

# Sustainable Infrastructure Programme



With extensive and rapid urbanization, the need for sustainable infrastructure has become more pronounced than ever. The **Sustainable Infrastructure Programme** (SIP) aims at creating innovative solutions for low-environmental impact infrastructure development by facilitating and integrating the principles of smart, sustainable, and resilient buildings, inclusive cities and robust transport systems to proliferate action-oriented outcomes in the built environment.

The principal objective of SIP is to promote sustainability in the built environment by suitably addressing the challenges of rapid urbanization, and at the same time integrating sustainable practices in the areas pertaining to buildings, mobility, planning, governance, and water resources. The Programme aims at creating innovative solutions for building low-carbon resilient cities and infrastructure; thus enabling India to take the necessary steps towards achieving carbon neutrality by 2070.





*Inauguration of Model Demo Habitat at TERI Gram*



*TERI organizes EV and Clean Energy Technology Showcase during CEM-14/MI-8 Ministerial event in Goa*



*SKOCH Silver Award, under State Governance Category 2022*

## Thematic Domains

The Sustainable Infrastructure Programme comprises of the following divisions:

### Sustainable Buildings

This Division works to promote low-carbon, integrated, and low-cost solutions in the built environment by promoting resource efficiency and optimization in the design, construction, operation, maintenance, and demolition of facilities. It provides and endorses the principles of sustainability in the buildings sector with the aim of stimulating development pathways leading to increased resilience and mitigation potential.



*Launch event for Sky Modelling report and CIE Sky-type Finder Tool*



T-CAP consultation workshop in Visakhapatnam



driven decision-making platforms (T-

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Urban Living Lab Inauguration

Hosted by:

Energy and Environment Institute



Inauguration of 'Vikalp', a sustainable building materials and technologies exhibition, during the 15th GRIHA Summit

### GRIHA Council

GRIHA Council promotes and facilitates GRIHA (Green Rating for Integrated Habitat Assessment) rating for built-environment projects, which assesses the holistic environmental performance of the built environment. The functioning fundamentals are based on adapting worldwide research and technological advancements to promote sustainable habitats by optimizing resource consumption, managing waste responsibly, and reducing the overall ecological impact of habitats to the relevant nationally acceptable limits.



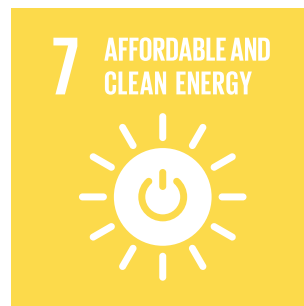
Launch of the GRIHA for Interior Spaces rating manual during the Inaugural of the 15th GRIHA Summit

### Transport and Urban Governance

The primary focus of this Division is towards creating sustainable, resilient, and smart cities by providing technical support and policy advisory across the country in planning for sustainable and smart urban development. It includes the preparation of smart city proposals, policy briefs on mobility-related aspects, and implementing innovative approaches, such as urban living labs.



The Sustainable Infrastructure Programme demonstrates an interconnectedness of transport, water security, urban governance, and buildings with broader sustainable objectives: highlighting the need for integrated approaches and in turn addressing sustainable development goals such as SDG3, SDG6, SDG7, SDG9, SDG11, SDG12, SDG13, and SDG15.



*Mr Sanjay Seth, Vice President and Chief Executive Officer, GRIHA Council and Senior Director, TERI at COP28*

