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नवीन एवं
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MINISTRY OF
NEW AND
RENEWABLE ENERGY

सत्यमेव जयते

Renewable Energy Akshay Urja

CLIMATE FINANCE: THE CYNOSURE OF THE WORLD

India Hosts RD20

16th GRIHA Summit
Accelerating Climate Action in the Built Environment

Launch of GRIHA Council's Annual Magazine - Shashwat: Let Nature Be - during the inaugural session of the 16th GRIHA Summit

Background

Conforming to the globally shared vision of 2070, India took a monumental step towards furthering the sustainable energy transition by introducing the five nectar elements, Panchamrit, at UNFCCC COP26 in 2021. With the target to reach 500 GW non-fossil energy capacity by 2030 and become a net-zero nation by 2070, India launched various missions and programmes including the *National Action Plan on Climate Change (NAPCC), National Solar Mission, National Mission for a Green India, National Mission for Enhanced Energy Efficiency, National Mission on Sustainable Habitat, and Mission LiFE (Lifestyle for Environment).*

In 2023, the vision of *Viksit Bharat@2047* presented a roadmap to accelerate the development of a green nation, thereby contributing to the larger goal of net zero by 2070. Initiatives such as *National Green Hydrogen Mission, PM KUSUM, Pradhan Mantri Suryodaya Yojana, PM-Surya Ghar: Muft Bijli Yojana,* and the development of the *Long-term Low Carbon Development Strategy* are some of the programmes/schemes undertaken by the Government of India, to transform the nation's energy infrastructure landscape which is propelled largely by renewable sources. These initiatives address the challenge

from both top-down and bottom-up perspectives, enabling the role of every stakeholder at all levels in sustainable energy transition.

With the bulk of infrastructure yet to be built, there will be significant reliance on renewables due to the growing energy demand in India. For instance, the Government of India's flagship programme – the Pradhan Mantri Awas Yojna – Urban (PMAY-U) 2.0, 'Housing for All', aims at providing all-weather pucca houses to 1 crore eligible beneficiaries in the urban areas. This offers a great opportunity to boost the uptake and integration of renewable energy sources in these households.

16th GRIHA Summit 2024

Contributing to the Government of India's vision towards 2070 and the shared goal of decarbonizing the construction and building sector by 2050, the GRIHA Council has been actively working towards the sustainable transformation of the construction and building sector. GRIHA was jointly established by The Energy and Resources Institute (TERI) and the Ministry of New and Renewable Energy (MNRE), Government of India, to advance the development of sustainable habitats in the Indian subcontinent. India, in its Nationally Determined Contributions NDC) document submitted at COP 21 in Paris has highlighted GRIHA as an indigenous green building rating system. In its third biennial report submitted to the United Nations Framework Convention on Climate Change (UNFCCC), India has acknowledged the work done by GRIHA in the field of carbon mitigation in the building sector.

Since its inception in 2007, the GRIHA Council has been advancing sustainable infrastructure development through administering GRIHA ratings and certifications, conducting capacity-building training, outreach and awareness programmes, stakeholder engagement programmes and encouraging the adoption of green building products and materials. Along with its ratings developed for diverse building typologies, the GRIHA Council launched the *Decarbonizing Habitat Programme* to assist businesses, industries, or organizations in evaluating and reducing their carbon footprint across six parameters - Energy, Water, Waste, Transport, Social, and Lifestyle. Going by the old adage *'what gets measured, gets managed',* GRIHA attempts to quantify aspects such as energy consumption, waste generation, and renewable energy adoption to manage, control, and reduce the same to the best possible extent.

Shri. Abhay Bakre, Mission Director, National Green Hydrogen Mission, Ministry of New & Renewable Energy (MNRE), Government of India addressing the gathering at the Inaugural Session of 16th GRIHA Summit.

As part of its stakeholder engagement programme, the GRIHA Council hosts annual summits and regional conclaves, bringing together national and international stakeholders, such as government agencies, business executives, academic institutions, and building professionals, to deliberate on climate resilience and enable sustainable development in the built environment. Aligning with India's larger goal of ***Viksit Bharat @2047,*** which includes social progress, economic prosperity, environmental sustainability, and good governance, GRIHA Council hosted the ***16th GRIHA Summit*** centered around the theme ***'Accelerating Climate Action in the Built Environment'*** during 4th and 5th December in New Delhi.

The Summit encapsulated various facets of sustainable development and climate mitigation such as community-based adaptation, policy advocacy, sustainable building materials, biophilic architectural designs, cool roofs, the role of stakeholders, green incentives, retrofitting etc. A plenary session – **Decoding the Future Energy Transition** – was organized aligning with India's 2070 climate goals. The session was aimed at understanding the challenges such as efficient energy storage, grid reliability, societal awareness, energy security, technological advancements in the industries, redesigning habitable spaces, economic feasibility and market dynamics, and policy and regulatory frameworks. The session underscored the critical imperative for collaboration across sectors, the role of smart grids, enabling policies, and strategic investments to ensure a sustainable and

Dr. Arun Tripathi, Scientist G, Ministry of New and Renewable Energy (MNRE), Government of India addressing the gathering at the technical session titled 'Innovative Strategies for Sustainable Construction: Scaling Up Building-Integrated Photovoltaics (BIPV) Applications in India' conducted under 16th GRIHA Summit.

inclusive energy transition. The panel also highlighted the need for gender justice in the energy sector, socio-economic considerations and energy governance for a just and scalable transition.

Another technical session was organized on **'Innovative Strategies for Sustainable Construction: Scaling Up Building-Integrated Photovoltaics (BIPV) Applications in India'** by the GRIHA Council in association with TERI. The event, which was supported by Ornate Solar and organized under GIZ India's dPP initiative, brought together developers, architects, and government representatives to discuss the prospects and problems of growing BIPV technology.

The launch of the **New and Innovative Solar Applications (NISA) programme** with GIZ and MNRE, Government of India, marks a significant step towards unlocking India's potential in BIPV. It has the potential to contribute to the regulatory, technical, and application-related prerequisites for reducing the land demand for solar PV technology. Extending the dual functionality of structural integrity and renewable energy generation, it offers an efficient, land-neutral solution, replacing conventional materials. Retrofitting existing buildings and integrating BIPV into new construction can enhance sustainability and energy efficiency through innovative, design-driven energy solutions, enabling India to reach its net-zero target.

GRIHA rating variants have actively promoted the deployment of renewable energy across all its projects. Over time it intends to drive the adoption of BIPVs in the market through its ratings to facilitate integration into Indian building materials and technologies – whilst generating energy. The 16th GRIHA Summit reaffirmed the role of innovative solutions, like BIPV, in driving this transition and highlighted the need for continued commitment to sustainability at every level of society. As an outcome of the sessions on sustainable energy transition, it was emphasized that India's energy transition requires digitization, decarbonization, and increasing electricity's share in the primary energy mix. With respect to BIPV, mass penetration of BIPV must focus on affordable housing, public infrastructure, and inner-city developments. It was highlighted that decentralized renewable energy solutions and urban planning present significant opportunities for India to serve as a model for the global south.

India's energy transition is not just an environmental imperative but also a vast opportunity for innovation, equitable and inclusive development and green economic growth. As India accelerates, showcasing global leadership in energy transition, the GRIHA Council continues to work in tandem with the Government of India's vision. It intends to facilitate the adoption of renewable energy, improve energy efficiency, and integrate sustainability into the built environment, thereby, paving the way for a resilient future for generations to come.

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