



INVEST IN AQUAGGA, INC.

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## Ending toxic PFAS 'forever chemicals' in water

### LEAD INVESTOR



**William Sarni** Founder and CEO of Water Foundry

Will is an internationally recognized thought leader on water. "I invested in Aquagga because improving water quality is a global priority and safe/clean disposal of PFAS is a public health and environmental imperative. This team is bringing new technology to a critical problem."

Will has authored seven books on water including Digital Water Tech and numerous other articles on water strategy and innovation. Currently, he co-hosts The Stream podcast.

**Invested \$15,000 this round**

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# Highlights

- 1 🌱 \$80B addressable market for PFAS in the US by 2025
  - 2 🐾 10 employees (6 full-time) & pilot system currently operational in Tacoma, WA
  - 3 🌐 Awarded \$3.57M to date in contracts, grants, and awards
  - 4 🌱 Raised over \$600K from private angel funding
  - 5 🏆 \$700K Revenue in 2022, Secured >\$2M Revenue for 2023
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## Our Team



**Nigel Sharp** Co-Founder & CEO

Serial entrepreneur, technologist, and Techstars Alum, Nigel Sharp has held successive Entrepreneur in Residence roles at the University of Colorado Boulder, and the University of Alaska and co-founded 3 venture-backed startups.



**Chris Woodruff** Co-Founder & COO

Chris Woodruff has a wide breadth of engineering experience spanning the aerospace, consumer electronics, and construction industries. His volunteering with Engineers Without Borders piqued his interest in social and environmental impact projects.



**Brian Pinkard** Co-Founder & CTO

Dr. Brian Pinkard has previously spearheaded efforts at the University of Washington to develop mobile hydrothermal systems for the destruction of bulk chemical weapon stockpiles.

## WHAT IS PFAS?



PFAS (Per- and polyfluoroalkyl substances) are highly-toxic man-made “forever” chemicals that have migrated into the air, soil, and water. The strength of the carbon-fluorine bond makes them nearly impossible to destroy, making environmental remediation difficult.

Today, nearly all Americans have PFAS in their blood, with over 200 million people potentially drinking PFAS-impacted water; PFAS have been linked to cancer, immune-system disruption, thyroid disease, elevated cholesterol, fertility impacts, low birth rate, and damage to the liver and kidneys, posing grave health concerns on a global scale.

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## WHO DOES PFAS EFFECT?

Our first pilot series unit has been aptly named “Kellyrose”, her namesake from Kelly Rose McLaughlin, an inspirational figure early in the formative story of Aquagga, who emotionally spoke of the devastating impact PFAS has had on her family and community.

The experience pushed the Alaskan café and gallery owner into another full-time job: advocacy. McLaughlin organized the Gustavus PFAS Action Coalition, and advocacy to the officials somewhat stalled until their are clear and affordable solutions to the problem.

McLaughlin said her blood has tested at 10,000 and 7,000 thousand parts per trillion – a number that makes PFAS experts squirm. She said her young son’s blood is double that. The ask to the Aquagga co-founders was simple, if your technology and team can help then please help. A charged cry that no professional engineer lightly dismisses knowing our duty and responsibility to society.





## THE BATTLE AGAINST THE 'FOREVER CHEMICALS'

With PFAS, dilution is not the solution, concentration and ultimate destruction are! These so-called “forever chemicals” are potentially carcinogenic and harmful to human reproduction and development, even at the lowest detectable levels. For over sixty years, PFAS has been used in industrial firefighting foams, leading to water and soil contamination at every military base and commercial airport and many oil & gas facilities around the globe.

*The battle against PFAS is on!* 🇺🇸👉





Additionally, PFAS have been widely used in consumer goods (such as non-stick pans and fast food packaging), and are now so widespread that 99% of Americans have detectable levels of PFAS in their blood. If PFAS are not captured and destroyed, they continue to circulate in our ecosystems, watersheds, and our bodies, as they never break down naturally.

## AQUAGGA TO THE RESCUE

High temperatures and pressures are used to break the stubborn carbon-fluorine bond which holds PFAS molecules together, and which is one of the strongest chemical bonds that exist. By completely breaking all of the carbon-fluorine bonds (known as defluorination, or mineralization) we produce nothing but a small amount of fluoride, clean water, and carbon dioxide.

