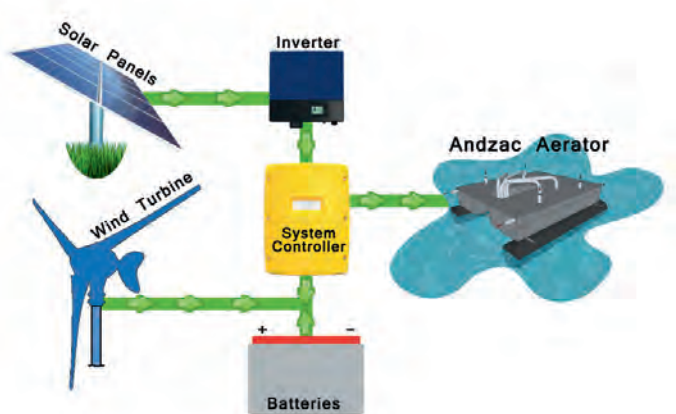


## Andzac enables efficient water aeration

The Andzac Aerator, from Andzac Water Treatment, is a pontoon-mounted aeration machine that is designed to be more energy efficient than traditional rotary or paddle aerators. When used in conjunction with wind and solar power, it can also provide a clean energy alternative that is ideal for remote sites and off-grid applications.

The Andzac Aerator recently underwent independent testing at Goulburn Valley Water's wastewater management facility (WMF) in Tatura, country Victoria. The product's venturi air-injection design provides a system for the efficient and economical surface aeration of wastewater in treatment ponds and other bodies of water.



Andzac's test unit on an 8 m cable only about 4 m from the bank - in a 1.5 ha lagoon!" said Epp. "We noticed the difference within just a few days.

"After running the single 2.2 kW Andzac test unit for a few weeks (correctly positioned), we ran a trial that showed we were getting similar COD results to the parallel lagoons (each with 30 kW aerators running 24/7) with significantly higher DO - average >2 mg/L compared with <1 mg/L in the parallel lagoons."

As the second Andzac unit was no longer needed at Tatura, Goulburn Valley Water decided to install it at its Kyabram WMF, where an old 11 kW LSM aerator had failed.

"Given the size of the lagoon (57 ML, 3 ha), we were planning to operate the 2.2 kW Andzac unit in parallel with the other (operational) LSM for enhancing mixing," said Epp. "After a week or so, we ended up switching off the LSM aerator as our DO was well over 2 mg/L."

Epp is grateful to Andzac Water Treatment for allowing Goulburn Valley Water to test the technology risk free, saying the company was very accommodating throughout the whole process. According to Epp, Goulburn Valley Water is now looking at saving over 600,000 kWh per year in aeration at both sites - around \$80,000.

The aerator is also designed to be suitable for government, council, sewerage plant, nursery, golf course, sportsground, farm and aquaculture, winery and brewery applications.



The aerator is assembled around a 2.2 kW submersible pump - the only moving parts of the system. Water is pumped through a specially designed manifold that directs it to each of four venturi injectors. Once the water and air have mixed, aerated water is ejected out of the nozzles positioned at each corner of the unit.

Nathan Epp, senior engineer - energy & commercial projects at Goulburn Valley Water, explained that the company "specified two floating jet-venturi aerators to replace a single 30 kW traditional low-speed mechanical (LSM) surface aerator". The Andzac Aerator was tested over a five-day period in comparison with traditional 30 kW LSMs.

"Due to the fact that the original aerator had failed and we needed something straight away, we used