

Zachary Stoll, Ph.D.

Brine 2030: Enhanced Water Recovery with Mineral Valorization for Sustainable Cement Production

Dr. Zachary Stoll is the Assistant Director of the New Mexico Produced Water Research Consortium, where he leads integration across research, deployment, and stakeholder engagement. His work centers on translating produced water science into feasible, regulator-ready treatment and reuse pathways by connecting treatment performance, risk and toxicology, energy and infrastructure constraints, and economic considerations. He collaborates with state agencies, industry partners, and local communities to shape research priorities and ensure Consortium work remains grounded in real-world implementation challenges

He is still active in the brackish groundwater desalination field, and his recent work attempts to transform salts in desalination brines into valuable commercial products – such as a new type of cement – that also have a decarbonization aspect to them. His research is conducted through a techno-economic analysis lens to understand where both new and existing technologies can be improved to lower costs.

He has been researching desalination for over a decade and obtained his Ph.D. in Civil/Environmental Engineering from NMSU in 2016. Dr. Stoll's research leverages his previous experience, and he has worked as a consulting engineer at Molzen Corbin in Albuquerque, as a Research Scientist at the US Bureau of Reclamation's Brackish Groundwater National Desalination Research Facility, and as the Research Program Manager for the Department of Energy's National Alliance for Water Innovation (NAWI), headquartered at Lawrence Berkeley National Lab in CA. Dr. Stoll is an avid mountain biker and, ever since moving to New Mexico, has developed an intense allergy to burritos that are not smothered in green chili.