International Energy Agency

Roadmap for Mainstreaming Energy Efficiency in Residential Buildings in India

Kick-off webinar

18th September 2020

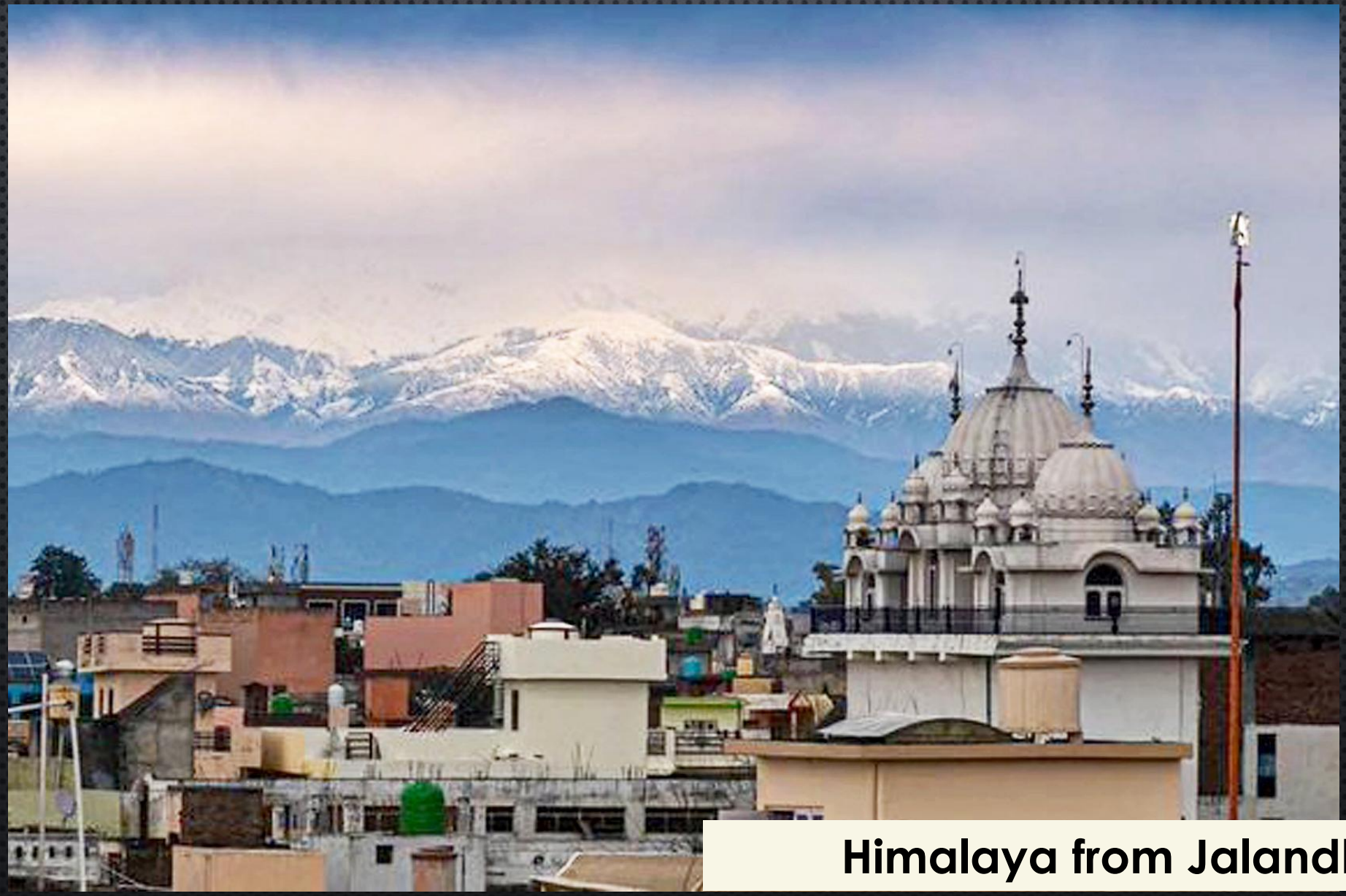
Opening Remarks

- Ms. Melanie Slade, *Senior Programme Manager, International Energy Agency*
- Mr. Abhay Bakre, *Director General, Bureau of Energy Efficiency*
- Ms. Natalie Toms, *Economic Counsellor, British High Commission*

