

# Concentrated Solar Power: Designing a Parabolic Trough Collector Sheet 1

Concentrated Solar Power is thermal; it focuses heat from the sun to boil water creating steam to turn turbines that generate electricity.

Your mission, should you decide to accept it: Utilize the locus definition of a parabola to create a general function that can determine the exact location of the focus on a parabola. If you already know this function, your task is to prove that it is true. From this a functioning trough collector can be constructed. Good luck.

Locus definition of a parabola: The set of points equidistant from a given point and a given line. The given point is referred to as the *focus*. The given line is called the *directrix*. It so happens that such a design focuses all light to converge at the given point (the focus), creating a concentration of very extremely high temperature.

