



FACT SHEET

The Living Machine® Wastewater Reuse Technology - A 21st Century Approach to Wastewater Treatment by Worrell Water Technologies

What: The Living Machine® is a 21st century approach to wastewater treatment. It combines advanced technology with natural ecosystem processes to create an ecological wastewater treatment system. This system treats wastewater for recycling without chemicals, odor or hazardous by-products.

Using the Living Machine®, communities and institutions take control of their water situation. By locally managing wastewater, they can create their own high quality reuse water, reduce sewer fees and dramatically reduce water and energy consumption.

The Living Machine is in effect an engineered, modular wetland system, which speeds up natural processes, allowing a smaller footprint and a faster return on investment. The future of wastewater treatment is available now. The Living Machine® is in operation in more than two dozen locations worldwide, saving over 100 million gallons per year.

The Living Machine® technology offers a safe, reliable, beautiful and cost-effective wastewater treatment alternative.

Why: Water is scarce and the costs of water and energy to move it are increasing. Clean water is often transported many miles to the point of use, only to pump waste 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, Florida, Texas and New Mexico, 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	EcoCentre, Living Office, FL





When: The Living Machine® system has significantly evolved over the last two decades, improving upon an original design from 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 that promotes the development of micro ecosystems. 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. The tidal action also supports diverse wetland vegetation and microorganisms, especially in the root zone, promoting a complex and stable ecosystem, and generating clean water 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. Equally important, they provide 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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