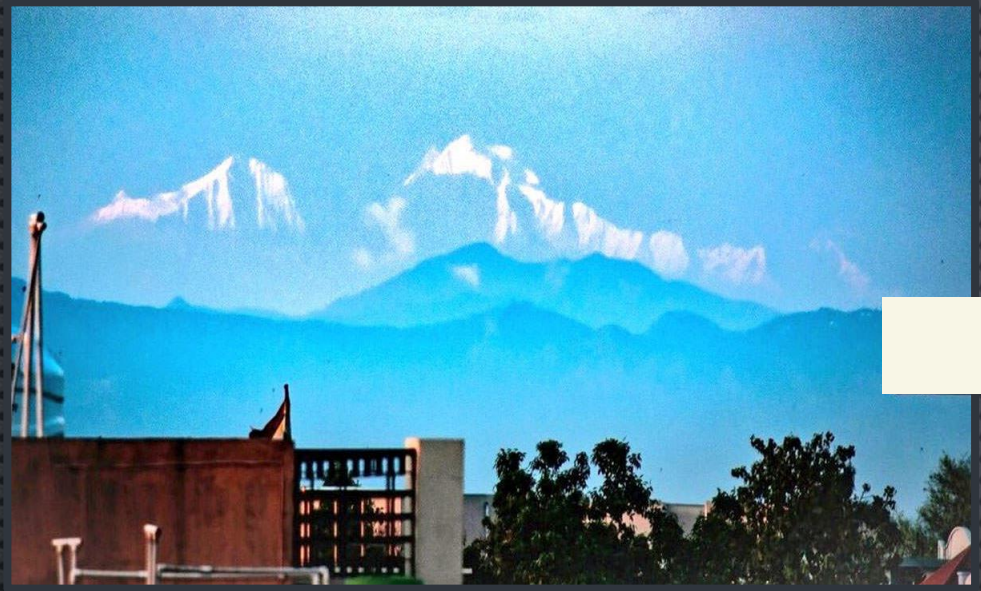
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Energy Efficiency In Buildings Sector in India

