

The Meyer Children's Hospital: Energy saving Strategies in the Italian Experience

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Objective of the HOSPITALS project – financed by the EU Commission – is the integration into hospital buildings of strategies aimed to reduce the total energy demand, and thus contribute to significant reductions of CO₂ emissions. Strategies have to be addressed to implement and demonstrate innovative energy efficient building design for the Meyer Children Hospital, in Florence, using integrated energy design process and bioclimatic strategies from the first stage of the project. Collaboration among designers, architects, engineers, staff of the hospital and patients is the key to achieve an energy conscious and sustainable health care building. The project has focused on the detailed planning and design of the healthcare environment and, particularly, the psychological effects of environment. This approach has been considered essential for neonatal intensive care environment and its subsequent effect on babies, their families and caretakers. Special attention to interior rooms and surrounding view are achieved in order to obtain a better confinement period and to stimulate beneficial effects on patient health. The work focuses on the integration of innovative concepts in an environment with many technical and organisational constraints. Good collaboration between designers, architects, engineers, energy consultants, hospital administration.

An Assessment of Zero Energy House for Tropical and Temperate Climates

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In the urbanizing context of developing countries, residential areas are increasingly considered as the main energy consuming sectors. Low-energy houses present a roadmap for communities and countries to transform the building industry from energy consumers to net energy producers. Zero-energy technologies and low-energy features in the zero-energy building represent current developments in developed countries in more temperate regions. In order to achieve these, there is a need to assess strategies and performances of low or zero-energy designs in the temperate countries and identify the issues and conflicts when applied in the tropical regions. The paper will then highlight the issues and conflicts involved in implementing these strategies i.e. concerning energy conservation, thermal and visual requirements, occupant behaviour – in the temperate regions when compared to the context of the tropical climate. Issues concerning the use of daylighting with its consequences in terms of heat gain and glare, thermal comfort level, cooling strategies in two different climates are compared and highlighted. The findings contributes to the knowledge and technology transfer from one country or climate to another and highlight the prioritization of issues and strategies in implementing low-energy design and technologies in different context and climate.