Decarbonize Existing Buildings

Decarbonizing Buildings: India's Key Strategies

Decarbonizing buildings involves diverse approaches, from optimizing building components (envelope, structure, materials) to improving services (heating, shelter) and addressing various building types, sizes, and climate zones. The Government of India is actively working to reduce emissions in the building sector, focusing primarily on energy and material demand-side management through innovative design and technology.

National Mission for Sustainable Habitat (NMSH)

The **National Mission for Sustainable Habitat (NMSH)**, part of the **National Action Plan on Climate Change**, drives climate change mitigation and adaptation in buildings, waste management, and transportation. NMSH is implemented through four flagship programs:

- **AMRUT (Atal Mission on Rejuvenation and Urban Transformation)**
- **Swachh Bharat Mission**
- **Smart Cities Mission**
- **Urban Transport Programme**

Building-Specific Decarbonization Policies

India has introduced several policies to decarbonize buildings, including:

- **Energy Conservation Building Code (ECBC):** Sets minimum energy performance standards.
- **Building Energy Efficiency Programme:** Focuses on enhancing energy performance.
- **Star Rating System for Commercial Buildings:** Recognizes energy-efficient buildings.
- **Shunya Labelling Programme:** Promotes net-zero energy buildings.
- **Eco-Niwas Samhita:** Targets energy-efficient residential buildings.
- **Standards and Labeling Programme:** Encourages the use of efficient appliances.
- **UJALA (Affordable LEDs for All):** Distributes energy-efficient LED bulbs.
- **Pradhan Mantri Ujjwala Yojana:** Promotes clean cooking fuels.
- **PM Surya Ghar: Muft Bijli Yojana:** Boosts solar rooftop adoption in residential households.

Guidelines for Sustainable Urban Development

The **Urban and Regional Development Plan Formulation and Implementation (URDPFI)** guidelines include sustainability measures for green buildings, energy-efficient designs, eco-sensitive planning, and renewable energy use. These guidelines align with the **Energy Conservation Building Code (ECBC)** and encourage reduced greenhouse gas emissions.

The **Model Building Bye-Laws (MBBL) 2016** offers a framework for incorporating sustainable and eco-friendly practices, such as using local materials suited to geo-climatic conditions.

India's Long-Term Low Carbon Development Strategy (LT-LEDS)

India submitted its **LT-LEDS** to the **UNFCCC**, highlighting transitions to low-carbon pathways in seven key sectors. Key building-sector initiatives include:

1. Integrating adaptation measures into urban planning.
2. Enhancing energy and resource efficiency in buildings.
3. Promoting climate-responsive, resilient building designs.
4. Pursuing low-carbon municipal services, focusing on waste and water management.

Energy Efficiency Through ESCO Models

The Ministry of Power finalized guidelines for **Energy Service Companies (ESCOs)** to improve energy efficiency in existing buildings. Pilot projects are underway for large-scale ESCO deployment.

Technological and Policy Advancements

India continues to prioritize sustainable urbanization by combining technological interventions, such as green building standards, with policy reforms. These initiatives reflect the nation's commitment to reducing emissions while promoting sustainable development.

Reference

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