Beirut High Temperature Solar System Design

The performance of solar domestic hot water (SDHW) systems utilizing flat-plate solar collectors is optimized for Beirut climate with respect to many design parameters. The Beirut hourly climatologicaf ...

We focus on serving Theme 3: "Innovative and smart solutions in utilization of buildings and outdoor spaces towards net-zero" while we also contribute to Themes 1: "AI for energy ...

Abstract We investigated the concept of NZEB and applied it to a case study of a 100 m2 home in Beirut weather using Ecotect software. A number of passive design strategies, including ...

Keywords: Net zero energy building, Ecotect software, Passive design strategies, Beirut weather conditions, Renewable energy systems.

The electrical performance and reliability of flat-type photovoltaic (PV) modules can be severely affected by elevated cell operating temperature in regions benefiting from high yearly solar ...

Abstract--Due to global warming and the high toxic gas emissions of traditional power generation methods, renewable energy has become a very active topic in many applications. This study focuses ...

Solar Radiation Profile of Lebanon MeteoNorm data: Annual DNI (Direct Normal Radiation) in Beirut: 1864 kWh/m2 in Ksara: 2179 kWh/m2

This project is divided into two main studies related to Photovoltaic (PV) panels overheating and cooling systems. The first study focused on investigating the effect of high ambient ...

The performance of solar collector systems is optimized for the Beirut climate with respect to the following parameters: angle of tilt and orientation, plate emissivity and number of glass covers. The ...

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