### Water Resources

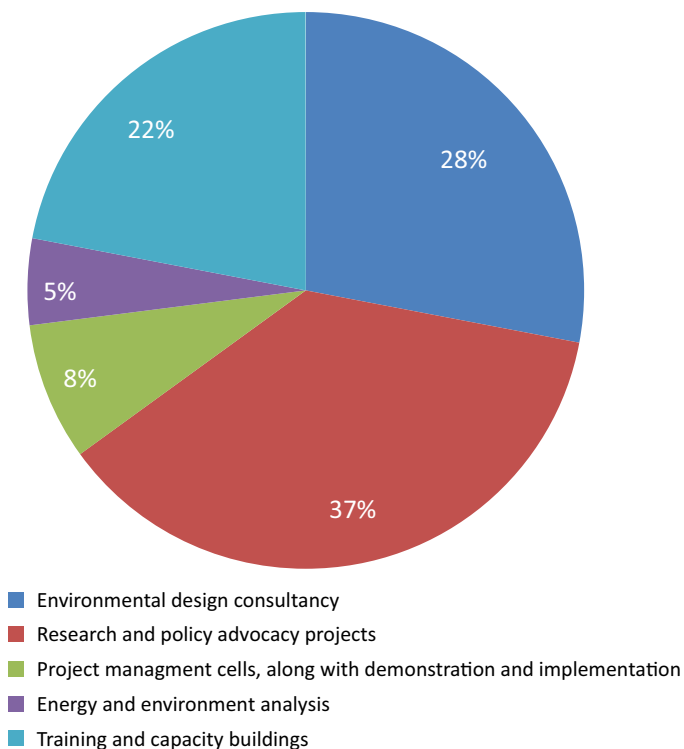
This Division provides services in the quantitative and qualitative assessment of water resources, water audit and water foot-printing, watershed management, urban water demand management, groundwater management, glacier research, hydrological assessments, rural water supply and sanitation sector, water quality and pollution studies, wastewater treatment recycle and reuse strategies, and policy analysis. The Division functions under two areas—**Water Resources and Policy Management** and **Centre for Himalayan Ecology**.

### Our Expertise and Impact

SIP works in collaboration with various stakeholders, including national and international governments, bilateral and multilateral agencies, foundations, research institutes, corporates, NGOs, civil society, academia, and practitioners. There are associations with various government bodies in different capacities, to provide handholding support towards achieving improved efficiency, effective decision making, and implementation of projects and initiatives, and climate-sensitive city development.



The Sustainable Buildings, Transport and Urban Governance, and Water Resources divisions have executed 65+ projects across India, the nature of which can be bifurcated as shown in the following graph:



The **Sustainable Buildings** Division has conducted energy audit of more than **300 commercial buildings**, preventing upwards of 80,000 metric tonnes of carbon dioxide equivalent

from being released into the atmosphere. Their report on **Water Sustainability Assessment of Chennai and Gurugram** has identified the potential risks of the existing water infrastructure of the cities and supported local authorities in making decisions for augmenting their infrastructure for the year 2025.

The **Transport and Urban Governance** Division worked on projects like the **'Rail Freight Study'**, the policy inputs from which have been incorporated by the Indian Railways in their vision document. The 'Urban Freight Study' for SMLG-Coca Cola, helped in deploying 200 electric vehicles (EVs) for the beverage giant in Lucknow. The Division has also worked on creating an **E-Certificate course on, Mainstreaming Urban Climate Action'** which helped mainstreaming climate-oriented topics for 300 city and state officials across the country, along with sector experts and other urban practitioners. The **Urban Living Lab's** projects in Goa, Visakhapatnam, Coimbatore, and Shimla continue to promote best international practices and concepts in the Indian context.

**GRIHA Council's** major work verticals can be broadly categorized as ratings and certifications; technical development and publications; training and outreach; and business development. GRIHA Council publishes an annual magazine **Shashwat - Let Nature Be**, (online ISSN number: ISSN - 2581-9291) on various themes of sustainability. Recently, MoUs have been signed with Life Insurance Corporation of India, Bhopal Smart City Development Corporation Limited (BSCDCL), and 2000-Watts-Smart-Cities Association, to name a few, with the intent of promoting sustainable habitats. The impact summary of the activities of GRIHA Council is illustrated below:



