

Press Release

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For Immediate Release
Date: August 4, 2005

Subject: WaterSmart Environmental Joins EPA's CHP Partnership

WaterSmart Environmental, Inc. announces acceptance by the United States Environmental Protection Agency as one of its CHP Partners. CHP stands for combined heat and power. CHP, or cogeneration, involves recovering waste heat from power production and using it for local heating and cooling needs. Because CHP is highly efficient—generating electricity and thermal energy from the same fuel source—it reduces the amount of fuel that is burned, which lowers air pollution. The USEPA established the Combined Heat and Power Partnerships to promote and expand the use of CHP in the industrial, institutional, and commercial sectors.

The average fossil fuel power plant in the United States is only about 33% efficient because two-thirds of the energy used to generate power is vented as waste heat requiring the use of cooling towers. The application of CHP can more than double traditional efficiency.

WaterSmart plans on using **both CHP and combined cycle power generation** in its waste-to-renewable energy build-own-operate program. When generating electricity with but one power generation method, it is called **simple cycle**. When generating electricity with two power generation methods it is called **combined cycle**. The second power generation step is usually accomplished by a steam turbine. A non-condensing steam turbine varies in efficiency from 15-35%. A condensing steam turbine varies in efficiency from 40-45%. The use of combined cycle generation utilizing a condensing steam turbine can increase the efficiency of electricity generation from around 33% to about 60%. When combined cycle power generation is associated with CHP, the overall electric efficiency jumps well above 90%. WaterSmart uses all of the remaining heat contents of the power generation exhaust gas and the steam turbine condensate is beneficially used to heat algae ponds in its waste-to-renewable energy program. This increases system efficiency to an amazing 100%. Since the NOx constituent in the power generation exhaust gas is beneficially used by the algae, the power generation equipment can be tuned to provide maximum power output without regard to its NOx content. Methods to limit NOx in the exhaust gas always compromise power generation efficiency.

Using CHP to improve the efficiency of the energy sector helps states and local governments meet energy and air-quality goals. In addition, in city centers, CHP can provide low-cost energy to support economic development objectives. The company's waste-to-renewable energy technology provides electricity, diesel fuel, water, natural gas, and E85 (85% ethanol and 15% gasoline) available to citizens and businesses at a 20% discount from retail on a sustainable basis. **The WaterSmart technology fully complies with all Kyoto Protocols—a first in the CHP/combined cycle industry.**

CHP Partners work with the EPA to promote the economic, environmental, and energy infrastructure benefits of CHP and support the development of new CHP capacity. In return, the EPA provides tools and services that support Partners such as WaterSmart in quest of new CHP projects. Through 2004, CHP Partners installed 2,273 Megawatts of CHP with Partnership assistance, resulting in emissions reductions that are equivalent to planting more than 2.4 million acres of trees.

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.

- 30 -

