



## HILL AIR FORCE BASE LANDFILL GAS TO ENERGY

Hill Air Force Base, Utah was the first Federal agency to award a project delivery order under the Department of Energy's BAMF Super ESPC. In September 2003, the base awarded Ameresco the delivery order to design, construct, operate, and maintain a landfill gas (LFG) to energy system along with several other traditional energy conservation measures (ECMs). The LFG system has given Hill AFB a source of renewable energy and a significant reduction in annual energy costs. Ameresco is operating and maintaining the facility and providing performance and savings guarantees throughout the 20-year contract term. The plant was commissioned in December 2004 and began commercial operations in January 2005.

### About Hill Air Force Base

Hill Air Force Base, the largest single site employer in the state of Utah, is an Air Force Materiel Command base located in northern Utah. Hill is home to many operational and support missions, with the Ogden Air Logistics Center (OO-ALC) serving as the host organization. The center provides worldwide engineering and logistics management for the F-16 Fighting Falcon, A-10 Thunderbolt II, and the Minuteman III intercontinental ballistic missile. The base performs depot maintenance of the F-16, A-10, and C-130 Hercules aircraft.

### Awards and Recognitions

This renewable energy or "green power" project has earned a number of awards and recognitions for both the base and Ameresco. The American Council of Engineering Companies (ACEC) Tennessee Chapter presented Ameresco with the Honors Award in the Environmental Category of the Engineering

Excellence Awards for the project design and contribution to environmental improvements. In January 2005, the Environmental Protection Agency's Landfill Methane Outreach Program (LMOP) awarded Ameresco the Industry Partner of the Year Award, recognizing the Hill AFB project as one of five new landfill gas projects that Ameresco brought on-line in 2004. Hill Air Force Base

received the Utah Energy Champion award from the Utah chapter of the Association of Professional Energy Managers recognizing the base for this first of its kind renewable energy project, and the base received a 2006 Federal Energy and Water Management award in the Renewable Energy category.





### About the LFG Project

The plant uses methane gas from the nearby Davis County Landfill, which will continue to accept waste until 2025, to power three internal combustion engine generators located in the industrial complex on the base's east side. The plant began operations with only two generators, rated at 1.25 MW, but was constructed to accommodate a third generator once sufficient gas supplies became available at the landfill. Once the gas is collected at the landfill it is compressed and delivered to the plant at Hill AFB through an 8 inch pipeline that runs approximately 2 miles from the compressor to the generators. The plant is located adjacent to and interconnected with an on-base electrical substation that delivers the green power into the base's electric grid. The third generator, providing an additional 1 MW generating capacity began operating in mid-2008. The three generators have a combined data plate rating of 2.45

MW, but are de-rated for ambient conditions, fuel BTU value, and to maintain low NOx emission rates. The plant has the capacity to provide a net electrical output of 2.25 MW and is designed to operate 98% of the time.

### Project Benefits

Environmental benefits of this project include using a resource that would have otherwise been wasted, as well as reducing air emissions at the AFB and in the surrounding counties. The renewable energy source will also save on the utilization of more traditional, fossil fuel energy production, significantly reducing air emissions. To quantify, a landfill gas project of this size is the equivalent of removing approximately 10,500 cars

off Utah's roads or preventing the use of 116,000 barrels of fuel oil annually.

### About Ameresco

Ameresco is the largest independent energy service company in North America. In addition to its expertise in developing landfill gas projects and other renewable energy sources, Ameresco has two other energy services lines—energy conservation and energy risk mitigation. The company has more than 600 employees in 50 regional offices throughout North America, and it has constructed more than \$4 billion in energy projects throughout the world.

