



International Conference On Innovation in Renewable Energy & Power

Barcelona - Spain

7-9 December, 2018

Strategy of the house with Side windows and its role of thermal regulator in a hot-dry climate a Ghardaia

M.Hamdani¹, S.M.A. Bekkouche¹, T. Benouaz², R. Belarbi³, M.K. Cherier¹

¹ Unité de Recherche Appliquée en Energies Renouvelables, URAER,
Centre de Développement des

Energies Renouvelables, CDER, 47133, Ghardaïa, Alegria

² University of Tlemcen, Algeria ³ University of La Rochelle, France

Abstract: In Algeria, the building sector is responsible for over 40% of the total energy consumed. This is why research will deploy a more coherent strategic approach in this area. The passive use of solar energy is the cheapest way to use the sun's energy. The project team aimed to get a house with low energy consumption. Architecture passive solar house, building positive energy, high environmental quality, energy-efficient ... are subjects to treat them. We are obliged to find the best balance between the building, the surrounding environment and the comfort of the inhabitants.

Principal Mission: Its principal mission is to ensure the sustainability and maximum comfort while reducing energy through passive and active architectural techniques consumption. For this reason, to reduce this consumption, it is necessary to improve the performance of the building. As a result, windows and ventilation become key points to improve in terms of Losses. These two elements may be at the same time the source of a large part of the wastage (80% for a passive house) but also source of solar gains for windows (37% of Thermal inputs for a passive house). The objective being to evaluate the performance by comparison different type of double glazed window, Classical glazing, results of temperature measurement in real conditions and for both types of window simultaneously are then presented.

Keywords: simulation, energy performance, thermal comfort, natural ventilation, cool roof, flat roof.

