=sCqYz8P3XG0



NALOG BORN V8 NOH Y1 EDGES STERVE BYACTS 523-620-7400



Click logo above to Play Video

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REVOLUTION

CHALLENGE



Critical water sources like Lake Oroville in California are drying up



The world is facing a massive water shortage and the problem is only getting worse



Filters and recycles greywater In home system that sits in a utility room Reduces in home water consumption by up to 65%



SOLUTION

REVOLUTION

IMPACT



Preserves our vital freshwater resources and reservoirs



Lowers the cost of water for municipalities, utility companies and homeowners

THE MARKET

Product	Portage		Shield		REVOLUTION	
Use cASE	Portable Water filtration		In-Home Water Filtration		Water Conservation	
Target Market	Military	NGOs (Disaster Relief)	Residential	Base Camps Remote Areas	Residential	Commercial Industrial
Distribution Channel	Direct Defence Contractors	Direct Logistics Suppliers	Home Services Large Developers	Logistics Suppliers Indigenous Communities & Organizations	Home Services Large Developers	Property Owners Property Management
Key Customer Opportunities	US Military Ukraine NATO Lougheed Martin Rampart ATCO Frontec	FEMA National Guard IRC Red Cross Water.org	Enercare / Reliance Service Experts (US) Mattamy Minto	US Military (Base Ops) Assembly of First Nations	Enercare / Reliance Service Experts Lakeport Beach CA, AZ, NV International	KRP City of Cornwall Ottawa Commun Housing







FUTURE PRODUCT PIPELINE

PORTAGE-DESALINATION

WATER SOFTENING

Portable water filtration system capable of purifying various surface water sources including seawater into high quality drinking water.

Typical salt concentration of seawater is between 32,000-35,000 mg/L. Portage-DS is designed for combination of sediment filtration, ultrafiltration and reverse osmosis filters.

Purafy/Demem's GO-enhanced UF filters are used to pre-filter the water upstream of reverse osmosis membranes to extend filter lifetime by preventing fouling to minimize maintenance time and cost.

Exploration of emerging softening technologies which can be easily integrated into the Purafy SHIELD system for residential applications.

Softening is a widely used process across North America due to the innate high levels of salt concentration (Ca, Mg) present in natural water sources.

Successfully integrating a softening solution into the SHIELD can strengthen the product's value proposition as an all-in-one whole home water treatment system.



REVERSE OSMOSIS (RO) MEMBRANES

In the Reverse Osmosis process, water is forced through a semipermeable membrane by an external positive hydrostatic pressure.

RO is currently the most energyefficient technology for seawater desalination and is the benchmark for the comparison of any new desalination technology.

Purafy will aim to incorporate graphene/graphene oxide into RO membranes in a similar way it has done in the past using UF membranes.

HEAVY WATER SEPARATION

Development of specialized graphene oxide membranes for heavy water extraction. The project is collaboration effort between Queen's University, Grafoid and **Ontario Power Generation (OPG).**

The project (2 year duration) aims to produce an effective GO membrane which can selectively remove deuterium and tritium from regular water.

Initial results already indicate a single pass using GO membranes have a separation rate of 17%.





SUMMARY











EXECUTIVE SUMMARY

industry

Canadian-based cleantech company headquartered in Kingston, Ontario

performing technology that is scalable, affordable and adaptable

Created to tackle the global water security and conservation issues

scaled growth and delivering strong returns to investors

markets

An early-stage investment opportunity in an explosive growth industry



An opportunity to invest in high value ultrafiltration segment of the water purification

- Purafy has developed and validated its leading graphene-enhanced ultrafiltration solution
- Creation of new category in water purification advanced ultrafiltration (AUF). Highest
- Led by team of experienced executives with track record of building companies with
- We are now ready for rapid expansion into the residential, commercial and military



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