

Comparing Occupants' Satisfaction in LEED Certified Office Buildings and Non-LEED Certified Office Buildings: A Case Study of Office Buildings in Egypt and Turkey

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Abstract : Energy consumption and users' satisfaction were compared in three LEED certified office buildings in turkey and an office building in Egypt. The field studies were conducted in summer 2012. The measured environmental parameters in the four buildings were indoor air temperature, relative humidity, CO2 percentage and light intensity. The traditional building is located in Smart Village in Abu Rawash, Cairo, Egypt. The building was studied for 7 days resulting in 84 responds. The three rated buildings are in Istanbul; Turkey. A Platinum LEED certified office building is owned by BASF and gained a platinum certificate for new construction and major renovation. The building was studied for 3 days resulting in 13 responds. A Gold LEED certified office building is owned by BASF and gained a gold certificate for new construction and major renovation. The building was studied for 2 days resulting in 10 responds. A silver LEED certified office building is owned by Unilever and gained a silver certificate for commercial interiors. The building was studied for 7 days resulting in 84 responds. The results showed that all buildings had no significant difference regarding occupants' satisfaction with the amount of lighting, noise level, odor and access to the outdoor view. There was significant difference between occupants' satisfaction in LEED certified buildings and the traditional building regarding the thermal environment and the perception of the general environment (colors, carpet and decoration. The findings suggest that careful design could lead to a certified building that enhances the thermal environment and the perception of the indoor environment leading to energy consumption without scarifying occupants' satisfaction.

Keywords : energy consumption, occupants' satisfaction, rating systems, office buildings

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