Saurabh Diddi, Director
Bureau of Energy Efficiency



Himalaya from Jalandhar, Punjab

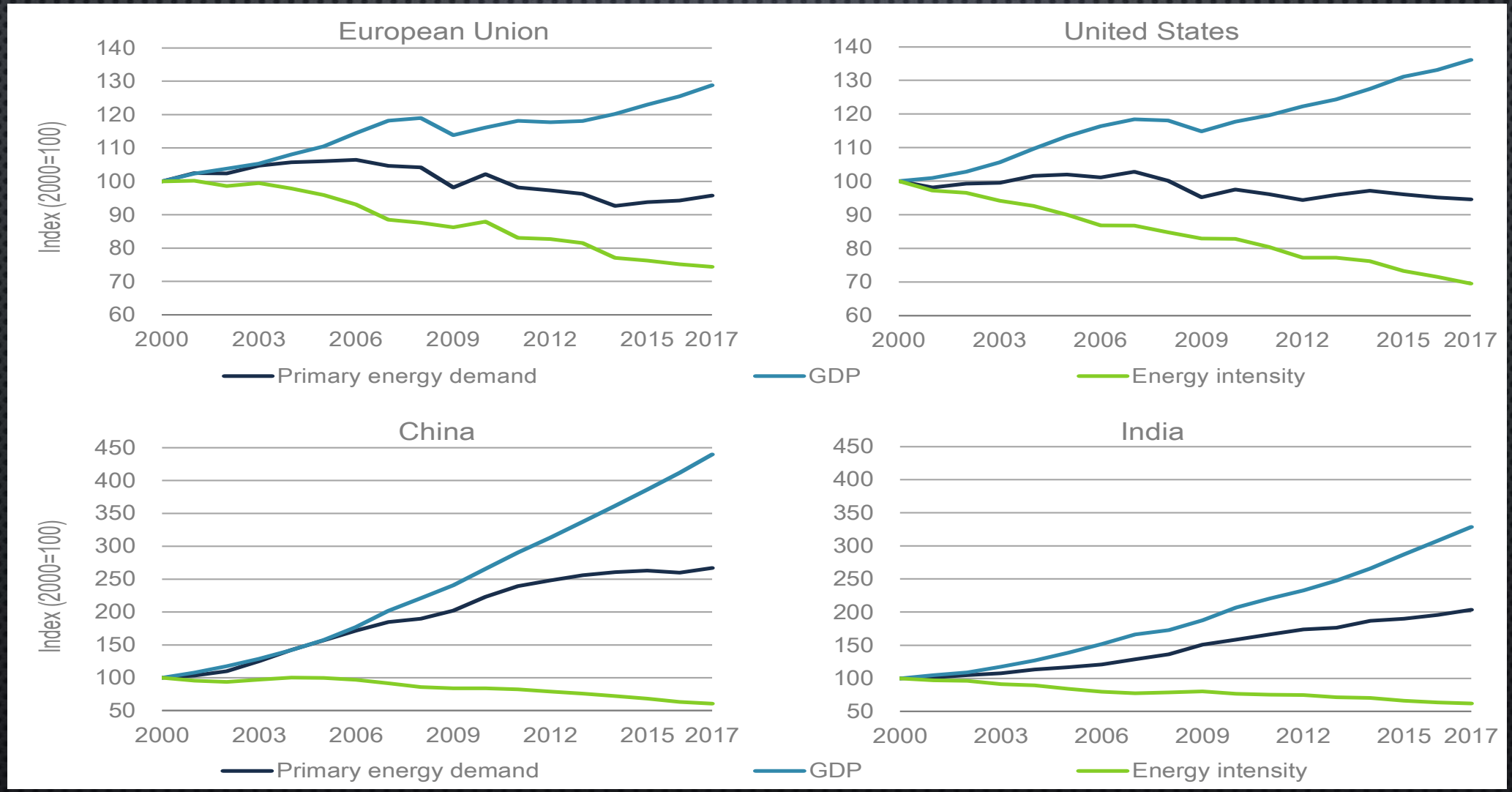


Himalaya from Saharanpur, UP



New Delhi during lockdown

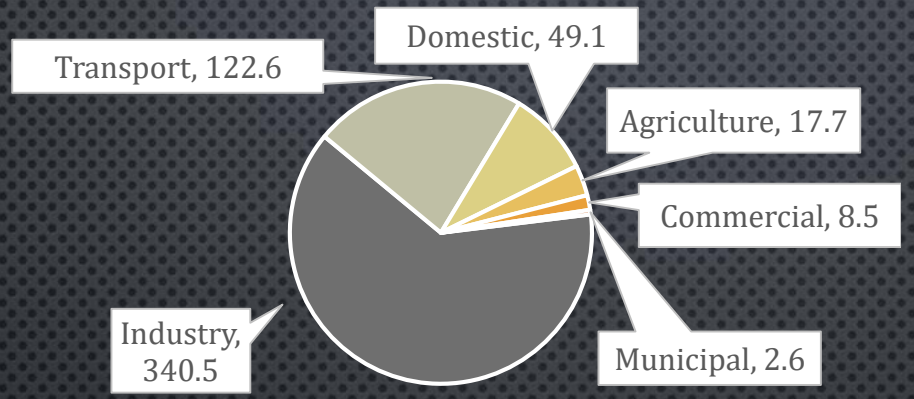
Global Energy Scenario



Source: Energy Efficiency Report, 2018, International Energy Agency

India's Energy Demand and Projections

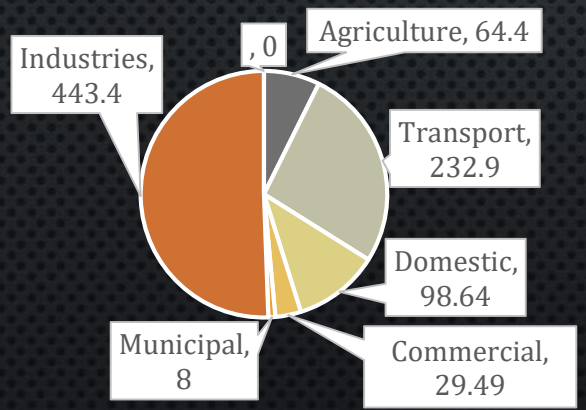
Total Energy demand in Mtoe (2016-17)