**Award Winning Patented Technology**

First Place Winner in EPA's Global Destroy PFAS Challenge



PFAS-rich Wastewater In → Clean Water & Safe Salts Out

*A "Pressure Cooker on Steroids" for PFAS Destruction*

Additives

Storage Tanks

The diagram illustrates the Aquagga process. On the left, a large white container with a blue door is shown open, with 'Aquagga' and 'ENDING PFAS' printed on it. An arrow points from a box labeled 'PFAS-rich Wastewater In' to the container, and another arrow points from the container to a box labeled 'Clean Water & Safe Salts Out'. To the right, a smaller white container with a blue door is shown, with 'Aquagga' printed on it. An arrow points from a box labeled 'Additives' to this container, and another arrow points from the container to a box labeled 'Storage Tanks'. A blue banner with white text reads 'A "Pressure Cooker on Steroids" for PFAS Destruction'. In the top right corner, there is a circular award logo for the EPA's Global Destroy PFAS Challenge, with the text 'First Place Winner in EPA's Global Destroy PFAS Challenge' next to it.

The underlying Hydrothermal Alkaline Treatment (HALT) technology has been developed with multiple leading research institutions and academics - Aquagga holds an extensive Intellectual Property Portfolio, with multiple peer reviewed publications, demonstrating HALT to be one of the most effective ways of breaking down long-chain, short-chain and ultra-short chain PFAS molecules.

*How does our tech work? Think “pressure cooker on steroids”.*

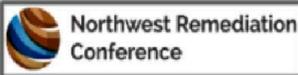
## Research and Development Partners



## ALREADY IN THE MARKET

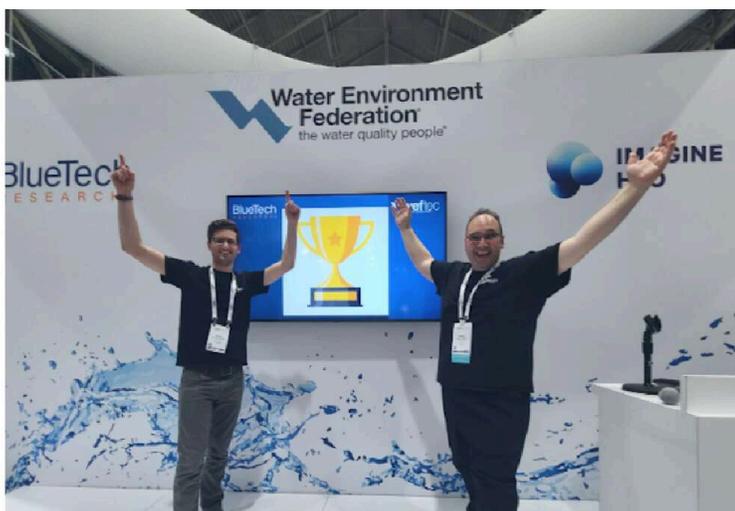
Aquagga actively participates in a variety of water industry conferences and tradeshows. On top of providing strategic industry relations and potential customers, these events provide a means to spread the word on PFAS destruction. From attending our first events in 2019, to co-hosting in 2022, we have become familiar faces in the water industry and made a lot of friends along the way. As our team grows in 2023, so shall our events calendar. We are excited to continue making our mark on the industry!

