Abstract:

This research aims at declaring the role of architect in saving the consumed cooling energy for buildings air-conditioning by using passive systems and suitable materials for the existing environment in his designs. This aim comes from that the western Asiatic Arab countries -members in ESCWA consume a lot of energy in air-conditioning -cooling- buildings in summer. The research follows an analytical process for the energy consumed and its increasing rates in ESCWA countries in general and especially in the Gulf area. A mathematical process comes after that by simulating a residential building in the Gulf area with different passive alternatives, and then the research analyzes the results and suggests suitable alternatives with special attention to the role of architecture and architects in saving the consumed energy in air-conditioning building in such area. The results declare that, around 60% of this energy could be saved. This result indicates the lacking and the importance of thermal conditioning rules for building design process, which architects should follow and respect to improve (decrease) the energy consumption in summer air-conditioning of buildings in the Gulf area, ESCWA countries and the Arab world in general. The research refers also to the possibility of using renewable energy in air-conditioning buildings and the correlation between the general policies and rules with saving energy orientations in general.

Keywords:

architecture, role of architect, saving cooling energy, passive systems, ESCWA, air-conditioning building, cooling buildings, Gulf area, simulating building, Arabic-ESCWA-Gulf area, saving energy-architecture-building energy efficiency-exchange system-building efficiency, ESCWA, architectural design, architecture, energy efficiency, ESCWA,-

Published In:

المملقي الهندسي الخليجي الثامن- نحو تعديل دور المهندس في تنمية الاقتصادية الخليجي- في (أبحاث محكمة) ..