



Solar-powered mobile containerized cement plant

Will Cemex & synhelion develop fully solar-driven cement production?

Cemex and Synhelion have made significant progress in their joint effort to develop fully solar-driven cement production. They have scaled their technology to industrially-viable levels, enabling the continuous production of clinker, the most energy-intensive part of cement manufacturing, using only solar heat.

Will Cemex & synhelion build a pilot cement plant?

Cemex and Synhelion will now take further steps toward constructing a pilot cement plant powered by solar energy. Fernando A. Gonzalez, CEO of Cemex, stated, "I am convinced we are getting closer to the technologies that will enable net-zero CO₂ cement and concrete production.

How a solar cement plant is designed?

Solar cement plant was designed based on cement production and the Direct Normal Irradiation (DNI) data available at plant location. Total thermal energy and the amount of land needed for the solar cement factory were analysed. Additionally, total mirror surface, number of heliostats, and land requirement are estimated.

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.

CEMEX and Synhelion have announced a significant milestone to develop fully solar-driven cement production by scaling their technology to industrially-viable levels. This includes the ...

Synhelion and Cemex will now take further steps toward building a solar-driven industrial-scale pilot cement plant. "I am convinced we are getting closer to the technologies that will enable ...

This marks a significant milestone in the companies' journey toward the world's first fully solar-powered cement plant. An early 2022 energy lab demonstration in Spain saw researchers ...

Cemex and Synhelion report prospective scaling of a high-temperature process to industrially-viable levels, where solar energy supplants fossil fuel combustion. This marks a ...

Synhelion and Cemex collaborate to pioneer solar-powered cement production. Synhelion's technology, originating from ETH Zurich, uses solar radiation to produce syngas for ...

Synhelion and Cemex announced today a significant milestone in their joint effort to develop fully solar-driven cement production: the scaling of their technology to industrially-viable levels.

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 ...



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Now, having successfully demonstrated the viability of the technology under continuous and plant-like conditions, Cemex and Synhelion are poised to move forward with the development of ...

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