

BUILDING A SUSTAINABLE FUTURE

As real estate construction contributes a major share to the global emission, the concept of green buildings is more than relevant in the current scenario as India is aiming to achieve net-zero by 2070. **Construction Times** explores the scenario.

The concept of green buildings is gaining importance with various segments focusing on reducing carbon emissions. Under the green initiatives in buildings various steps are being taken including efficient use of energy, water and other resources; use of renewable energy; enabling of re-use and recycling; good indoor environmental air quality; use of non-toxic, ethical and sustainable materials; consideration of the environment in design, construction and operation; consideration of the quality of life of occupants in design, construction and operation; and a design that enables adaptation to a changing environment.

RELEVANCE OF GOING GREEN

According to the World Economic Forum, buildings account for nearly 40% of global greenhouse gas emissions and 40% of raw material use. Therefore, assessing and imbibing ESG into real estate and construction is paramount to drive sustainability goals.

Anshuman Magazine, Chairman & CEO – India, South-East Asia, Middle East & Africa, CBRE, is of



the view, "Currently, green buildings are receiving a lot of attention as businesses understand that they can only move ahead with this critical component. As a result, companies are increasingly deciding to develop strategies that account for these factors to

give the coming generations a sustainable and green future."

Green buildings, with their sustainable design, construction, and operations, reduce carbon emissions, energy consumption, and waste generation; conserve water; prioritize the use of safer materials; and lower human exposure to toxins.

India's real estate sector is one of the fastest growing in the world, and meeting the country's simultaneous goals of climate action and socioeconomic development underlines the need for investing substantially in green buildings.

BEING RESPONSIBLE TO ENVIRONMENT

In order to establish ecological harmony, both the developers' community and customers alike should join hands where demand for commercial and residential spaces meet the highest standards of sustainability. "To make this a reality, builders irrespective of scale and presence, should make rain water harvesting system, STP and solar panels among others a must have in their offerings. The onus should not just lie on established national players as it requires the entire community of developers and customers from around the world to bring about a change that is significant and consistent for a lasting effect." PK Mishra, VP - Planning and Procurement, SATTVA Group, says.





Investment in green spaces is of paramount importance today.

PK MISHRA

VP - Planning and Procurement, SATTVA Group

What is your view on the concept of green building and its relevance in India?

With India's global promise of achieving net zero carbon emissions by 2070, the real estate sector is the linchpin of these commitments, of which can drive the country closer to the target. Construction of buildings accounts for a major stake in greenhouse emissions. According to the 2020 Global Status Report for Buildings and Construction, the real estate sector is responsible for 38 per cent of global emissions. Hence, it is only about time that India sees a paradigm shift in the way construction is done and green buildings are the way to go about it. This will have a favourable long-term effect on the ecosystem as these are environmentally-conscious constructions that consume less water, energy, and natural resources. These structures considerably reduce the harmful effects on the environment, by providing comparable advantages to traditional structures, while enhancing human health and well-being.

Which are the major factors that will promote the vision of green/sustainable buildings?

Over the years, climate change-induced ecological imbalance has taken a toll on our natural habitat, which has time and again found its place at the epicenter of change. In the middle of it, construction finds itself as one of the significant contributors that leaves an adverse effect on the environment.

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Narrowing it down to the Indian sub-continent, the need of the hour is adopting green technology right from raw materials to construction technology, design and architecture. Leading real estate players have already started this process through their world-class commercial structures and residential spaces.

Some of the notable sustainable practices include:

ETFE roofing - An industrial-strength construction plastic framework used for exterior cladding: ETFE is strong, lightweight, applied in layers that are welded together around the edges and held by a metal framework. The insulating qualities of ETFE cushions can also be enhanced by adding more layers of foil (up to five in total) or by treating foil with specific coatings to enhance the thermal properties.

Low E - Low-E or low-emissivity glass has been developed to reduce the amount of infrared and ultraviolet light passing into your window, without reducing the amount of light entering the building. The Low-E coatings keep the temperature in the building steady, by reflecting the interior temperatures back inside.

Ceramic-based Clay tiles: These clay-based products can be molded into virtually any shape and treated with innumerable varieties of colored glazes. They are fired at a higher temperature to form a glass substrate with a higher density, strength, hardness, chemical and frost resistance, and greater dimensional stability. There are various types of ceramics like terracotta, faience, and fireclay among others that are used during construction.

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GRC Jalli is a construction material that is used to form exterior cladding panels. GRC consists of high-strength, alkali-resistant glass fibers, embedded in a concrete matrix.

Given the high cost involved in completely going green, certain players refrained from entering this domain, which is gradually changing for the good, as they have come to realise the long term benefits. As customers have also become conscious of the choices they make, which is only growing every passing day, implementing and executing sustainability at every step is becoming more a norm than just a need.

How is the Indian real estate industry responding to green buildings?

The global and Indian real estate sector has zeroed in on sustainable architecture and green buildings. A recent report in The Hindu says, "According to a CBRE South Asia report, India has witnessed a 31% increase in green real estate assets across the top six cities — NCR, Mumbai, Pune, Hyderabad, Bengaluru, and Chennai — in the last decade. These buildings can save up to 30% of energy and 50% of water."

This percentage is directly proportional to how sustainability-conscious the people of India are and whether or not they are ready to adapt to this change. Even though the number might look small, but it is undoubtedly the beginning of an upward trajectory of the acceptance of green buildings. As far back as 2016, India was ranked third on the list of top 10 countries for Leadership in Energy and Environmental Design (LEED) with more than 650 green building projects in the country at the time. The post-COVID period has witnessed an even greater push towards sustainability and it is only gaining momentum.

There are various certifying agencies in India like, Leadership in Energy and Environmental Design (LEED), Green Rating for Integrated Habitat Assessment (GRIHA), and Indian Green Building Council (IGBC) that have been doing tireless work in assuring a green future.

How is the company promoting the concept of green buildings in its projects?

Sattva Group's flagship IT TECH PARK KNOWLEDGE CITY in Hyderabad has been rated in accordance with CII's IGBC rating system. The company has established itself

materials, innovative architecture making space for good ventilation and natural lighting, smart water management by using efficient fixtures, water cooled chillers by using recycled water, producing compost from food waste using for landscaping, EV supported infrastructure etc. IGBC rating system takes into account each of these factors. As a responsible real estate company, we take into account and widely inculcate all these into our buildings.

What is your view on the challenges in green buildings space? What are the major cost implications in using green materials?

Investment in green spaces is of paramount importance today as climate change are extreme and natural resources have depleted to such an extent that we are now living a hand-to-mouth existence. Building green spaces is still not a top choice because of challenges like financial crunch in the economy, especially after COVID-19. The main reason is and will be however, ignorance and nonchalance of builders and people alike, towards going green. These projects are perceived to be an expensive option over traditional construction. On the other hand, builders hesitate to switch to green projects due to high cost of certification even though these buildings reap excellent financial benefits. As a country, we are still not equipped with the appropriate technology and skilled manpower to assist the cause. It's understandable that the cost of sustainable material is on the higher end of the spectrum, but we need to prioritize the environment.

What is the way forward for green projects in real estate sector?

Sustainability is a global trend that is reshaping each sector across the globe. However, green spaces are still a luxury in India which should have been treated as a priority long ago. The number though impressive still isn't enough to keep pace with the rising population of India. Green buildings are not just a God send to the environment but also its inhabitants, as it comes with an unfailing promise of a better quality of life. It's about time that real estate becomes a responsible contributor and leaves no stone unturned for the implementation of ESG. Meanwhile, national

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