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The Importance of Integrating Nature into Our Artificial Systems

Free hydrogen functions as the primary driver and common denominator to earth's natural process. Although it is ubiquitous and estimated to be seventy-five percent of all matter, for some reason, we have never realized it as being the missing component to solving virtually all of our water related challenges. By examining how nature liberates and utilizes hydrogen, and comparing that process with the way we have operated our artificial systems, we will develop a more comprehensive understanding of the driving force behind: how things came to be; how life on our planet is sustained; why so many of our artificial systems degrade and/or have failed; and how we can improve and optimize their overall performance as well.

Processing Wastewater for Sustainability – A New Class of Recycled Water

Current wastewater processing and disposal methods are contributing to the degradation of the San Francisco Bay Delta Estuary and exacerbating the underlying problem of soil salinity of our farmland. To reverse this trend, we must alter our wastewater treatment methods to produce a new class of recycled water to land apply and irrigate our crops. Doing so will enable us to reduce the amount of point and non-point source pollution contaminates from entering this natural waterway, and allow a more natural and higher quality flow of water to return within them. This substitution will allow this impaired ecosystem to resuscitate without causing economic and societal harm to our nation's most important agricultural regions. This paper will explain the chemistry behind this new class of recycled water including how it can be processed.