

Press Release

Contact: C. G. Steiner
Phone: 913.897.2727

For Immediate Release
Date: January 9, 2006

Subject: Public Utility District Selects OAT™ Process For Energy Independence Project

WaterSmart Environmental, Inc. announces the selection of its OAT™ Process by the Southwest Suburban Sewer District (SWSSD) of Normandy Park, Washington to achieve energy independence for its wastewater treatment plants. SWSSD has applied for financial assistance from the U.S. Departments of Energy (DOE) and Agriculture (USDA). Both departments are interested in the development of biomass based products, bioenergy, biofuels, and related processes. If its financial grant application is approved SWSSD will be evaluating the conversion of several biomass wastes into energy. These include food, animal, green, and sludge wastes. SWSSD desires to eliminate electricity costs at its treatment plants and thereby become energy independent. By generating all of its electricity from wastes SWSSD will be better able to manage its treatment costs and the associated rates it must charge for sanitary treatment services. Looking ahead, if the waste-to-energy program is successful, SWSSD may well consider the expansion of its wastes-to-energy program to sell both electricity and natural gas (methane gas from anaerobic digestion) to area markets. This expansion would permit SWSSD to lower its sewer charges.

The OAT™ waste-to-energy technology fully complies with all Kyoto Protocols on global warming. SWSSD is fully dedicated to the preservation of the environment. Several sanitary wastewater treatment plants are already achieving waste-to-energy through anaerobic digestion producing from one third to one half of their energy requirements. Because of its greater efficiency, the OAT™ anaerobic digestion process is fully capable of achieving 100% of a treatment plant's energy requirements.

The waste-to-energy evaluation program includes a high rate photobioreactor for the production of microalgae. Microalgae can be processed into biodiesel fuel. Several years ago DOE's National Renewable Energy Laboratory researched the conversion of microalgae into biodiesel through its *Aquatic Species Program (ASP)* that consisted of the production of a biofuel called **algal biodiesel**. Algal biodiesel is produced through the growing of microalgae for their lipid content. The lipid content is then converted into biodiesel through transesterification in the same manner that soybeans and other vegetable oils are converted. The ASP funding totaled \$25.05 million over a 20 year period which began in 1978. Continuation funding was ultimately terminated when it was officially determined that algal biodiesel could not be produced *economically*. The ASP had no control over its lighting, temperature, and nutrient conditions. The photobioreactor has control over its lighting, temperature, and nutrient conditions thereby permitting high rate and economical microalgae production. The produced microalgae may be used for biodiesel production, may be fermented into ethanol, and may be used as an animal feed supplement. Growing microalgae also accomplishes biofixation of carbon dioxide through its conversion into carbohydrates. Carbon dioxide from both anaerobic digestion as well as power plant exhaust gas is supplied to the photobioreactor to accomplish carbon dioxide biofixation in full compliance of all Kyoto Protocols.

As the waste-to-energy project continues development, municipal solid wastes (MSW) may be considered by SWSSD as an additional digester feedstock. The public utility district would then have the somewhat enviable task of deciding what to do with the significant profits generated. Commissioner Scott Hilsen is looking forward to the many benefits of the OAT™ process waste-to-energy technology.

Senior Operator Chris McCalib is looking forward to the reduction of plant biosolids as well as selling rather than buying electricity. The SWSSD project consultant is Craig Chambers, PE, of Bureau Veritas-Berryman & Henigar. Craig is also excited over the economic development potential of the technology. Since its existing composting facility is losing money SWSSD might not mind converting it into a profitable Class A fertilizer processing facility if the waste-to-energy project proves successful.

Southwest Suburban Sewer District (the District) was established in 1945 for the purpose of operating and maintaining the sewer infrastructure installed by the Federal Government during World War II. The District purchased the White Center trunk sewer from the Federal Government in 1954. At the time of incorporation, the District consisted of a 900 acre service area around the White Center community. Through annexations, the District now encompasses approximately a 10 square mile region serving the City of Burien, the City of Normandy Park, portions of the City of Seattle, City of Des Moines, City of Seatac, and a portion of ValVue Sewer District. The system, which is tributary to the District's two treatment plants includes 288 miles of pipeline within the two drainage basins, the Salmon Creek Drainage Basin to the north and the Miller Creek Drainage Basin to the south.

