

Influence of Greenroof Microclimate on Solar Panel Efficiency

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Greenroof technology is a developing field that uses passive thermal insulation and solar dissipation to reduce the cooling loads of buildings. It has been demonstrated that the surface of a greenroof is substantially cooler than that of a conventional roof and that the air temperature above the greenroof is also cooler. Electronic components are often more efficient at cooler temperatures (due to decreased resistance) and solar panels are no exception. The goal of this research is to quantify the increase in efficiency that can be observed in a solar panel installation by covering the surface below with a greenroof.

Test parameters include the soil mix used in the greenroof, the level of hydration and irrigation supplied, the plant types and species selected for the greenroof, and the source of the water used for irrigation (if necessary).