540.9 Mtoe

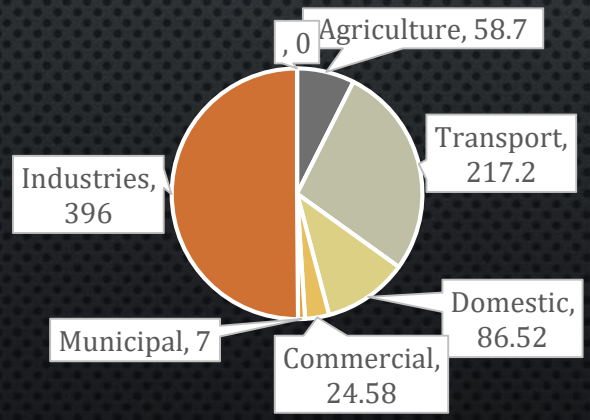
Scenario in 2031

876.9 Mtoe



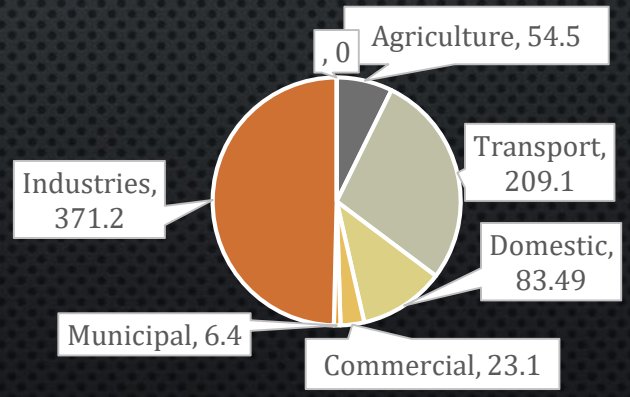
Total Energy demand under BAU Scenario (in Mtoe)

790 Mtoe



Total Energy demand under Moderate Scenario (in Mtoe)

747.8 Mtoe



Total Energy demand under Ambitious Scenario (in Mtoe)

Mandate of BEE

- Regulatory framework for energy conservation
- Develop policy and programmes
- Establishment of State Designated Agencies
- Creation of Professionals and Awareness

BEE Activities

Strengthening Institutional Capacity of Partners

- Strengthening of State Designated Agencies (SDAs)
- International Cooperation

Awareness Programs

- General Awareness
- Energy Conservation Awards
- Painting Competition



Demand Side Management

- Agriculture DSM
- Municipal DSM
- Energy Efficiency in SMEs
- Capacity Building of DISCOMs

National Mission for Enhanced Energy Efficiency (NMEEE)

- Perform, Achieve and Trade (PAT)
- Market Transformation for Energy Efficiency (MTEE)
- Framework for Energy Efficiency Economic Development (FEEED)
- Energy Efficiency Financing Platform (EEFP)

Transport Sector

- Fuel Efficiency Norms
- Plug-in Electric Vehicle (PEV)

Buildings EE

- ECBC Commercial
- ECBC Residential
- Star Labelling of Buildings

Equipment & Appliances

- Standards & Labelling
- Super Energy Efficient Programme (SEEP)

Key Highlights of EE activities

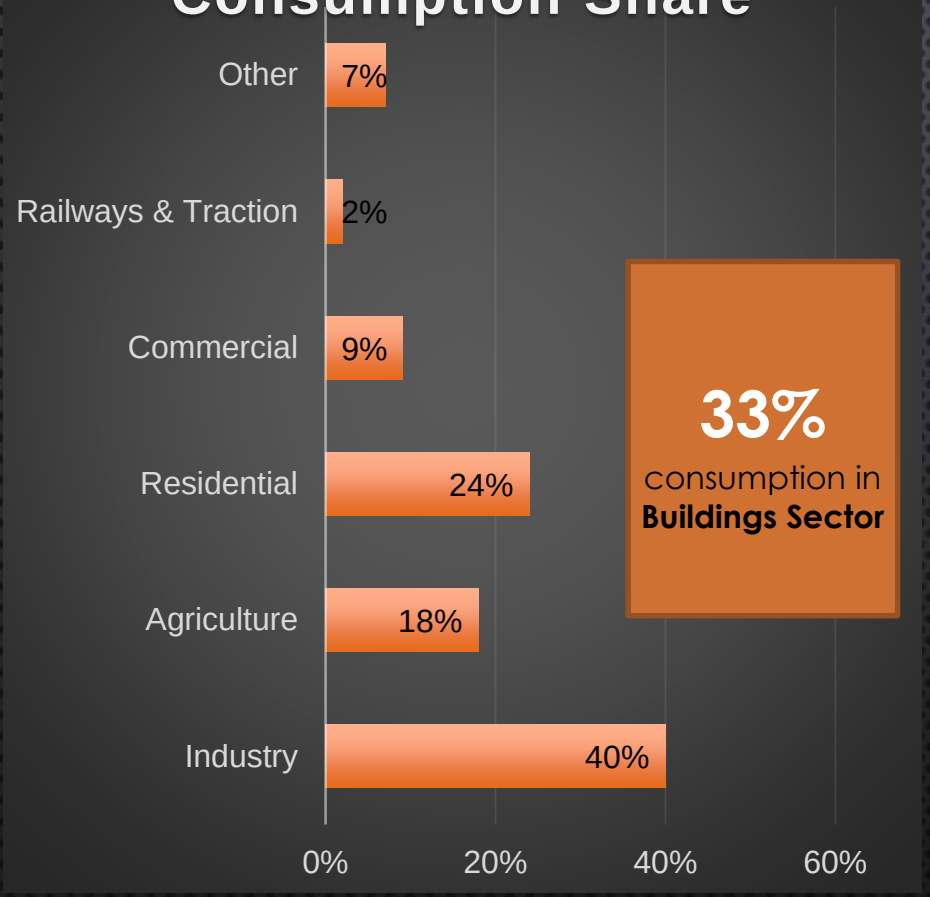
Glimpse of Energy Savings in FY 2018-19 through EE activities

