



Energy Management & Planning

Bioenergy Project Experience

CH2M HILL's experience in market development, engineering, design, permitting, construction and operation of bioenergy facilities offers clients sustainable solutions to their energy needs.

PIER Program, California Energy Commission

The Public Interest Energy Research (PIER) Program is an ongoing research and development project for the California Energy Commission. The overall goal of PIER is to provide funding to support the development of advanced renewable energy technologies that will help make California's electricity more diverse and affordable. PIER funds facilitate development of linked renewable energy projects that act in a coordinated fashion to make electricity more affordable. CH2M HILL leads the biogas R&D program which focuses on enhancing energy recovery from digester gas at wastewater treatment plants, enhancing gas production and energy recovery from landfills, developing animal waste-to-energy projects, and developing an advanced gasification process for mid- and long-term applications.

Landfill Gas Recovery Demonstration Projects, People's Republic of China

In an effort to ensure that its landfills utilize methane gas recovery, China's State Environmental Protection Agency (SEPA) is promoting the sanitary landfilling practices followed in the U.S. These demonstration projects proved that methane produced in modern landfills can be captured and used profitably.

CH2M HILL assisted China's SEPA in developing demonstration projects that recover and use methane gas from municipal solid waste landfills. The demonstration projects were set up in three cities in different provinces—Anshan, Maansan, and Nanjing. CH2M HILL provided advice on the design and operation of the landfills to enhance gas production. We developed a testing program, completed a market study and economic analysis, and provided technical oversight of testing and planning. We also worked with Chinese technical consultants in each of the cities to support technology transfer.

Landfill Gas-to-Energy Project, Klickitat County, Washington

This project is one of the first and largest of its kind in Washington. The 10-MW landfill gas-to-energy plant provides electricity for more than 6,000 homes.

CH2M HILL provided planning, feasibility studies, and engineering services for this innovative project. By converting landfill gas (which would otherwise be released as a pollutant) into energy, our client now generates more than 10 MW of clean, renewable electricity. CH2M HILL also put together a \$13 million bonding package to finance the project.



Oceanside Wastewater Treatment Plant Biogas Re-use, San Francisco, California

CH2M HILL developed an energy-efficient design for this advanced wastewater treatment plant. Biosolids are anaerobically digested in four 75-foot egg-shaped digesters. Offgas feeds two 550-kW internal combustion engines that generate power to compensate for electrical peaks and emergency requirements. The biogas facility provides 20 percent of the electricity required to operate the plant.

East of San Francisco's scenic Great Highway and adjacent to the City's popular Zoological Gardens, the 43 million-gallon-per-day facility shares prime space with valued recreational facilities. Community concerns, including noise, odors, and aesthetics, added to the complexity of the project. CH2M HILL coordinated stakeholder interests and designed most of the plant's facilities beneath zoo buildings or below grade—effectively making it invisible from the zoo, ocean beach, and highways.