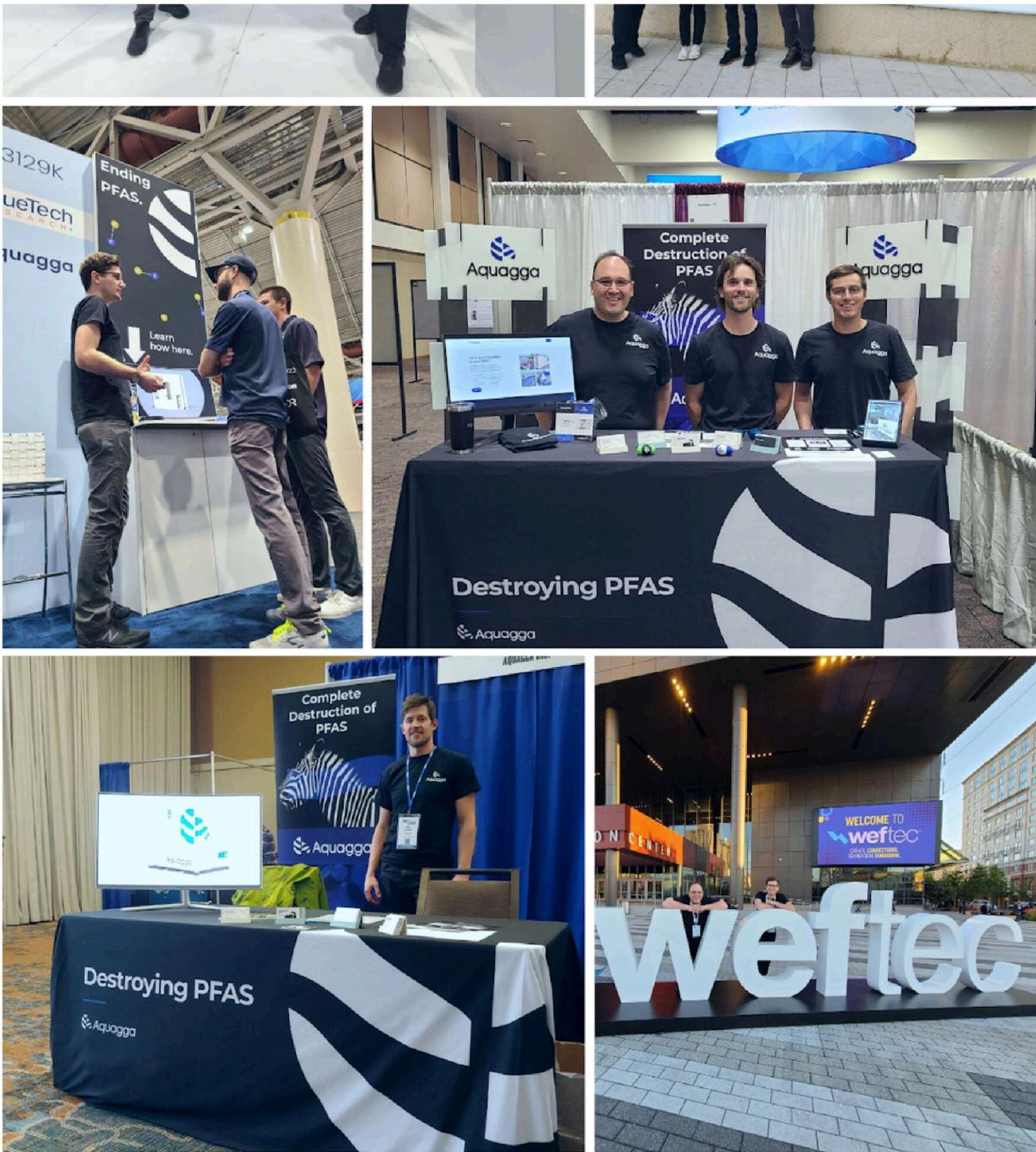
## Upcoming events

Name	When	Where	
American Water Summit	January 24, 2023	Los Angeles, CA	
NW Remediation Conference	May 2, 2023	Tacoma, WA	
Battelle Bioremediation Symposium	May 8, 2023	Austin, TX	
BlueTech Forum	May 17, 2023	Edinburgh, Scotland	
WEFTEC 2023	September 30, 2023	Chicago, IL	
RemTEC & EC Summit	October 3, 2023	Westminster, CO	

