



Summary of the technology:

The basis of the technology is the reduction of pollution in all types of waters. Scalable to any body of water or flow rate, the utility and its associated systems make use of electrical impulses to dissociate the H₂O molecule into micron-sized gas bubbles. These efficiently and long lived catalytically generated gases eliminate organic pollutants through a process known as electro-oxidation.

Deployed for continuous aeration of lakes, ponds, cooling towers, farming lagoons, septic tanks, and aquariums the utility increases dissolved oxygen content and naturally reduces bacteria, organic contaminants, phosphorus, and nitrite compounds with no potential chlorination disinfection by-products. The technology can be modified to inexpensively and chemically-free harvest algae while eliminating odor causing bacteria. It also can be adapted for use in mosquito abatement programs as this form of oxygen will destroy larvae without harming fish.

As a cylinder or reactor, that houses the electro-catalytic cells; pump driven reactors can be scaled up to process thousands of gallons of polluted water a minute on a limited footprint. Operational at low conductivity and without producing chlorine compounds, these reactors can be used as an add-on or optimization of municipal wastewater treatment, industrial recycling systems for reduction of organic chemical compounds, industrial and home grey water system optimization, fish-farm pollutant reduction and many other applications where chlorine disinfection is not possible.

In sea water, the technology as electro-chemistry can be adapted to ship's open-scrubber systems, ballast, and bilge remediation. Reactors create, through the addition of a saltwater slip stream, in-situ generated chlorine compounds for long term disinfection.

In recent testing it appears the technology transforms CO₂ in solution to other non-greenhouse compounds and raises the prospect of this tool for carbon exchange programs. This technology could redefine the role of water remediation as a method of lowering CO₂ in the atmosphere by conversion rather than transitory sequestration.

The earlier, now [patented](#), and licensed version, of a similar approach in oilfield water treatment is currently economically processing millions of gallons per day in FeS, H₂S and bacterial reduction through electro-chemistry or chlorination.

This new utility patent filing concerns itself with the geometry and metal composition that engender at low conductivity, electro-oxidation, or the generation of reactive oxygen species as disinfection agents.

The plates, while cast in China, are assembled here in our UL certified fabrication shop Downey CA. The plates have a long multi year life which more than makes up the Cap-Ex.