**4100+**  
registered projects



**5,25,02,869, sqm.**  
BUA footprint



**2,97,38,818 MWH** of  
energy savings



**10,36,11,250 kL/annum**  
water savings



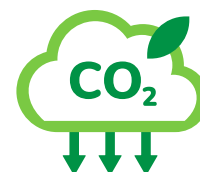
**533 MWp**  
RE systems installed



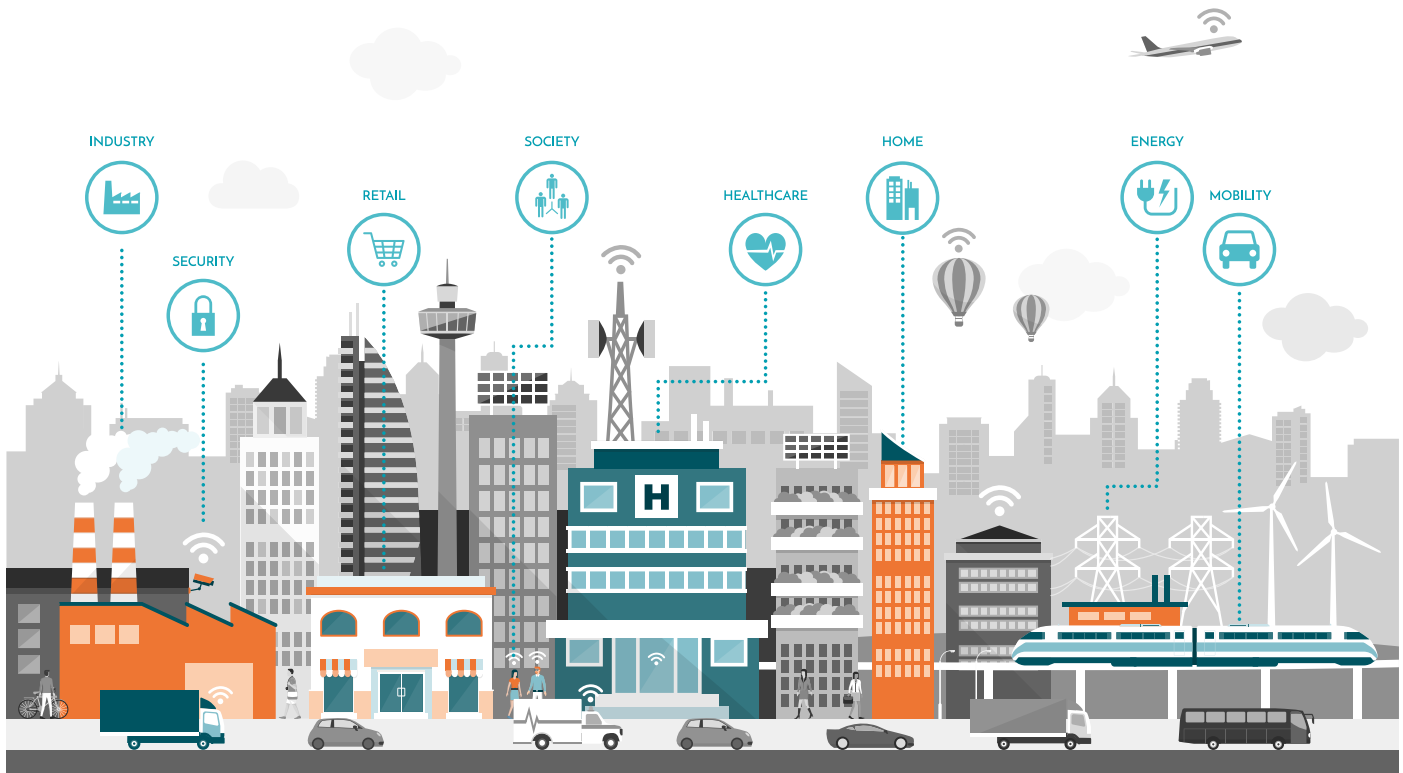
**2,66,770** newly  
planted trees



**28,000+**  
preserved trees



**83,93,046 tons** of CO<sub>2</sub>e  
emission averted



The **Water Resources** Division has driven transformative change through projects that led to **water conservation of 19,51,475 kL/annum** by rejuvenating ponds, as key resource centre for Jal Jeevan Mission, building the capacity of stakeholders.

## Awards and Recognitions

- Sustainable Buildings' project '**Demonstration of geothermal based heating and cooling system integrated with solar power**' received the **SKOCH Silver medal** under the State Governance Category 2022.
- The report on the circular built environment, titled '*Highlights from Asia: Policies, Case Studies & UN2030 Agenda Indicators*', was launched at COP26 in 2021.
- Another notable project undertaken was mainstreaming '**Passive Solar Heated Buildings in Ladakh**', by providing

guidance to the administration on incorporating passive design measures into energy conservation building codes and drafting building bylaws for the region.

- GRIHA Council has received recognition as India's indigenous green building rating system in the NDC document submitted at COP21 in Paris. The report shared by India to UNFCCC in their third biennial update report of 2021 has acknowledged the work done by GRIHA Council in the field of **carbon mitigation** in the building sector.
- GRIHA Council was awarded the '**Best National Brand of the Year**' under the Solutions Category at the 6th edition of the **Global Smart Build Summit and Award**. The award recognizes GRIHA Council's contribution in advancing sustainable building practices in built environment through its ratings and certifications, awareness programmes, and capacity building trainings for diverse stakeholders.

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