*Once you're invested, feel free to come check in on us!*

### Our Calendar of events for 2023



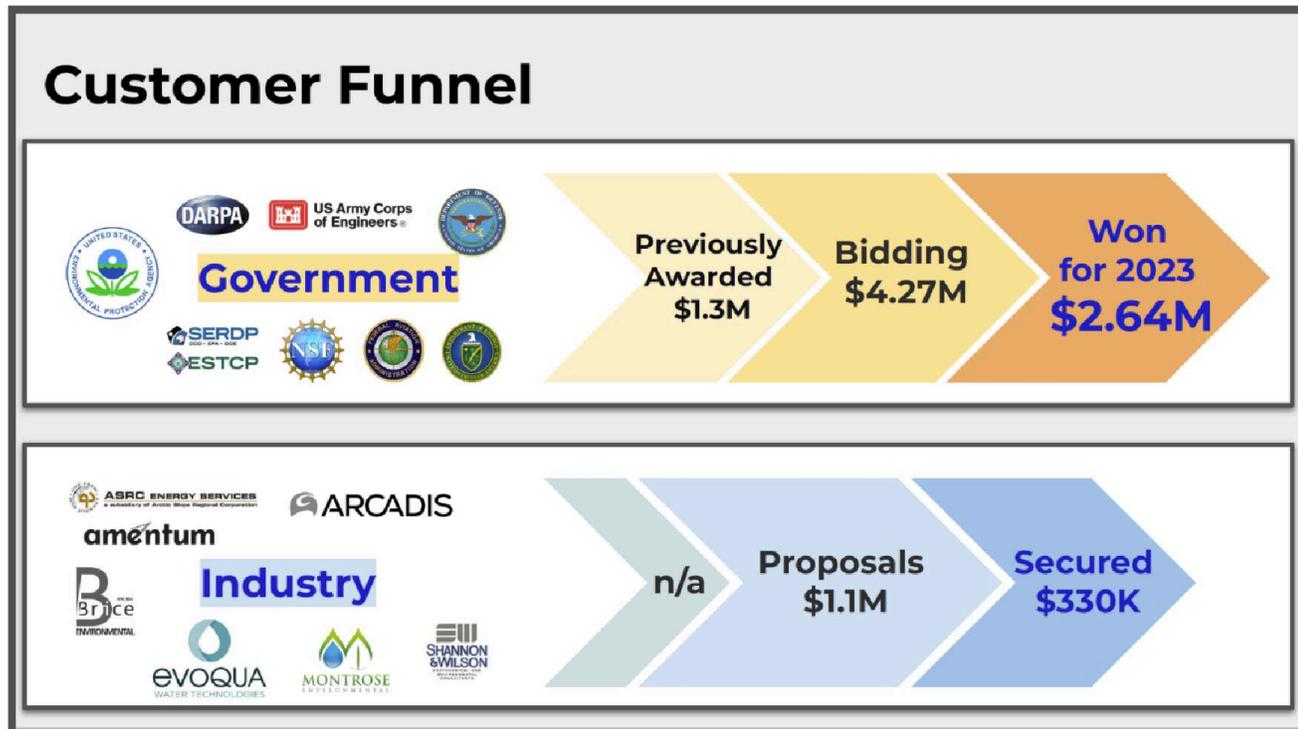


## TRACTION

We're fortunate to have started with a lot of non-dilutive grant based funding for the technology, which has opened doors to the opportunity for sole-source government contracts where we currently have 7 Federal agencies paying us to demonstrate our technologies and remediate current PFAS impacted sites.

In addition Industry has been taking notice and multiple projects with large national and multi-national firms are underway or in discussion. With a multitude of letters of support and intent, and real revenue secured.

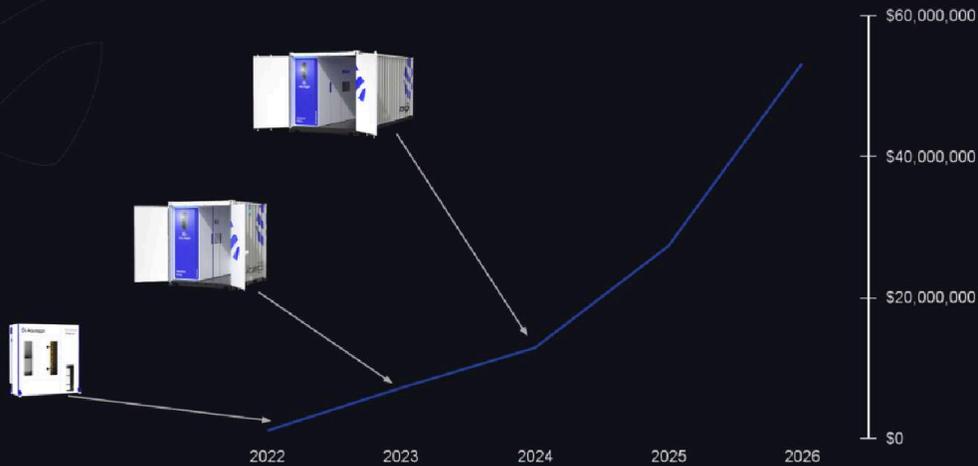
Most importantly in 2023, Aquagga is profitable and secure with at least 24 months worth of projects and revenue.



