

Can solar energy be used in materials processing?

However, the first real and most important application of solar energy in materials processing is the sun drying of adobe bricks, low temperature sun process applied since at least 10,000 years (Revuelta-Acosta et al., 2010, Rodr#237;guez and Soroza, 2006).

Why should solar PV cells and modules be innovative?

The problem of energy is so big that the industry should realize to put aside big margin financial gains over the protection of nature by using renewable energy. Innovations have to be encouraged in general and the solar PV cell and module manufacturers should be courageous to take up innovative research and development.

Can concentrated solar energy be used in metallurgy?

In the field of metallurgy, concentrated solar energy could find application in the recovery of wastes coming from metallurgical processes, as is the case of the mill scale treated in a fluidized bed heated with concentrated solar energy.

Are solar energy harvesting technologies based on natural materials?

All emerging solar energy harvesting technologies are greatly dependent on the availability of natural solar grade materials, as shown in figure 1 [16] and/or on the advancement of materials engineering and understanding of science at small length scales (i.e., phenomena associated with solar grade nanomaterials).

Can concentrated solar energy be used in manufacturing?

In the particular case of joining technologies, concentrated solar energy could not be applied in the manufacture, for instance, of cars that are produced in factories operating 24h 365 days yearly, but could be applied to high added value or to small series of products, as for instance in precious materials or other high added value products.

What are the applications of concentrated solar energy?

Concentrated solar energy could find applications in short series of products (as for instance in obtaining of hard refractory ceramics), high purity materials (as for instance the production of lime for the chemical and pharmaceutical industries) or in materials recently discovered (as for instance fullerenes and carbon nanotubes).

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required to concentrate solar flux to useable levels for material processing operations, the use of solar thermal technology on the lunar surface is appealing. Solar Thermal Processing of Lunar ...

The 1GEN comprises photovoltaic technology based on thick crystalline films, namely cells based on Si, which is the most widely used semiconductor material for commercial solar cells (~90% of the current PVC ...

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