INTERNATIONAL INSTITUTE OF INFORMATION TECHNOLOGY
HYDERABAD

R&D SHOWCASE 2021
Technology, Social Impact

Residential building energy demand reduction in India (RESIDE)

https://www.reside-energy.org/

सत्यमेव जयते
Department of Science and Technology
Ministry of Science and Technology
Government of India

EPSRC
Engineering and Physical Sciences Research Council

Residential building energy demand reduction in India (RESIDE), is a Indo- UK joint research project to understand the electricity consumption pattern in 2000 homes in several cities across five climatic zones in India. The purpose of this study is to better understand how electricity is used in Indian homes, so as to identify ways of managing and reducing its use. The data will also help in developing representative models of residential buildings for India and a residential energy code.

Project objectives

- Analyses and synthesis of residential energy and comfort datasets for India
- Develop and pilot low-cost monitoring and benchmarking of home energy use and thermal comfort
- Monitoring of electricity use, indoor temp., and field survey of households across the five climatic zones of India
- Design and trial a SHEMS to enable residents to participate in overall energy saving and peak demand reduction
- Conduct post-occupancy evaluation studies of recently-built dwellings across five housing developments
- Dwelling-level energy models of residential archetypes to assess opportunities for demand reduction
- GIS-based models to map dwellings across five cities to estimate and visualize energy demand in urban areas
- Develop a residential energy code for India

Project team

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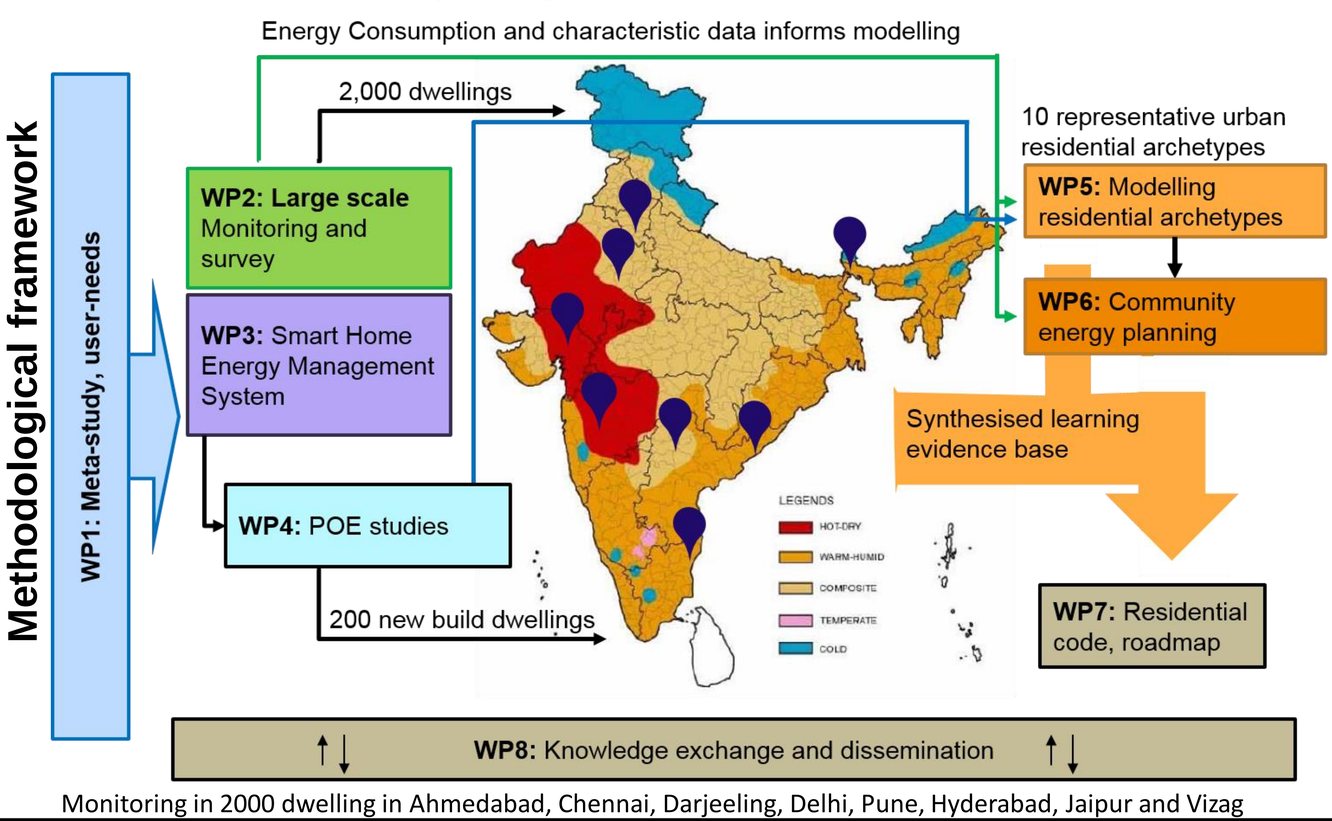
OXFORD BROOKES UNIVERSITY

UWE Bristol University of the West of England

Deliverables

1. Online repository of existing metadata of residential energy and thermal comfort.
2. Curated and accessible data bank on residential energy demand, indoor temperature and contextual data.
3. Refined Smart Home Energy Management System and detailed residential load profiles.
4. POE studies to establish the influence of physical and human factors on energy
5. demand in recently-built dwellings
6. Energy models of residential archetypes to assess potential for substantial energy
7. demand reduction in current and future climate
8. Community energy planning toolkit.
9. Residential building energy code, compliance tool and implementation roadmap
10. Dissemination and knowledge exchange



Monitoring in 2000 dwelling in Ahmedabad, Chennai, Darjeeling, Delhi, Pune, Hyderabad, Jaipur and Vizag

Authors: Prof Vishal Garg Research Center :Center for IT in Building Science