



SUNCHIPS® SOLAR BACKGROUND

SunChips® snacks are now being made with the help of solar energy at our manufacturing facility in Modesto, California, one of eight locations where SunChips® snacks are made.

To capture this solar energy, a solar collector field was built by American Energy Assets for Frito-Lay covering four acres of land and accommodating 57,969 square feet of net collector aperture area. Prior to construction, the installation design was reviewed and confirmed to be sound by the National Renewable Energy Laboratory. Half of the solar collection system will be fully functional by March, 2008 with the capacity to produce 7,350MM BTU/yr. The entire system is expected to be operating by July, 2008 with a total annual capacity of 14,700MM BTU/yr.

SOLAR COLLECTOR TECHNOLOGY

A solar collector field is comprised of a huge array of concave mirrors. These mirrors track the position of the sun throughout the day, focussing the sun's energy on a black tube that runs along the focus of the array. This black tube is surrounded by a second glass tube that protects it from the air, allowing it to absorb solar energy more effectively. As super heated water passes through the black tube, the solar energy heats it up even more to an incredible 450 degrees F. This water then runs through a boiler system that uses its heat to generate steam, which helps to cook the wheat and heat the cooking oil used in our SunChips® manufacturing process. Cooled water then flows back through the tube to the solar concentrator field to repeat the process.

The amount of thermal energy produced by our solar field is significant relative to the amount of energy needed to make SunChips® snacks. Thermal energy is one form of energy needed to run a SunChips® manufacturing line demanding 2.4MM BTU/hr. The annual thermal energy demand is approximately 14,600MM BTU. This is the approximate annual thermal energy output of the solar collector field at Modesto.