



# Exploring Design Principles of Bioclimatic Architecture and Double Skin Facades as A Convincing Tool for Energy Saving

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## ABSTRACT

*Different climates of different regions do not provide the required appropriate climatic conditions to ensure thermal comfort all year long. The goal to be pursued is to achieve the best interaction between climate, building and user behaviour. Bioclimatic buildings exploit climate in order to offer their occupants the most appropriate comfortable conditions. Especially, variations in hours of sunshine, in temperature, and rainfall of a particular climate signify establishing various strategies according to seasonal differences of particular region. In winter time assembling most of solar gain, and protecting the users from the cold (heating) are important. In summer; occupants/users need more protection from the sun (cooling). Thus, bioclimatic buildings reside in tune with these natural rhythms through consulting the most of natural lighting. This paper is aimed to enable architects to rediscover the principles of bioclimatic architecture and the modern technical and architectural means to achieve them. The study persuades adjusting the Double Skin Façades (DSF) design as the disciplined approach of ensuring the major strategies of Bioclimatic Architecture. Apparently, the study seeks three delineated bioclimatic approach daylight, thermal comfort and natural ventilation in DSF systems. The study views the DFS systems as the potential inclination for bioclimatic architecture ecological principles. On this basis, a connection between Bioclimatic Architecture and DFS systems are asserted and moderated within a generalized task.*

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## 1. Introduction

Decades, the energy consumption came to the agenda as an alerting paradigm of major global concern. In view this fact; the many researches have accomplished a novel interest in the field of ecological studies in order to provide enhancing approaches and strategies. The building construction sector has been notified as the major fact on energy consuming. Their operational energy is

commonly supplied in the form of electricity, which is engendered from fossil fuels. Overall, studies reported that buildings' energy use constitutes about one third of the global final energy use (G. B. Hanna, 2013). On this basis;

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