Trough solar thermal storage

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New parabolic trough plants are currently under development in support of solar portfolio standards in Nevada and Arizona, and a solar tariff premium in Spain. Although parabolic trough technology is the ...

A parabolic trough is a type of solar thermal collector that is straight in one dimension and curved as a parabola in the other two, lined with a polished metal mirror.

Concentrating solar collectors for residential applications are usually a "U-shaped" parabolic trough (hence their name) that concentrates the sun"s ...

To address the intermittency of solar radiation, parabolic trough power plants often incorporate thermal energy storage systems, whereby the excess heat collected during sunlight ...

In this study, detailed solar field and thermal storage system models for a parabolic trough power plant are implemented based on the specifications ...

Parabolic trough technology is the most widespread among utility-scale solar thermal plants. The potential of this type of concentrating collectors is very high and can provide output fluid ...

These findings suggest that combining nanofluids and passive inserts can substantially enhance the thermal performance of parabolic trough collectors, guiding the design of next ...

OverviewEfficiencyDesignEnclosed troughEarly commercial adoptionCommercial plantsBibliographyA parabolic trough collector (PTC) is a type of solar thermal collector that is straight in one dimension and curved as a parabola in the other two, lined with a polished metal mirror. The sunlight which enters the mirror parallel to its plane of symmetry is focused along the focal line, where objects are positioned that are intended to be heated. In a solar cooker, for example, food is placed at the focal line of a trough, which is cooke...

DOE funds solar research and development (R& D) in parabolic trough systems as one of four concentrating

solar power (CSP) technologies aiming to meet the ...

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