## REVENUE PROJECTIONS

No projection is ever right, but the PFAS Market is estimated to be worth over \$80B with PFAS Destruction and Disposal a significant portion of that. We're one of the first to market with a solution, and have a diversified stream of revenue already. Some would say we're being too conservative in the following image... we'd just say hardware is hard, and it takes longer than you think, so getting to a \$50 Million a year business feels conservative but confidently achievable within the next 3-4 years!

## Projected Revenue



*The projections mentioned above are forward-looking and cannot be guaranteed.*

## FEATURED IN NATIONAL PRESS



*GeekWire - “Sustainability startups face off in the final episode of GeekWire’s Elevator Pitch”*

*“Fascinating technology...solving a real pain point. which is exciting to see.” -*

*Anthony Bontrager, Managing Director, Westriver Group*

Tacoma Weekly - “Start-Up Company Helps Revolutionize Clean Water”

*“...Aquagga was founded by brilliant minds that came together in 2019 under their common desire to make a positive environmental and social impact...”*

Forge - Aquagga: Success Story”

*“Aquagga has developed an award-winning technology to safely and effectively destroy PFAS chemicals in water and other waste streams.”*

Wastewater Digest - “4 Companies Improving Technologies with EPA Funding”

*“Aquagga’s continuous HALT reactor destruction tests showed faster destruction rates than similar batch reactor systems.”*

WC&C - “11 Water Treatment Start-Ups to Watch”

*“Aquagga’s Hydrothermal Alkaline Treatment (HALT) technology was awarded first place in in the EPA’s Innovative Ways to Destroy PFAS Challenge.”*

## IT TAKES THE RIGHT HERD





The three Co-Founders, Nigel, Brian and Chris aligned around a mission and Aquagga was born late 2019, and found it's feet at the early stages of the pandemic within a Tacoma Maritime Blue small business incubator who offered up a wetlab to run the very first experiments. The co-founders spent the first 18 months of the company really understanding the customer need and the problem.

The technology spun out of the partnered University's turned out to be an excellent fit, and the team has been growing steadily since, each bringing diverse skillsets, but all united in the mission and driven to make an impact.

We're tied heavily into the Pacific-Northwest community, stretching from Alaska to Idaho, with our headquarters in Tacoma, WA (a little south of Seattle). We welcome folks to come meet us at our watering hole (i.e. co-working space in downtown Tacoma).

## Leadership



**NIGEL SHARP**  
Chief Executive Officer  
M.S. - Mech. Eng. & Mgt.



**BRIAN PINKARD**  
Chief Technology Officer  
Ph.D. - Mechanical Eng.



**CHRIS WOODRUFF**  
Chief Operations Officer  
M.S. - Mechanical Eng.








## Aquagga Team



### Advisors & Mentors

<b>Will Sarni</b> CEO The Water Foundry	<b>Julie Penner</b> Founder Coach Soul of Startups	<b>Timothy Strathmann</b> Env. Engineering Professor Colorado School of Mines	<b>Chris Brasfield</b> Financial Controller Brasfield Accounting
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## AQUAGGA - A 'WATER ZEBRA' AT HEART

It seems like everyone has heard of 'Unicorn' companies these days - disruptive, rapid growth, billion dollar companies seem to make the news regularly. But do they always create a positive impact on the world? The motto 'move fast and break things' might not be the best mantra for a company working on solving legacy environmental and water contamination issues. In fact, it's probably the type of thinking that got us here in the first place.

### Aquagga \uh-kwag-uh\

*definition:* a Public Benefit Corporation registered in Delaware, Alaska, and Washington

*Quagga:* an extinct mammal (*Equus quagga*) of southern Africa that resembled and was related to the zebra.



A 'quagga' is an extinct relative of the African Zebra. Aquagga endeavors to be a 'Zebra' company, defined as a company that wears multiple stripes, and equally weights environmental and social impact with profit and growth. We are registered as a Public Benefit Corporation to reflect this. We care so much about our impact mission that we've literally baked it into our name.

