

Assessment of the Photovoltaic and Solar Thermal Potential Installation Area on Residential Buildings: Case Study of Amman, Jordan

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Abstract : The suitable surface areas for the ST and PV installation are determined based on incident solar irradiation on different surfaces, shading analysis and suitable architectural area for integration considering limitations due to the constructions, available surfaces area and use of the available surfaces for other purposes. The incident solar radiation on the building surfaces and the building solar exposure analysis of the location of Amman, Jordan, is performed with Autodesk Ecotect analysis 2011 simulation software. The building model geometry within the typical urban context is created in "SketchUp," which is then imported into Ecotect. The hourly climatic data of Amman, Jordan selected are the same ones used for the building simulation in IDA ICE and Polysun simulation software.

Keywords : photovoltaic, solar thermal, solar incident, simulation, building façade, solar potential

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