Savings	Electrical	Thermal	Total
Energy	136.37 BU	12 Million Toe	**23.73 Million Toe**
Monetary (Rs)	67,039 Cr	22,083 Cr	**89,122 Cr**
CO_2 Emissions Reduction	111.83 Mt	39.81 Mt	**151.74 Mt**

- **Avoided capacity generation of 43.24 GW**
- **Total energy savings is 2.69% of total primary energy supply of the country**

Building Sector Profile

Total Electricity Consumption Share



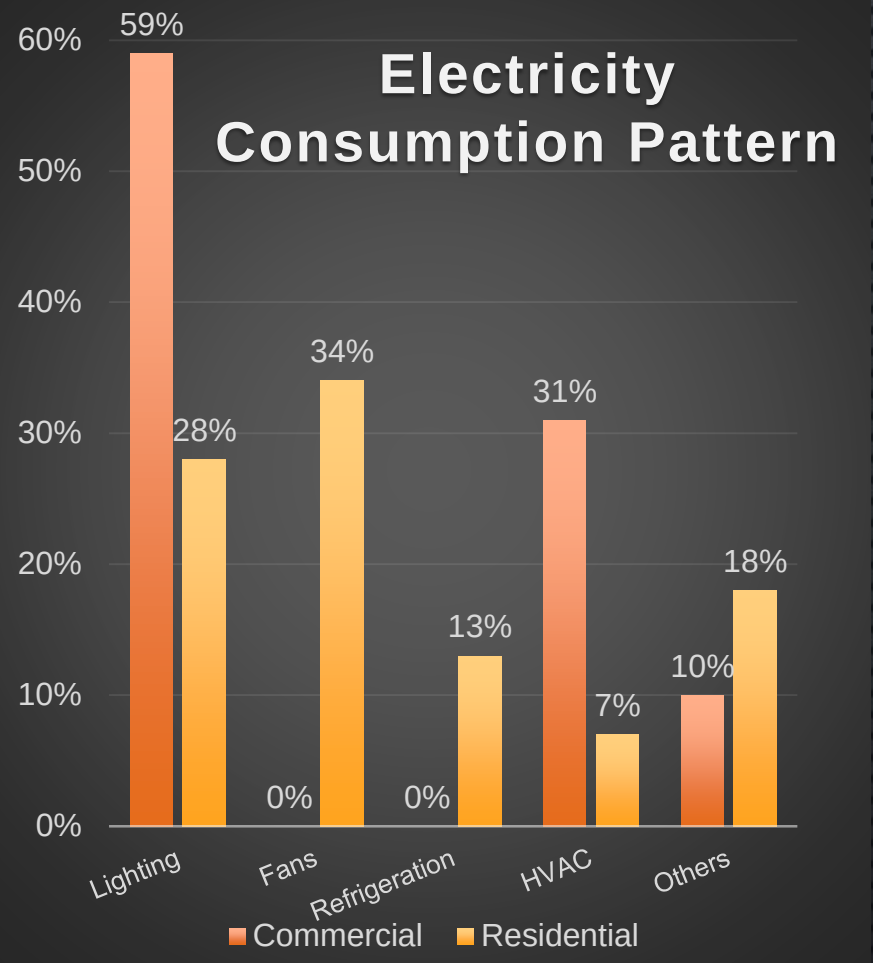
33% consumption in **Buildings Sector**

1 Billion m^2 Commercial Buildings will be added by **2030**

