considered as base energy consumption[5] for Residence B and Residence C, then the contribution of energy consumption for comfort space conditioning can be as high as 38% for Residence B and 65% for Residence-C.

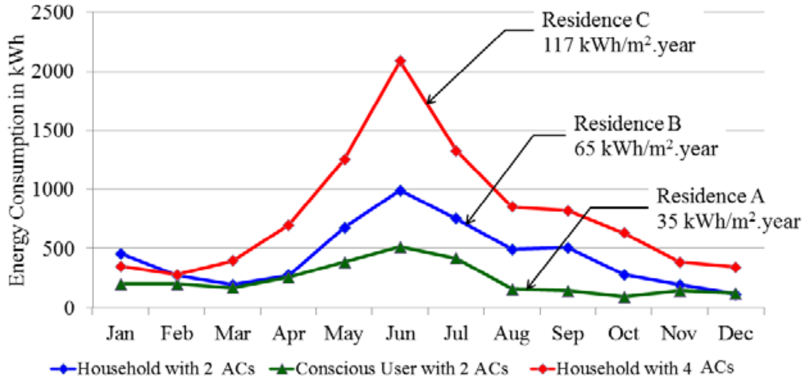

***Figure 10** Monthly energy consumption profiles of three residential units in composite climate*

CONCLUSIONS

a) The mean EPIs for sample residential flats of 2-3 bedrooms in composite (732 flats) and warm-humid climate (426 flats) for the year 2009 are calculated as 48 kWh/m^2.year and 43 kWh/m^2.year respectively

b) Energy consumption for comfort cooling is a significant part of the electricity consumption. Detailed analysis of energy consumption in three sample flats shows that the contribution of energy consumption for comfort space conditioning, increases with the increase in EPI (and increased usage of air-conditioners) and for the three flats was estimated to vary between 33% to 65% of the total energy consumption.

c) Analysis of time-series data for one residential complex for 2007 and 2009 shows 16% increase in average EPI, which indicates towards the trend of increase in energy consumption in the urban residential buildings d) Detailed energy consumption monitoring of a flat, which utilizes a combination of fans, evaporative coolers and ACs for cooling, shows potential of large energy savings by appropriate and energy-efficient use of comfort cooling appliances.

With bulk of the construction in building sector bound to happen in housing sector in the next two decades, there is an urgent necessity for guidelines for designers to effectively integrate the potential strategies for reducing energy consumption and for augmenting thermal comfort as well as guidelines for residents to use energy efficiently for space cooling.

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[5] Base energy consumption is the energy consumption excluding the comfort space conditioning. This also excludes energy consumption for space heating.