The District provides wastewater collection and operates two wastewater treatment plants within its service boundary. The **Salmon Creek** and **Miller Creek** treatment plants began operation in 1957 and 1967, respectively. Both plants were upgraded in 1972 with the provision of chlorine contact chambers and still providing primary treatment. In 1985, design began on secondary treatment upgrade. The Miller Creek plant upgrade became operational in 1988, the Salmon Creek upgrade in 1989 and the compost facility in 1990. The final phase, odor scrubbing, of both treatment facilities became operational in November, 1991. Both treatment plants treat about 3 million gallons of sanitary wastewater each day.

The Miller Creek Treatment Plant is the only public sewage plant in the state of Washington to have constructed a salmon hatchery on site. Operated by our local chapter of Trout Unlimited, two hundred sixty thousand salmon fry are hatched, raised and released here every year. At one time, the local streams were well-stocked and flowed unimpeded by pipes and culverts. By monitoring these streams and keeping them stocked with salmon fry, Miller Creek hopes return to pre-development days. In this way, Southwest Suburban Sewer District is forming valuable relationships with local constituencies to help preserve our environment.



The comprehensive OAT™ Process waste-to-energy technology has been slowly developed over the last 10 years to maximize its economic and environmental impact in the marketplace. It is being marketed on a build-own-operate basis which means there is never a capital cost to the waste generator. Also, there is never a need to raise property or sales taxes or to sell bonds to obtain the **BioWaste Energy Regional Industrial Park** technology. The economic benefit of the technology arises as a result of the Industrial Park marketing of its electricity, natural gas, LP gas, potable water, and biodiesel fuels at a 20% discount from retail. In the case of the State of Hawaii and all of Latin America the discounts will be even greater. Municipalities and Counties must agree to privatize their wastewater and potable water treatment works to qualify for the technology.

The generation of inexpensive electricity, natural gas, LP gas, potable water, and biodiesel is made possible by a holistic conversion of many wastes including municipal solid wastes into methane gas and several other co-products. By charging a service fee for waste treatment the technology becomes extremely profitable on a sustainable basis. So profitable that the co-products can be sold at a generous discount from retail. Selling the co-products at a discount from retail further increases Industrial Park profits. Because the technology fully complies with all Kyoto Protocols each project generates significant renewable energy credits and certificates. The value of SOx credits, for example, has reached

\$800/ton and continues to increase. The sale of renewable energy credits and certificates further increases Industrial Park Profits. Resulting Total Industrial Park profits are shared 50:50 with the local government(s) to increase employee pay and to help fund government projects. Managing all the wastes results in jobs creation as well making the overall waste-to-energy technology a serious candidate to become the energy policy of the United States, and perhaps the entire world, entirely by default.

WaterSmart Environmental, Inc. is a provider of waste-to-energy, food independence, water independence, and energy independence technologies and a manufacturer of highly engineered water purification components and systems. The company designs and builds a wide variety of water treatment equipment including packaged water and wastewater treatment plants, UltraPac™ aerobic package plants, OAT™ Process anaerobic digesters with associated energy production, aerators, filters, Pur-iSep™ and SmartWater™ oil/water and solids/liquids separators, RainDrain™ perimeter trench sand filters for stormwater runoff, dissolved air flotation separators, air strippers, complete skid assembled aqueous waste treatment plants, FilterFresh™ skid mounted potable water production plants, skid mounted wastewater treatment systems for laundromats, commercial laundries, and car/truck wash facilities with water reclamation and reuse, softeners, demineralizers, activated carbon treatment equipment, and water purifiers for domestic and international markets.

*Specialists in Water and Wastewater Treatment Featuring
Next Generation Wastes-To-**Renewable Energy** Technologies*