3 Billion m^2 Residential Buildings will be added by **2030**

Building Sector will surpass Industry by 2030

Electricity Consumption Pattern



Energy Efficiency in Building Sector

01 Energy Conservation Building Code (ECBC) for Commercial Buildings 2007

02 Star Rating of Commercial Buildings >250

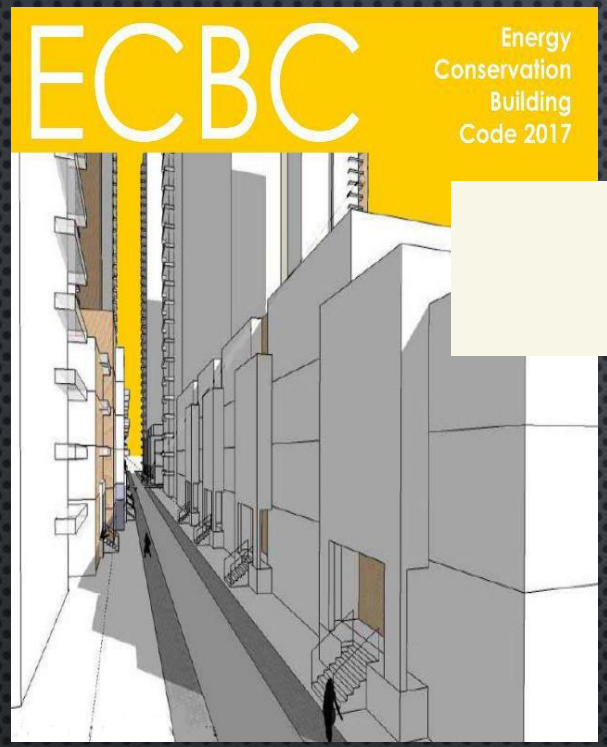
03 Support for Demonstration Projects



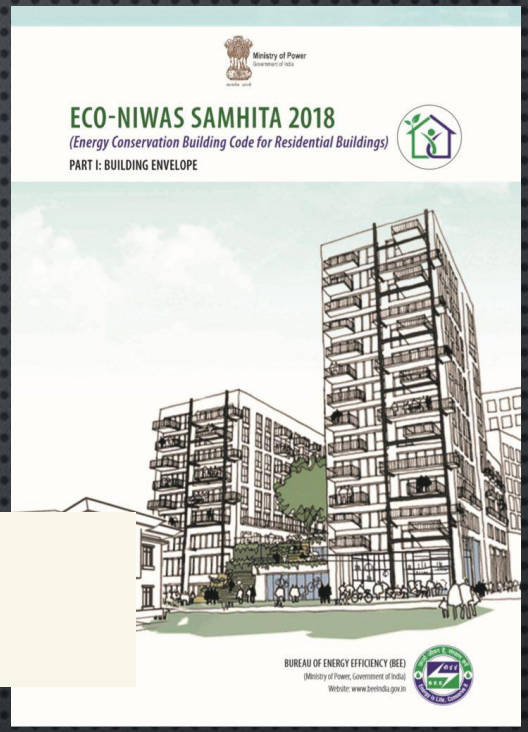
04 Eco Niwas Samhita (ENS) for Residential Buildings 2018

