How do you solve the PFAS problem?

Quality of Water

Dear Subscriber,

Water is the substance that unites us as living creatures and conflict quickly arises when access to clean water is lacking. Growing up in the desert of Israel, I am ingrained with an internal respect for water. Water is sacred. It plays a significant role in the quality and longevity of life. Our water is now threatened by man-made "forever chemicals" with PFAS as public enemy number one. So, how do we solve the PFAS problem?

At 374Water, we see PFAS not solely as a problem but as an opportunity. PFAS resist destruction by conventional approaches to water and wastewater treatment. They require us to think differently, to look at new, innovative ways to treat water and waste. 374Water's Supercritical Water Oxidation process ("AirSCWO") is a different and more effective alternative to conventional technologies. We have successfully proven it to eliminate PFAS in Aqueous Film Forming Foam (AFFF), landfill leachate, reverse osmosis reject, and wastewater sludges. Our cutting-edge technology keeps our drinking water clean thereby enhancing life.

Erin Brockovich reminds us that superman is not coming, and we the people must solve our own water quality problems. We will not solve them with the same mindset that created them. We need new, innovative approaches like 374Water's AirSCWO.

Sincerely yours,
Kobe Nagar, Chief Executive Officer

Municipality - Elimination of PFAS in Lime Stabilized Sludge

374water successfully destroyed PFAS in lime stabilized sludge and demonstrated the effectiveness of its novel, patent-pending, 3rd generation Supercritical Water Oxidation process ("AirSCWO") to a small-scale municipality in Maine. The elimination was performed using the Nix1 AirSCWO pilot system located at Duke University in Durham, NC. Lime stabilized sludge containing PFAS was fed to the Nix1. Influent, effluent and air emissions samples were collected and analyzed by Duke University and TestAmerica. The AirSCWO system effectively treated contaminated sludge and destroyed 99.95% of PFAS, much below the regulatory limits. Treatment was stable, reliable and effective, and there were no signs of enhanced corrosion. Read our case study

EPA Research Brief on Supercritical Water Oxidation

In 2020, we reported 374Water's collaboration with the US EPA PFAS Innovative Treatment Team (PITT) team. The EPA evaluated several SCWO processes including 374Water's AirSCWO which demonstrated **more than 99.9%(!) elimination of PFAS in AFFF**. This work contributed to a Research Brief prepared by the US EPA and titled, "Potential PFAS Destruction Technology: Supercritical Water Oxidation. Read the EPA brief

374Water News

- 374Water will attend the GAWP - Industrial Symposium: 374Water's Co-founder and CEO, Kobe Nagar, will be opening the discussion on wastewater at the Georgia Association of Water Professionals (GAWP) 2021 Industrial Symposium on March 2nd, 2021. GAWP's Industrial Symposium is geared towards industrial users and pollution control issues each year.
- 374Water attends the Reimagining Energy Showcase: AFWERX, the U.S. Air Force's Catalyst, recently launched the Reimagining Energy for the Department of Defense (DoD) challenge, an open crowdsourcing program that aims to reduce the U.S. military's reliance on fossil fuels and accelerate its shift towards renewable and resilient energy sources. Academics, entrepreneurs and organizations of all sizes in the U.S. and allied countries were invited to participate in this opportunity and 374Water was one of them. On 9th February 2021, Kobe Nagar, attended the showcase as a panelist and discussed the future of energy.
- 374Water attends the Air & Waste Management - IT3/HWC conference: On 27th January, 2021, Doug Hatler discussed wet solids waste resource recovery using Supercritical Water Oxidation at the first session on "Solid Waste Resource Recovery and Control" at the AWMA IT3/HWC conference. The conference provides a forum for the discussion of state-of-the-art technical information, regulations, and public policy on thermal treatment technologies and their relationship to air emissions, greenhouse gases, and climate change every year. New topics such as PFAS sampling, methods, and laboratory analysis were added to this year's conference agenda.

- NC Currents article: 374Water's work and proprietary AirSCWO reactors were covered in NC Currents Winter 2020/21 edition that covered new technologies in the wastewater management sector. NC Currents is produced by the Communications Committee and is the official publication of the NC AWWA-WEA. The mailing list for NC Currents magazine consists of over 3,000 individuals including our membership list as well as some educational, nonprofit and government agencies.

Water and Waste Industry News

- Beyond the Elements: Indestructible: "When it comes to creating new materials, we may be the victims of our own success...We've invented some that are useful and so durable that they last more than a human lifetime, and now we're drowning in them. But attitudes are changing, with engineers and chemists harnessing biology to combat the problem. In the end, the human ingenuity that helped create the current crisis may help solve it, as well." - David Pogue

- The PFAS Problem and the Transition to the Biden Administration: Looking Back and Setting the Stage for 2021: Under the new administration, there will be continued focus on regulating PFAS under environmental laws. The EPA is yet to decide if it will list some PFAS chemicals as "hazardous substances" or not. The EPA's recent public notice on this issue indicates that there are multiple industries potentially affected if it decides to designate certain PFAS as hazardous substances.

- New PFAS Study Reveals 'Forever' Pollutants Persisting in NM's Waters: "Where are PFAS popping up?" In a state-wide study in New Mexico, PFAS levels were found to be the most at two of the state's Air Force bases.

- 'Forever Chemicals' Pollute Water from Alaska to Florida: "Whichever state you are in, there could be harmful PFAS chemicals in water near you." Inconsistent PFAS regulation across the country coupled with use of PFAS-containing materials such as firefighting foam at hundreds of military sites around the country exacerbate the problem.

374Water Inc. is a social impact, cleantech company spun off Duke University in Durham, NC. The company is commercializing a novel approach to Supercritical Water Oxidation (SCWO) that was invented by its founders, Kobe Nagar and Marc Deshusses with the support of the Bill and Melinda Gates Foundation.

Our mission is to support a clean and healthy environment to sustain life. We do that using cutting-edge science to recover resources from the waste our society generates and keep our drinking water clean! We help businesses and local governments make the Sustainable Development Goals (SDGs) a reality.