

**THE EFFECTS OF DIFFERENT DESIGN PARAMETERS
ON THE ENERGY CONSUMPTION OF A LOW ENERGY
HOUSE**

Author(s): **Anjum Khalid, Muzzaffar Mahmood, Noman Ahmed**

Volume: **Thematic Issue on Energy**

Pages: **35-42**

Date: **January 2012**

Abstract:

In this study two similar houses with identical occupancy were modelled on TRNSYS software. One house was of conventional construction with uninsulated concrete block walls, single glazed windows, and no heat recovery from the ventilation air. Second low energy house had 200 mm (8 in.) thick insulation, double glazed low U-value windows, energy efficient lights and heat recovery from ventilation air. These houses were simulated for Karachi weather conditions to estimate energy consumption and comfort parameters. The results showed that low energy house maintained comfortable living conditions throughout the year with small swings in the inside wall surface temperature and air humidity while its cooling energy demand was less than half of that of the conventional house which also experienced larger fluctuations in inside wall surface temperatures. It has been suggested that if such houses are built on a large scale then considerable electrical energy can be saved on national level.

For full paper, contact:

Prof Muhammad Masood Rafi

Editor, NED University Journal of Research

Ph: +92 (21) 99052413; Fax: +92 (21) 99261255

Email: NED-Journal@neduet.edu.pk

Website: <http://www.neduet.edu.pk/NED-Journal>

