

OverviewEfficiencyDesignEnclosed troughEarly commercial adoptionCommercial plantsSee alsoBibliographyA 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 foc...

In the present review, parabolic trough collector (PTC) and linear Fresnel reflector (LFR) are comprehensively and comparatively reviewed in terms of historical background, technological ...

The PTC with tube receiver is one of the mature solar technologies for thermal power generation. During application, the parabolic trough collectors concentrate the incoming ...

OverviewHigh-temperature collectorsHistoryLow-temperature heating and coolingHeat storage for space heatingMedium-temperature collectorsHeat collection and exchangeHeat storage for electric base loadsWhere temperatures below about 95 °C (200 °F) are sufficient, as for space heating, flat-plate collectors of the nonconcentrating type are generally used. Because of the relatively high heat losses through the glazing, flat plate collectors will not reach temperatures much above 200 °C (400 °F) even when the heat transfer fluid is stagnant. Such temperatures are too low for efficient conversion

There is still considerable potential for the exploitation of solar energy. As the most mature and low-cost large-scale solar thermal power generation technology [2], parabolic ...

Solar electric generation systems (SEGS) currently in operation are based on parabolic trough solar collectors using synthetic oil heat transfer fluid in the collector loop to ...

This allows the use of solar power for baseload generation as well as peak power generation, with the potential of displacing both coal- and natural gas-fired power plants. Additionally, the utilization of the generator is higher which reduces ...

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