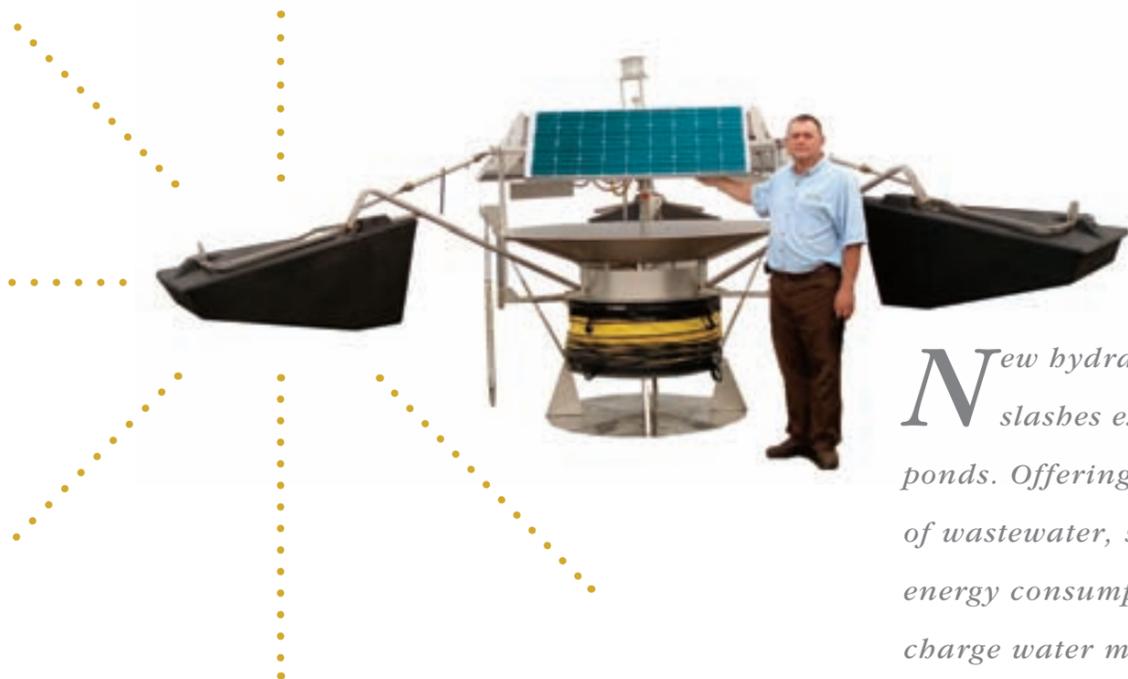


PROBLEMSOLVER



Saving Money Under the Sun

New hydraulic technology, combined with solar power, slashes expensive aerator run time for wastewater treatment ponds. Offering reliable around-the-clock circulation and mixing of wastewater, solar-powered long-distance circulators lower energy consumption and maintenance while assuring that discharge water meets high-quality standards. With the energy and maintenance costs of aerators continuing to climb to dramatic new levels, managers of municipal and industrial wastewater treatment plants are compelled to find alternate technologies to do the job for less money.

By Bob Nobile

Three applications demonstrate how solar-powered circulators produce cost savings, odor control and energy efficiency

Solar power, combined with a breakthrough in long-distance laminar flow pumping, has made it highly practical for treatment plants to offload at least part of their energy-intensive aeration and mixing functions to a low-energy and low-maintenance cost solution provided by SolarBee circulators.

SolarBee's unique hydraulic technology conserves dissolved oxygen by mixing and distributing super saturated surface water throughout the pond. The biggest inefficiency of mechanical aeration occurs when using an excessive number of units beyond the necessary horsepower in an attempt to mix the entire pond. The low-energy circulation and

Switching to the world's best odor control means giving up a few things...

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INTRODUCING



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thorough pond mixing provided by SolarBee, with its long-distance high flow, provides effective aeration and significant reduction of biochemical oxygen demand (BOD), total suspended solids (TSS) and ammonia. It also solves odor problems and reduces sludge buildup.

Cost Savings

The cost of electricity, which was primarily powering a number of 125-hp mechanical aerators in two wastewater lagoons, was very high for a Rochester,

N.H., wastewater treatment plant. Worse, the plant's aging aerators would soon need a major upgrade estimated at about \$1.5 million. David Green, the plant's chief operator, was determined to implement a cost-effective solution.

Five SolarBee SB10000 units were installed in the plant's lagoons. Thanks to solar power, SolarBee's gentle laminar flow runs virtually free and achieves excellent levels of odor-free compliance for BOD, TSS and ammonia.

Using these units helped Rochester achieve energy savings of more than \$10,000 per month, eliminating the prospective \$1.5 million cost for the upgrade. "We're thrilled with SolarBee's performance," Green said.

Power Savings

Drayton Valley, AB, Canada, is a fast-growing community of almost 7,000. Its wastewater treatment plant was using 240- to 320-hp centrifugal blowers in the system's wastewater lagoons. High energy and maintenance costs were a major problem. The plant suffered from low dissolved oxygen (DO), sludge buildup and short-circuiting. In addition, it faced difficulties in meeting Alberta's Environment standard effluent limits. Seeking an environmentally friendly way to lower operating and maintenance costs, and to solve the problems in its wastewater lagoons, Drayton Valley turned to SolarBee water circulators.

Five SolarBee SB10000 units were installed. No infrastructure changes were required, the system realized an immediate 30% reduction in kW hours and electric consumption has continued to decrease since installation of the SolarBee units. Additionally, Drayton Valley has achieved the following results:

- An average BOD removal increase from 88% to 95%.
- Fecal coliform counts are consistently below the limits.



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