

Solar-powered container DC power supply for a cement plant in Mongolia





Overview

This work describes the implementation of concentrated solar energy for the calcination process in cement production. Approach used for providing solar energy includes the utilisation of a solar tower sy.

Can solar energy be used in cement manufacturing?

Gonzalez and Flamant (2013) designed a hybrid model that uses solar and fossil fuel energy to fulfill the thermal energy requirement for cement manufacturing. Concentrated solar thermal (CST) is a potential replacement for 40%–100% of the thermal energy needed in a conventional cement plant.

Can a solar power plant meet the power demand of a cement plant?

According to an IFC report, this is how a solar power plant can help meet the power demand of a generic cement plant. Climate change and energy security are worldwide issues, and the cement industry understands the importance of contributing its fair share as a result of its technological and socioeconomic growth.

Can solar energy be used for calcination of cement?

This study shows that it is feasible to implement concentrated solar energy for the calcination process of cement production. Solar resource for the chosen plant location permits operation for an average of 12 h per day. 9 h of these 12 h are useable, with the remaining 3 h being utilized to heat up and cool down the solar reactor.

How can solar power plants help the cement industry?

Solar power plants assist to safeguard the environment while also lowering carbon emissions. Here's a breakdown of the cement industry's energy consumption: According to an IFC report, this is how a solar power plant can help meet the power demand of a generic cement plant.



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Beam-down concentrating solar technologies supply useful heat for extremely efficient power cycles and direct solar fuels with receiver reactor technology at high temperatures.

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