

About Us



In 1989 [Dr. John Todd](#), an internationally recognized inventor and a pioneer in the design and construction of ecological waste water treatment systems, decided it was time to offer a cost-effective, renewable or what is now commonly referred to as “green” solution to the growing global waste water crisis.

The company Dr. Todd founded, John Todd Ecological Design, has constructed dozens of Eco-Machine waste water treatment systems based on Dr. Todd's visionary ecological philosophy and practical designs in eleven countries on five continents around the world.



Today, headed by Jonathan Todd, John Todd Ecological Design commercializes Dr. Todd's discoveries with an approach that is well suited for reuse applications in municipal and a variety of commercial waste water environments including commercial residential designs. Many of our installed systems are zero discharge systems; all the treated water is reused on site.

Our services include comprehensive construction design, consulting, and facility operations services to public and private clients throughout the world. We provide clients with cost-effective aesthetic solutions to waste water and storm water treatment, aquatic environment management, and bio-solids conversion.

John Todd Ecological Design is a pioneer in the use of natural systems for the removal of chemicals, petroleum hydrocarbons, endocrine disruptors, and other detrimental water pollutants. We envision the remediation of impaired natural water bodies and soils as a major part of our future work.

Client List

- Coca Cola North America
- Sir Richard Branson – Virgin Atlantic, Ultraway Holdings
- [The Four Seasons Resort, Kona, Hawaii, United States](#)
- City of Dallas, Texas, United States
- Peace and Plenty Resort, Great Exuma, The Bahamas
- [City of Fuzhou, Fujian Province, China](#)
- Caribe Point Investments, Oceano Resort, Roatan Honduras
- The Eugene Water & Electric Board, Eugene OR
- Berea College, Berea, Kentucky
- [City of South Burlington, South Burlington, Vermont](#)
- City of Providence, Providence, Rhode Island
- Corkscrew Swamp Audubon Society, Naples, Florida
- [Darrow School, New Lebanon, New York](#)
- [Ethel M Chocolates, Henderson, Nevada](#)
- [Tyson Corporation, Berlin, Maryland](#)

About Eco-Machines

An Eco-Machine™, can be a tank based system traditionally housed within a greenhouse or a combination of exterior constructed wetlands with Aquatic Cells inside of a greenhouse . The system often includes an anaerobic pre-treatment component, flow equalization, aerobic tanks as the primary treatment approach followed by a final polishing step, either utilizing Ecological Fluidized Beds or a small constructed wetland. The size requirements are entirely dependent on the waste flow, usually determined during our preliminary engineering phase and site visit. The Eco-Machine™ is a beautiful water garden that can be designed to provide advanced treatment. The Eco-Machine functions similarly to a facultative pond with both aerobic and anoxic treatment zones, only instead of a body of water, the process occurs within individual tanks, creating independent treatment zones.



A robust ecosystem is created in the Eco-Machine between the plants, microbial species and distinct treatment zones. Within the Eco-Machine, all the major groups of life are represented, including microscopic algae, fungi, bacteria, protozoa, and zooplankton, on upward to snails, clams, and fishes. Higher plants, including shrubs and trees, are grown on adjustable industrial strength fiberglass racks suspended within the system. The result is an efficient and refined waste water treatment system that is capable of achieving high quality water without the need for hazardous chemicals.



The Eco-Machine can be designed to function, and resemble, a baffled “river” through the creation of eddies, counter currents, and contact zones in which a diversity of life will arise.

The outlet from the last tank may be equipped with an effluent filter, similar to the ones installed in septic tanks. This will prevent the discharge of unwanted solids, most likely plant detritus, to the polishing component. Nitrogen will be removed in anoxic zone of the Eco-Machine through a process called de-nitrification. If the rate of de-nitrification in the Eco-Machine is insufficient, a portion of the effluent may be recycled back to the anaerobic reactor with an ample supply of carbon. Additional removal of nitrogen and phosphorous nutrients may be achieved through plant assimilation and other microorganisms.

