



FACT SHEET

The Living Machine® Wastewater Reuse Technology Worrell Water Technologies

What: The Living Machine® is an ecological wastewater treatment system that treats wastewater for re-use – allowing communities or institutions to locally manage wastewater, create high quality reuse water, avoid sewer hook-up fees while dramatically reducing water and energy consumption and their associated costs. The Living Machine is a “turbo-charged” wetland system, which speeds up natural processes for a smaller footprint and a faster return on investment.

We’re proud that we have developed the most energy efficient wetland system with a compact footprint. We’ve incorporated this technology into a variety of cutting-edge water reuse systems. The Living Machine® is in operation in more than two dozen locations worldwide, saving over 100 million gallons per year.

Why: Water is scarce and as a result, the cost of water is increasing. Rather than expend the energy and dollars to transport clean water many miles to your location, only to pump it out and send water again many miles away for sewage treatment, the Living Machine® allows for on-site, local water recycling, producing fresh water for irrigation, toilet flushing, industrial processes, washing equipment or animal areas, filling landscape water features (i.e. fish ponds) and other uses. This cost-effective water reuse solution can be part of a green design and water saving strategy for institutions and communities.

Where: From Ghana to Las Vegas and from animal shelters to hotels, the Living Machine® is the wastewater treatment of choice for organizations, educational institutions and municipalities that want a wastewater treatment system that is environmentally friendly, energy efficient, and beautiful. Many institutions, especially in water-scarce states such as California, have integrated the Living Machine into their infrastructure improvements or new construction resulting in water and energy savings, as well as LEED credits.

Guilford County Schools, NC	Dallas Animal Shelter, TX	Old Trail School, OH
Esalen Institute, CA	YMCA Camp Campbell, CA	Oberlin College, OH
El Monte Sagrado Resort, NM	IslandWood, WA	Clatsop Community College, OR
Emmen Zoo, Netherlands	Las Vegas Animal Shelter, NV	EcoCentre, Living Office, FL

When: The Living Machine® system has significantly evolved over the last two decades, improving upon an original design by Dr. John Todd in the 1980s. For more than 10 years, Worrell Water Technologies has invested in extensive research and development to create a viable product that performs reliably and economically. The New Generation of Living Machines® is now a commercial reality. This patented and trademarked technology is offered



only by Worrell Water Technologies. The Living Machine® already has more than two dozen satisfied customers.

How: Our Tidal Wetland Living Machine® system incorporates a series of wetland cells, or basins, that are filled with special gravel. As water moves through the system, the cells are alternately flooded and drained to create multiple tidal cycles each day, much like we find in nature, resulting in high quality wastewater treatment. This patented tidal process naturally brings oxygen to the wastewater, improving treatment performance by producing cleaner water using less energy. Then, wetland vegetation and microorganisms, especially in the root zone, promote a complex and stable ecosystem, generating clean water performance under a variety of conditions.

Living Machine® systems not only speed up the natural process of a tidal wetland, but have aesthetic and biological advantages over other onsite treatment systems while providing the performance, control and monitoring benefits of state-of-the-art engineered systems.

The Living Machine® system offers distinct benefits when compared to both conventional constructed wetlands and traditional onsite technologies such as membrane bioreactors or activated sludge package plants.

Benefits over other treatments systems include:

- Lower operating costs
- Advanced quality fresh water suitable for reuse
- Small footprint and readily scalable for high volume
- Low energy consumption and low GHG emissions
- Aesthetic quality, integrating the beauty and complexity of nature into the structure of buildings - providing residents and visitors with an educational experience and direct tangible connection to natural systems.

MEDIA CONTACTS

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