



Photo: Courtesy of Santa Barbara County

Anaerobic Digestion Facility in Munich, Germany

Vendor Picked in Gas-for-Trash Scheme

Anaerobic Digester Gets Nod as Conversion Technology for Tajiguas Landfill Project

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After years of talking, scheming, and dreaming about fitting the Tajiguas Landfill with an ambitious trash-to-energy conversion technology, Santa Barbara County trash czars have settled on a plan that will generate less political opposition than competing technologies that pack more diversionary punch. They've also settled on a development team of businesspeople out of San Luis Obispo County — Mustang Renewable Power Ventures. Fueling the push for this new energy technology is an abiding concern that the permitted dumping space left at the landfill — which handles most of the South Coast's trash — is rapidly being filled up. While the technology chosen, anaerobic digestion, will extend the lifespan of the landfill significantly less than its main rival — gasification — it faces far fewer political hurdles.

To date, the California Air Resources Board has yet to permit a single gasified plant — a more technologically aggressive approach for harvesting the energy potential of solid waste — in California. While such plants are operated in Europe, they've generated significant controversy in the United States because of potential air toxin emissions. (In Europe, the waste stream is picked far cleaner before heat is applied to the refuse, converting it into a natural gas fuel.) To date, no reliable technology exists for monitoring the air quality impacts of such plants in California. These drawbacks notwithstanding, such plants have the capacity to divert far more trash. County trash officials estimate the gasified approach could divert 90 percent of the landfill's waste stream; the anaerobic approach can divert 50 percent.



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Tajiguas Landfill

The company hired, Mustang, is run by San Luis Obispo real estate moguls John Dewey and Rob Rossi of the Rossi Group. The Rossi Group also has an ownership interest in a downtown Santa Barbara landmark — the Granada Building. While the principals involved have no landfill experience — let alone background with seemingly futuristic technologies — they are experienced business operators and have reportedly teamed up with subcontractors who've installed three to six such facilities in the United States. For the deal to work, they insist that the County of Santa Barbara and the cities of Santa Barbara, Solvang, Buellton, and Goleta commit their waste streams to their operation for no less than 20 years. But trash experts for the City of Santa Barbara have expressed concern about getting locked in for so long. New technologies could emerge, they pointed out, and new regulations imposed that could drastically alter the fundamental economics of waste and recycling markets.

The Tajiguas Landfill was expanded in 2002 to accommodate the increased amount of refuse that was being produced by Santa Barbara County — roughly 200,000 tons a year. This expansion and similar landfill expansions all over the world have made many people focus on more environmentally sound ways to deal with trash collection and on alternatives to landfilling. The Public Works Department has set up and maintained numerous recycling programs over the years that divert recyclable materials away from the landfill, including programs that collect used pharmaceuticals, old tires, waste from construction and demolition sites, electronic waste, and, of course, the curbside blue bins from people's houses.

The Santa Barbara County Resource Recovery & Waste Management Division, with Carlyle Johnston as project leader, has been working on alternatives to expanding the Tajiguas Landfill for years. Since 2007, they have held over 90 presentations about potential environmentally friendly modifications to the landfill to the Environmental Defense Council, the Community Environmental Council, the Surfrider Foundation, Heal the Ocean, and the Sierra Club, among many other organizations and local city councils. The meetings have primarily been focused on picking a suitable project among several options and getting input from the community.



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After doing a couple feasibility reports, requesting some proposals, and evaluating the various proposals, the Resource Recovery & Waste Management Division picked Mustang Renewable Power Ventures as its partner. “Aside from avoiding landfilling, what we’re looking for is something that gives us a long-term solution for managing our solid waste, something that is going to be financially feasible that’s not going to be arduous to the ratepayers,” explained Johnston. “We’re looking for something that would maximize recycling, create green energy, and something that would invest in the local economy.”

The preferred project proposes the creation of three new facilities at the landfill: a materials recovery facility, an anaerobic digestion facility, and a power plant. The materials recovery facility would essentially sort through the waste at the landfill to find recyclable materials that can be reused, organic materials that can be used for energy production, and residue waste that fits into neither category and would remain in the landfill. The anaerobic digestion facility would then take all the organic materials and convert them into “digestate,” which would be used as a compost product, and bio-gas, which would be safely collected and used to generate energy. The power plant would then be used to convert the bio-gas into fuel for clean energy production.

There are several communities in California that have either started to build this or are starting to permit these types of projects. “San Jose is in the permitting process, as is the Paris facility in Riverside,” Johnston explained. “The State of California is actually starting a statewide campaign called the Anaerobic Digestion Initiative, where they’re trying to streamline the permitting processes and the California Environmental Quality Act review processes to enable local communities like ours to implement these types of programs more quickly.”

This resource recovery park is expected to generate around 1,000 kilowatts annually. It is also expected to reduce an amount of greenhouse gases equivalent to taking 22,000 vehicles off the road each year. “This would be the biggest reduction in greenhouse gases that the county has had in any single project,” Johnston stated. There would also be little to no additional cost to ratepayers compared to alternatives, as Mustang Renewable Power Ventures plans to finance the \$40 million required to build the facility. “The rates are comparable to what we’re paying now,” Johnston explained. “We estimate that this would be \$59 - \$80 per ton to process [trash at the recovery park]. Our current ticket fee is around \$70, so there wouldn’t be an impact to your monthly trash bill that you would notice. It would just be a radical way that your waste would be disposed of behind the scenes.”

Throughout the next year or so, the Santa Barbara County Resource Recovery & Waste Management Division of the Public Works Department will be working on receiving more community feedback through public meetings, writing an environmental impact report, and getting approval for this project to move forward. For more information about the resource recovery park project, visit ConversionTechnologyStudy.com.