



By Linda Sandsmark

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A San Leandro company has been featured in Popular Science magazine (Dec. 2011) for creating one of the “100 Best Innovations of the Year.”

Under the Green Tech heading, Pasteurization Technology Group's (PTG) methane-burning turbine water pasteurizer was given special attention as a game-changer in wastewater purification.

Company president Greg Ryan, Jr. has developed an elegant design. As solids in wastewater break down they give off the biogas methane, which is burned off. It produces very hot exhaust air, up to 900 degrees Fahrenheit. Ryan's invention harnesses that heat as a renewable energy source, reheating the wastewater as it cycles through the system a second time.

Using an air-to-water heat exchanger, the water temperature is raised high enough to pasteurize it (180 degrees). It is then clean enough to be re-used for watering golf courses, irrigating farms and the like.

PTG has a saying in the office: Pasteurization — It's not just for milk.

"California is the largest agricultural producer in the world. What if everyone who could farm did farm?" says Ryan. "The economic impact would be huge. And it could be done with renewable energy, which means we could stop pulling coal and fossil fuels from the ground."

Greg Ryan, Jr. was recently a panelist at the Water Tech Summit 2012 in Santa Clara. He discussed how food, beverage and agricultural industries can make the best use of their water flows.

Many communities use chlorine to treat their wastewater, which is both expensive and potentially polluting. Ryan's system is energy-efficient enough to cost half the amount of chlorine treatment. The system can also generate electricity from the excess biogas, and can be used as a backup power source at water treatment plants. Up to 500,000 gallons per day can be disinfected by its PTG System X500 unit.

"It can get them 'off the grid' and disinfect their water basically for free," Ryan says. "What they call 'waste' is valuable."

