

**Climate Protection: Everybody Profits**  
**Laguna Treatment Facility Tour May 13, 2010, 3:15 to 4:45 pm**

Ed Myers will provide a maximum of 20 people with a tour of the Laguna Treatment Facility in conjunction with this year's conference. This facility is one of the top energy users and greenhouse gas producers in the County. Ed and staff will tell about the many innovative approaches that have resulted in energy savings and greenhouse gas reductions at the facility.

- The tour will include:
  - High efficiency aeration system
  - Site visit where new variable speed pumps for the water reclamation system will be installed
  - SSU biofuels pilot plant

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Information about the Facility:

The Santa Rosa Subregional Water Reuse System serves the cities of Santa Rosa, Sebastopol, Cotati, Rohnert Park, and the Sonoma County South Park Sanitation District. Wastewater from these areas is treated at the Llano Road facility about five miles southeast of Sebastopol. The City of Santa Rosa has been aggressive in pursuing energy efficiency improvements in the Reuse System. The tour will showcase two such projects:

A major part of the wastewater treatment process is the digestion of organic materials by air-breathing microbes. To help the microbes work efficiently, large volumes of air are bubbled through treatment tanks. This required as much as 1800 horsepower from large electric motors, and the electricity to run them cost \$780,000 per year. In 2003, high efficiency blowers and improved air distribution controls were installed in a \$1.2 million capital upgrade. To date, electricity costs have been reduced by 30%, totaling \$1.3 million, and 3,700 tons eCO<sub>2</sub> emissions have been avoided. In addition, the operations staff gained much more flexibility to fine tune the operation of this treatment system, and improve treated water quality. The tour will be guided by the head operator of the wastewater treatment plant.

Once the wastewater has been treated, part of it is re-used locally for agricultural and commercial irrigation. The pumping system that distributes this water is 15-30 years old, and is not up the standards of modern, high efficiency pump station design. A retrofit is currently being installed in two of the largest pump stations in the reuse system; we will tour one being converted to variable speed pumping, which is expected to cut its energy use in half, saving \$58,000 per year in power costs and keeping 157 tons eCO<sub>2</sub> per year out of the atmosphere. In addition, the operators will gain accurate flow measurement for the first time, and be able to continuously monitor the energy efficiency of the pumping.

Also, the Santa Rosa treatment plant is host to a just completed biogas pilot plant designed and operated by Sonoma State faculty and students. It is intended to test the practicality of turning biomass, such as algae or other aquatic plants, into biogas to run a small electric generator. If successful, aquatic plants could someday be grown and harvested from treated wastewater to generate renewable electricity, improving water quality in the process. The students and faculty who are involved with the project will lead the tour of the pilot plant.