

Kuwait City High Temperature Solar System Design





Overview

Which PV technology is best under Kuwait climate conditions?

Outdoor testing of 8 different PV technologies under Kuwait climate conditions. Impact of PV soiling due to dust deposit on modules temperature and performance. HIT modules are found to perform consistently better than other technologies. Glass modules are more resistant to soiling losses compared to epoxy PV surfaces.

Do photovoltaic modules perform well in the harsh climate of Kuwait?

This paper presents a comparative performance evaluation of eight commercially available photovoltaic modules (m-Si, p-Si, HIT and thin film with several technologies (CdTe, CIGS and u-Si)) in the harsh climate of Kuwait. The final energy yield of different kinds of modules was analysed to show the technology specific differences.

Where are photovoltaic technologies tested in Kuwait?

In this work, performance analysis and comparison of eight photovoltaic (PV) technologies were carried out under the local harsh climate conditions of Kuwait. The test facility is elevated 3 metres above ground level on top of carports at the Kuwait Institute for Scientific Research (KISR), alongside the seashore.

Do temperature and dust affect the performance of PV modules?

Special attention is given to the influence of temperature and dust on the performance of the PV modules. The results show that m-Si, p-Si and HIT modules performed better in high irradiance levels while decreasing rapidly at lower irradiance levels.



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[Solar PV Analysis of Kuwait City, Kuwait](#)

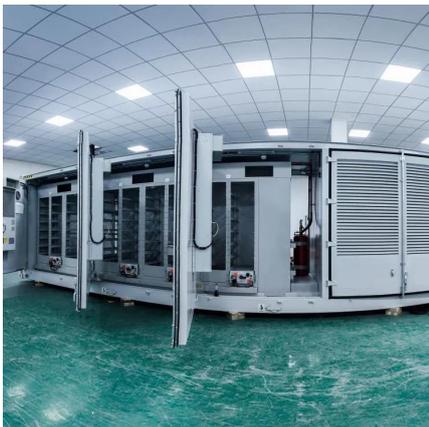
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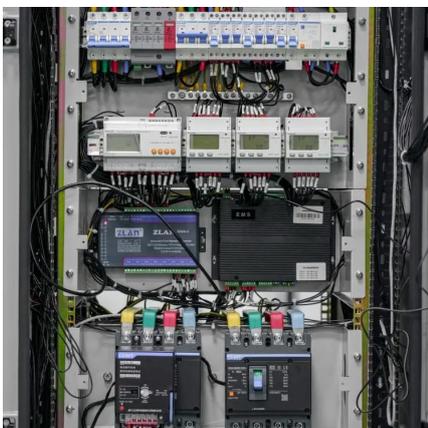
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It is known that sun radiation as well as temperature is the main contributors in the performance of a given solar PV system. Other parameters such as wind speed, humidity, and ...

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Photovoltaic module performance is directly influenced by weather conditions: solar irradiance, temperature, relative humidity, and wind speed (Kurnik et al., 2011). In addition, ...

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