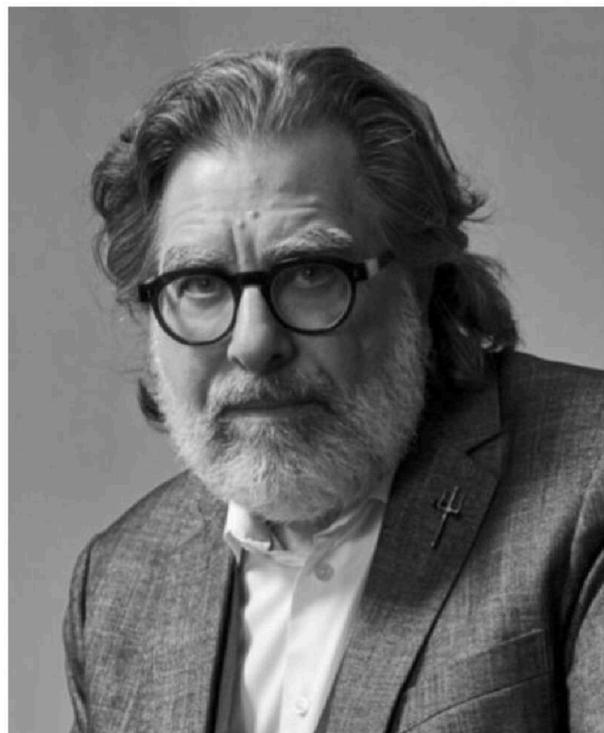
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accredited investors committing with at least \$25K.



## OUR LEAD INVESTOR KNOWS WATER



**Will Sarni** - *Aquagga's Lead Investor*

- Founder and CEO of **Water Strategy** Consultancy, Water Foundry
- CEO of the **Colorado River Basin Fund**
- Previous managing director at **Deloitte Consulting**
- Founder and CEO of **DOMANI**, a sustainability strategy firm
- Author of 5 sustainability books



William (Will) Sarni is a recognized expert and thought leader on water management and water-related sustainability. He is the Founder and Managing

Director of Water Foundry, LLC. He's also an author of several books including "Water Management in 2020" and "The Business of Water Stewardship" which are considered as reference books on the topic. He is a frequent speaker on water management and sustainability, and has been quoted in media outlets including The New York Times, Wall Street Journal, Forbes, and Bloomberg.

More importantly in relation to Aquagga he's part of the inspiration for at least one of the Co-founders (CEO Nigel Sharp) to get involved in the water and environmental sector, and continues to be an advisor and inspiration to entrepreneurs globally.



## LEARN MORE ABOUT PFAS

John Oliver on his show Last Week Tonight discusses "PFAS — a class of chemicals linked to an array of health issues — and why their widespread use isn't as magical as it may seem." (⚠️ Strong language warning!)

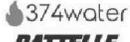
This is a really great both funny and informative 20 minute intro to PFAS, and we take one notable exception to Mr Oliver's episode. He said no one can get rid of

...and one notable exception to that rule is... and we'd politely disagree and say "almost no one"!



## ADDITIONAL CONTENT

### Competition

	 <b>CleanHarbor's</b>  (Incineration)	 <b>ONVECTOR</b> <b>DMaxPlasma</b> (Plasma Destruction)	 <b>Aclarity</b>  <b>AECOM</b> (Electrochemical Oxidation)	 <b>374water</b>  <b>BATTELLE</b> (Supercritical Water Oxidation)	 <b>Aquagga</b> (Hydrothermal Treatment)
Effective	✗	✓	✓	✓✓✓	✓✓✓
High Throughput	✓✓	✗	✗	✗	✓✓
Field Deployable	✗	✓✓	✓	✓	✓✓✓
Scalable	✗	✓	✗	✓	✓✓
Efficient	✓	✗	✗	✗	✓✓
Future Availability	✗	✓	✓	✓✓	✓✓✓

# Market Size

\$5 - \$7 per gallon	PFAS-Rich Liquid Disposal
>100,000 gallons per year	Volumes for a Standard Site
>500 today >20,000 by 2025	Active PFAS Remediation Sites

PFAS Cleanup (USA*)	\$80B+ by 2025
PFAS Destruction	\$4B+ by 2025
Obtainable Market Share	\$400M+ by 2030

