

TechLeandro: Startup Cleans Wastewater, Makes Energy

"San Leandro is the ideal place to do business," founder says, citing location, transportation, other manufacturing and a city government that "makes it easy to operate here."

- By [Carol Parker](#)
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The future of wastewater treatment? No chemicals and it generates energy, too. Courtesy of [PTG context](#)

(Editor's note: The [Lit San Leandro fiber optic project](#) could make San Leandro a destination for cutting-edge businesses. But startups are already sprouting here. Today's story is about one such firm that exemplifies Patch hopes to make into an occasional series called TechLeandro.)



A local startup has discovered how to disinfect wastewater without using toxic chemicals or costly electricity, while creating energy at the same time.

[Pasteurization Technology Group](#) says it is the first and only company in the world to combine [wastewater disinfection with renewable-energy generation](#).

The San Leandro startup is getting attention.

Last year PTG garnered the [Popular Science 2011 "Best of What's New" Award](#) and the 2011 [BlueTech® Go-To-Market Strategy award](#). It recently received a second [\\$1 million infusion of capital from EIC Ventures](#) to expand.

Now the company is ramping up staffing in San Leandro to keep up with the increasing stream of inquiries from prospective customers.

PTG's patented technology uses digester gas (often referred to as biogas, a natural by-product of wastewater treatment) as fuel to drive a turbine that generates renewable electricity.

The hot exhaust air from the turbine (energy that is typically wasted) is then passed through a series of heat exchangers that increase the temperature of the wastewater to a level that disinfects the wastewater stream.

PTG's founder, 48-year-old Greg Ryan, Jr., patented the technology and is bringing it to market with his father, Greg Ryan, Sr.

The elder Ryan conceived of the idea and has been involved in exploring wastewater and energy solutions for years, as a farmer and rancher.

The family had already built its own hydro-electric plant on one of its ranches and in 2005 was asked to construct a pilot plant for a Southern California wastewater treatment company.

The pilot was successful and in 2007 PTG was formed. It is now one of only a handful of companies with wastewater processing technologies that pass stringent State of California standards for the disinfection of water for reuse, Ryan said.

San Leandro chosen as ideal place to locate the business

Ryan grew up in Piedmont and now lives with his wife and two young children in Marin County, but he is no stranger to San Leandro or what it takes to ramp up a business here from scratch.

After graduating [Wesleyan University](#) and receiving his M.B.A. from [Southern Methodist University](#), he returned to the Bay Area and started the [Victorian House Concentrated Coffee](#) company in San Leandro.

He recently sold the coffee company but said his years of operating it in San Leandro gave him an appreciation for the business-friendly climate of the city and made him determined to locate PTG in town, as well.

"San Leandro is an ideal place to do business," said Ryan, "It is centrally located with the freeway, BART and the Oakland International Airport close by. There are lots of manufacturers in the area, the City of San Leandro makes it easy to operate here and it is safe, unlike some larger cities."

The company's headquarters are and will remain in San Leandro, said Ryan. Engineering and the procurement of materials will be done out of the local office, he said, while the actual assembly of the systems will be done either on clients' sites or in the Central Valley of California.

Ryan's father, who is now 75 and on the company's board of directors, comes to San Leandro about once a week to stay involved in the firm although he lives outside the area. There are also a handful of other employees now on site including an operating officer, engineer and administrative support staff.

"There was such a demand pouring in from interested clients," said Ryan, "that we had to staff up to answer the inquiries."

PTG is currently designing a 500,000 gallon per day plant system for a wastewater treatment facility in Southern California and another smaller one about to be developed for a Northern California municipality. The company has seen interest from the food and beverage and oil and gas industries for its product.

PTG solves a big fracking problem.

Ryan said oil and gas companies are calling PTG because the technology solves a problem in their industry - cleaning water after the process of [fracking](#) -- the shorthand term for using hydraulic pressure to break apart rock structures to release oil or gas.

“It has a small footprint,” Ryan said of PTG's technology. “It can be containerized and eliminates the need for gas companies to truck their dirty water to outside wastewater treatment plants (or just dump the dirty water into local water sources, as sometimes happens). This makes the technology perfect for onsite fracking water remediation.”

New and tougher rules on fracking practices that are reportedly in the works may give the company a boost.

Municipal customers

Ryan believes municipalities will be another of the company's biggest customers.

“At a time when no city wants to spend extra money (or waste precious water resources), this wastewater treatment system is an ideal way to conserve power and clean up dirty water well enough that it can be reused for agricultural purposes,” he said.

Popular Science had this to say about PTG's potential in the municipal market:

“Instead of using chlorine, the (PTG) system pasteurizes wastewater by heating it to 180°F. The warmth comes from the waste heat of a nearby electricity generator running on either natural gas or biogas produced by an associated sewage digester. A PTG water plant opening next year in California expects to make a \$160,000 annual profit by selling its extra biogas-generated electricity. Even if the turbine is fueled with natural gas, the pasteurization is energy-efficient enough to be about half the cost of chlorine treatment.”

You can read more about the cutting-edge technology behind PTG [here](#).

<http://www.pastechgroup.com/>