05 Buildings Material Directory

06 >2600 Replicable Building Design and Compliance Tool

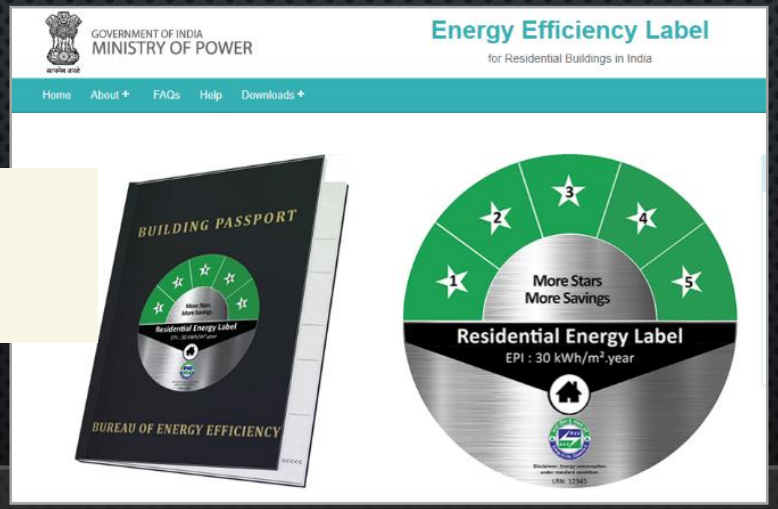


Energy Conservation Building Code

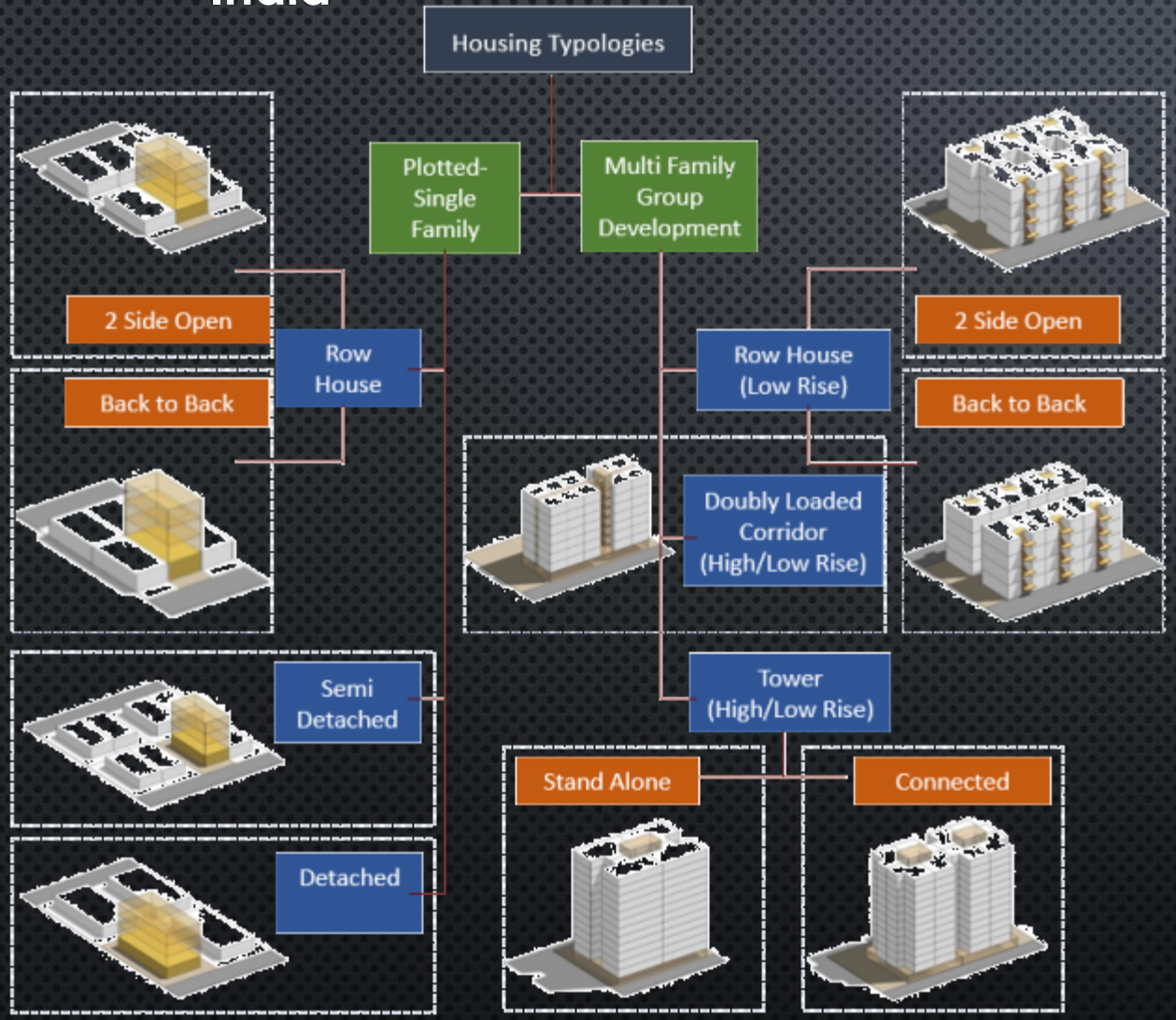


Eco Niwas Samhita

Residential Building Label



Replicable Design Catalogue for Model Residential Building Designs in India



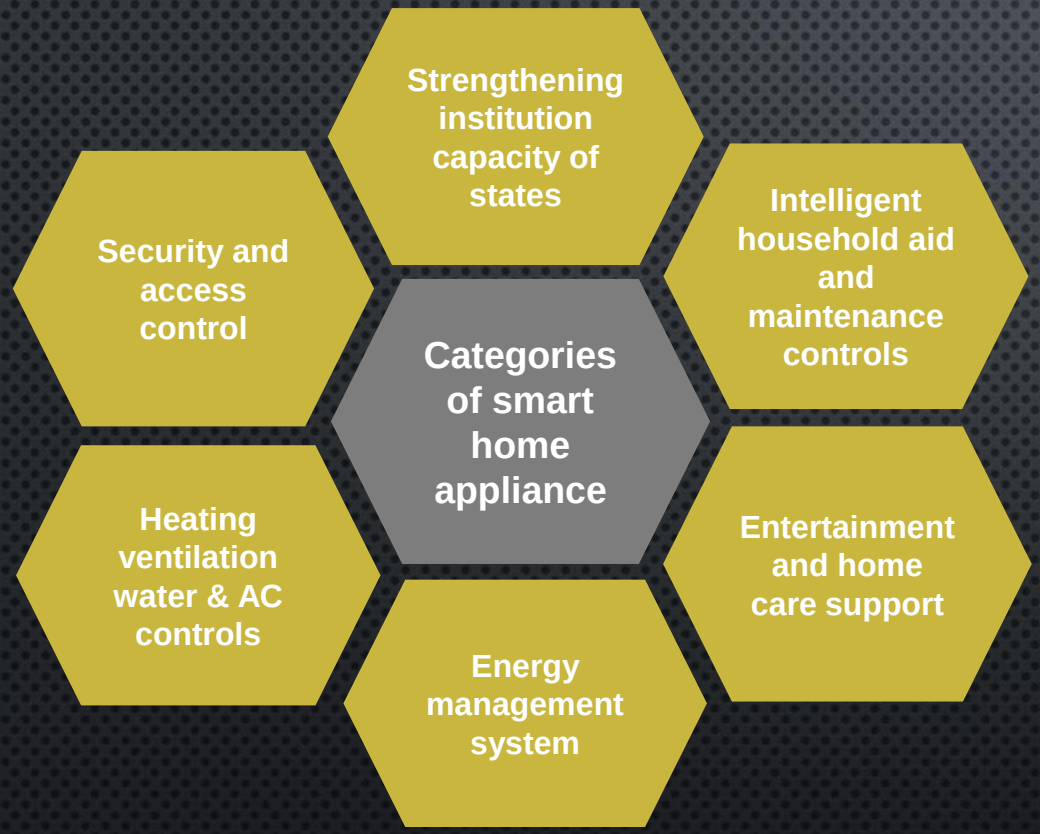