\*Referenced Dawnbreaker PFAS Market Report available upon request

## Progress in pictures



## Progress in pictures





## Established Affiliations

### Business Growth



### Research / Dev.



### Funding Pathways



### Trade Groups



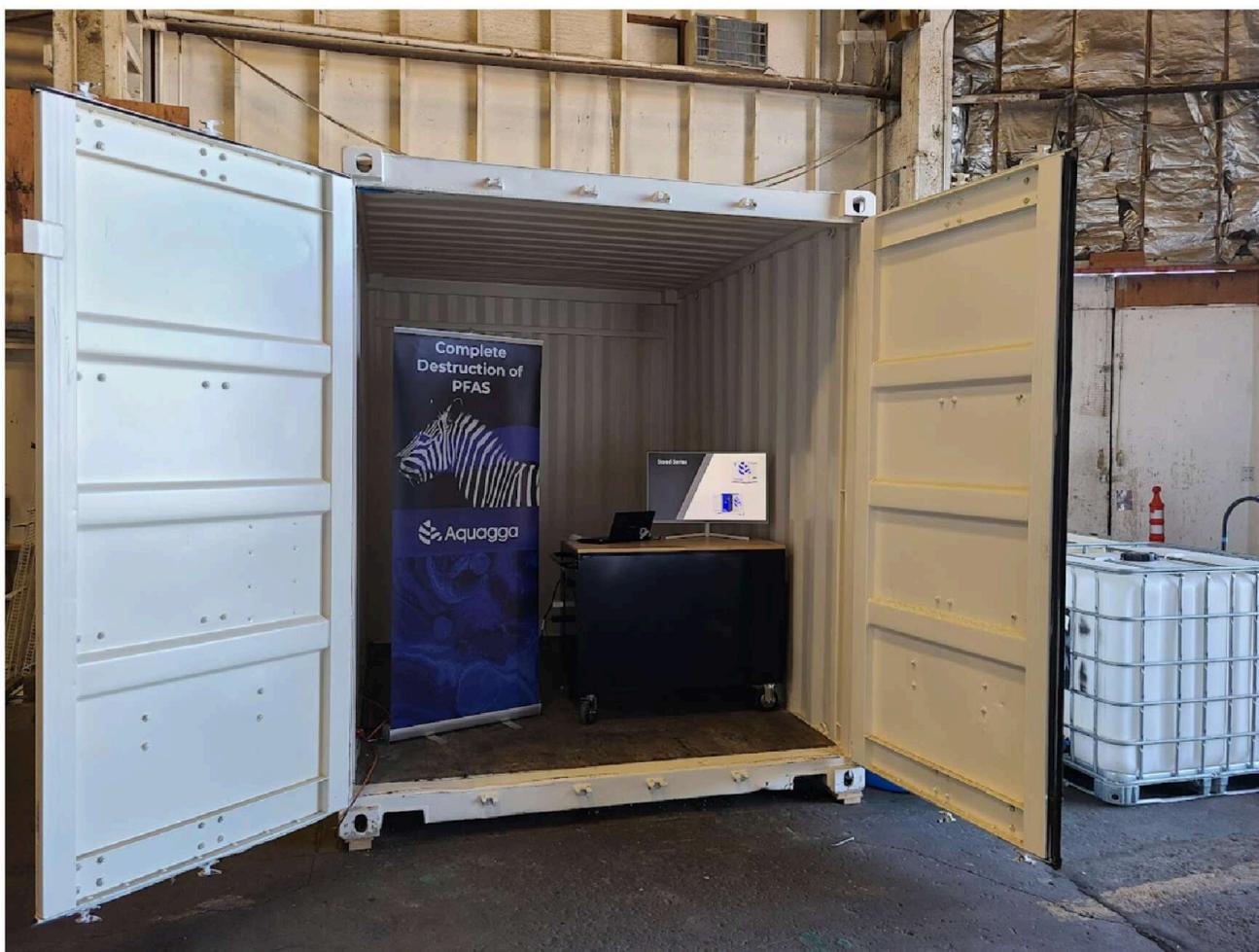
We continue to build relationships and support for multiple facets of our business, note Aquagga has completed 5 business acceleration and training programs, with notable achievements along the way being ranked as the top business in both the Cascadia Cleantech Accelerator and The Water Council's Brew 2.0 Program.

If you're one of our friends within one of these organizations, join us and invest now! We're not planning on the company getting any cheaper haha.. 😊





Earlier Concept Design of our 2nd generation system, Eleanor our first Steed Series Unit, under construction right now at our warehouse.



Eleanor will dwarf our first Kellyrose system (shown below) in capacity and throughput (yet take up the same footprint), Kellyrose is already profitable and is operating every week breaking down PFAS and making a small but significant impact.





If you're still undecided, hit the Watch for Updates button at the top of this page, and we'll post out opportunities to learn more and hear direct from the team.



