

Integration of Renewable Energy Sources in Buildings

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ABSTRACT

Renewable energy refers to energy that occurs naturally and repeatedly in the environment. This energy can be from waves, wind, the sun and geothermal heat from the ground. Renewable energy can also be produced from plant sources such as wood or crops grown specifically as a fuel. The aim of this paper is to enlighten Renewable energies that are used to create a reliable, clean, safe, sustainable and energy efficient environment by making use of secure local resources, reducing dependence on fossil fuels, helping to reduce the production of carbon dioxide and other greenhouse gases.

The study of renewable energy sources is an important topic in the field of Architecture as it brings together the use of educational, professional and technological know-how. Architects and professionals introduce technical opportunities, means, and methods for incorporating renewable energy technologies to reduce the energy needs of buildings and increase their ability to capture or generate their own energy at the concerned site for building designs and their operations. Renewable energies are integrated, assessed their economic costs, and their environmental benefits are determined before installing them on site. The overview increases the knowledge and technical abilities of users so that maximum advantage can be taken. Some examples have been provided to describe the content.

This paper introduces the main sources of renewable energy and helps to assess whether using renewable energy is a viable option to adopt.

Keywords: Renewable energy, sustainable energy, energy efficient, Renewable energy sources, green energy, green house gas.