



BUHLE POWER

# Costa Rica rooftop solar power generation system





## Overview

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Can solar power improve Costa Rica's energy security?

Solar energy, though currently a minor player, offers untapped potential to enhance Costa Rica's energy security. The country's tropical climate ensures consistent sunlight, making solar PV systems ideal for both utility-scale and distributed generation.

How much solar power can Costa Rica use?

Utilising about 6% of total solar power potential and 25% of Costa Rica's wind power potential would suffice to supply enough energy to do so. Electricity costs can be reduced by almost US\$ 1 cent per kWh of power generation by deployment utility-scale and decentralised renewable energy installations.

Can solar power diversify the energy mix in Costa Rica?

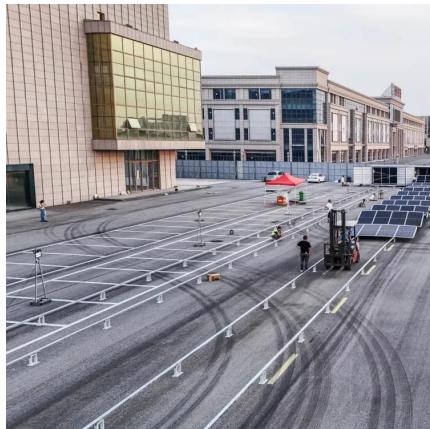
While hydroelectric power dominates the energy mix at approximately 80% of electricity production, solar energy, though currently a smaller contributor, holds significant potential to diversify and stabilize the grid. This paper investigates Costa Rica's renewable energy journey, emphasizing solar power's evolving role.

Is Costa Rica a leader in solar energy in Central America?

Research by the International Renewable Energy Agency (IRENA, 2020) identifies Costa Rica as a potential leader in solar energy within Central America, given its high solar potential averaging 4.5-5.5 kWh/m<sup>2</sup>/day, yet notes that policy incentives lag behind those for other renewables.



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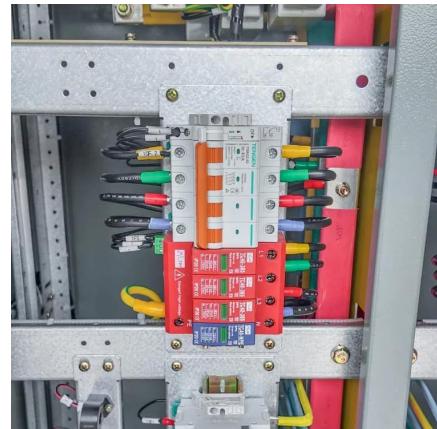
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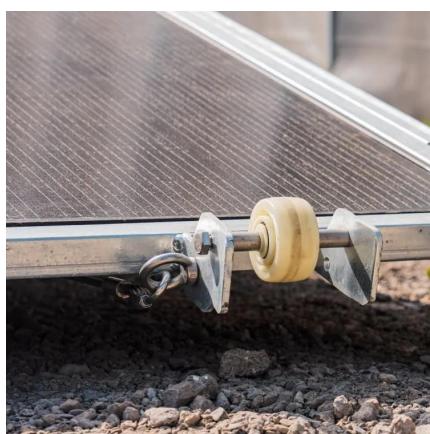


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