Energy Efficient Building Materials Directory of India





Smart Home Program - Technology Assessment Study and Pilot Design

Preparation of Database and Adaptive Model for Thermal Comfort of occupancy in residential buildings

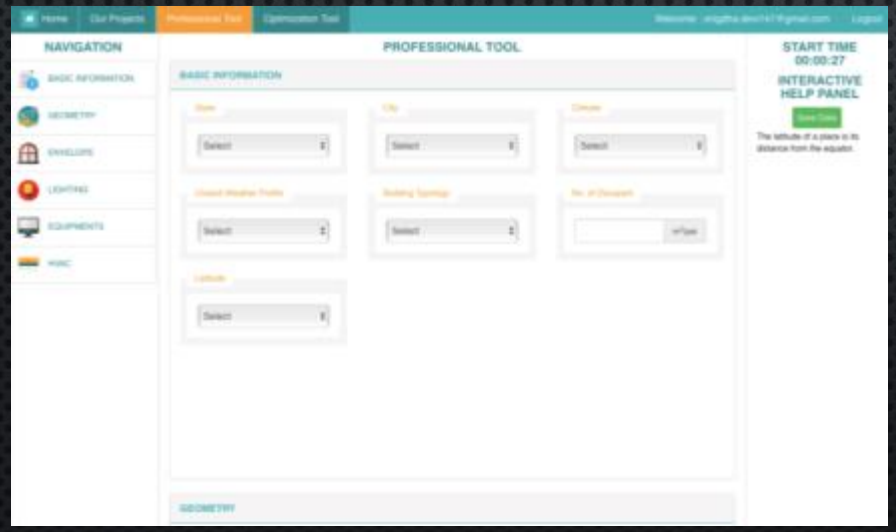




Eco Niwas Tool









THANK YOU!

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