



Supercritical Water Oxidation Project

As a leader in protecting the public health and environment, the Orange County Sanitation District (OC San) is continuously looking to innovate its treatment methods. This includes new treatment methods that address constituents of emerging concern such as PFAS (per- and polyfluoroalkyl substances). As part of this effort, OC San is partnering with 374Water Systems Inc. (374Water) in a new technology that treats biosolids, a byproduct of the wastewater treatment process.

- Every day, OC San collects and processes approximately 185 gallons of wastewater resulting in concentrated solids called sludge and scum that can be turned into methane-rich renewable gas and biosolids that provide multiple beneficial uses.
- In an effort to address contamination and treatment concerns of PFAS in wastewater, OC San will partner with 374Water to build a three-ton-per-day demonstration project called AirSCWO Nix6.
- This process uses water at a high temperature and pressure to oxidize complex compound materials into more basic and benign compounds.
- Once built, AirSCWO Nix6 may provide opportunities to solve other challenges facing OC San, including:
 - Costs of solids processing
 - Air emission requirements for methane and power generation equipment
 - Treatment of emerging contaminants such as PFAS compounds
 - Treatment of microplastics
 - Food waste utilization
 - Efficient use of OC San's treatment plant properties and
 - Enhance solids recovery



The estimated project cost:
approximately \$8 million

OC San to own and operate:
Spring 2027

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Resource Innovation for a
Sustainable Environment



The RISE program highlights our efforts that go beyond meeting regulations by anticipating future needs and building for tomorrow. Alongside our ongoing sustainability initiatives—such as Source Control, Beneficial Reuse & Recycling, the Groundwater Replenishment System, and Dry Weather Urban Runoff—we’re advancing research to enhance operations with cutting-edge processes and equipment that support enhancements in **Water, Solids, Energy, and Air.**