Colliers | CREDAI

Sustainability in Real Estate:

Towards a Greener Skyline

April 2025

Foreword

Shekhar G Patel
President - **CREDAI**

As environmental concerns take center stage, sustainability has become the defining pillar of real estate, shaping its future across countries including India. With rapid urbanization and growing infrastructure demands, the need for responsible and resource-efficient development has never been more critical. India has set ambitious climate targets, including achieving net-zero emissions by 2070 and reducing carbon intensity to less than 45% by 2030. Real estate, being a significant contributor to carbon emissions, has the potential in advancing these goals through green building practices, usage of energy-efficient technologies, and renewable energy integration. This shift has already gained momentum in the sector, with green building adoption increasing across residential, commercial, and industrial spaces. Developers, investors, and occupiers are increasingly prioritizing sustainability through green certifications, energy-efficient construction, and ESG-driven strategies. As the sector moves towards greater adoption of environmentally responsible practices, collaboration amongst stakeholders will be pivotal in upcoming years.

The CREDAI– Colliers report "**Sustainability in Real Estate: Towards a Greener Skyline**" provides an overview of India's green real estate landscape. It highlights the impact of government incentives, regulations, and frameworks designed to encourage energy-efficient construction, renewable energy adoption, and sustainable building practices. Further, the report provides a detailed analysis on green building penetration in the Indian office market. It also provides valuable insights into the progress of green building adoption across various other real estate segments and outlines action points for embedding green practices into mainstream real estate development.

The future of real estate lies in embracing sustainability not just as a compliance measure but as a strategic imperative. Commitment to green buildings will not only mitigate environmental impact but also enhance asset value, improve operational efficiencies, and contribute to long-term economic growth. This report serves as a guide for all industry stakeholders to navigate the evolving landscape and build a greener, more sustainable future.

Foreword

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Chief Executive Officer - **Colliers India**

The dense clustering of economic activities and population within urban areas have led to substantial rise in carbon dioxide emissions, further exacerbating the disparity between current emission levels and net-zero targets. The construction, operation, and maintenance of buildings demand vast amounts of energy. Construction industry is a major contributor to global carbon emissions, accounting for nearly 40% of greenhouse gas emissions. The real estate sector stands at crossroads of transformation, where sustainability is no longer an option but a necessity. Over the last few years, India is witnessing a paradigm shift in urban development, with sustainability and green buildings emerging as cornerstones of future growth prospects.

On the supply side, from commercial offices to residential developments, industrial & logistics parks to data centers, and retail malls to hotels & hospitals - every segment is embracing energy-efficient designs, water conservation measures, and environmentally responsible construction technologies. Moreover, developers are increasingly prioritizing green certifications like LEED, GRIHA, WELL etc. in their projects. At the same time, on the demand side, regulatory guidelines, corporate ESG commitments, and evolving end-user preferences are driving the adoption of sustainable real estate practices across various asset classes.

This report highlights key sustainability trends shaping Indian real estate and delineates the challenges & opportunities that lie ahead. With green buildings being most prevalent in the Indian office market, the segment holds significant opportunities for developers and investors. Retrofitting existing buildings with sustainable elements can improve energy efficiency and prolong the lifespan of structures, making them more attractive for occupiers. Simultaneously, rising environmental consciousness amongst end-users across all real estate segments presents multiple opportunities for developers and investors to capitalize on the growing market for green buildings. As we move towards a greener future, it is essential for stakeholders including developers, occupiers, policymakers, and investors to collaborate in accelerating the transition towards a more sustainable built environment.

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India's path to ***green growth*** and development

The need for sustainable growth

The need to harmonize development with environmental responsibility has come to the forefront in recent years, particularly with countries across the globe experiencing rapid urbanization and economic expansion. The five largest CO_2 emitters—China, the United States, India, Russia, and Japan – collectively account for ~60% of global annual emissions, with India accounting for about 8% share. While India's per capita CO_2 emissions are significantly lower as compared to other major countries, in absolute terms, India is the third-largest emitter, after China and the United States.

To address global climate challenges, countries including India are making concerted efforts in reducing carbon footprint and transitioning to renewable energy usage. India has pledged to achieve net-zero emissions by 2070 and aims to reduce carbon intensity to less than 45% by 2030. These ambitious targets are intended to significantly reduce the nation's carbon footprint and foster adoption of clean technologies. Sustainable development in built environment is also crucial in meeting these targets. Over the next few years, India must prioritize sustainable development in building a resilient, low-carbon future that can accommodate growth while mitigating adverse environmental impact.

CO_2 emissions: A global comparison

Country	Rank	Annual CO_2 emissions (bn tonnes)	Share in global annual CO_2 emissions (%)	Per capita CO_2 emissions (tonnes per person)
China	1	11.90	31.50%	8.4
United States	2	4.91	13.00%	14.3
India	**3**	**3.06**	**8.10%**	**2.1**
Russia	4	1.82	4.80%	12.5
Japan	5	0.98	2.60%	8.0
Iran	6	0.82	2.20%	9.0
Saudi Arabia	7	0.74	1.95%	22.1
Indonesia	8	0.73	1.94%	2.6
Germany	9	0.59	1.58%	7.1
South Korea	10	0.57	1.53%	11.2

Source: ourworldindata.org
Note: The above data pertains to CO_2 emissions for 2023, Ranking is based on absolute annual emissions

India's CO_2 emissions increased by **4.6%** in **2024,** marking the highest annual surge globally

Source: COP 29 - Global Carbon Budget 2024

KEY STATISTICS

37.4
bn tonnes
World CO_2 emissions in 2024

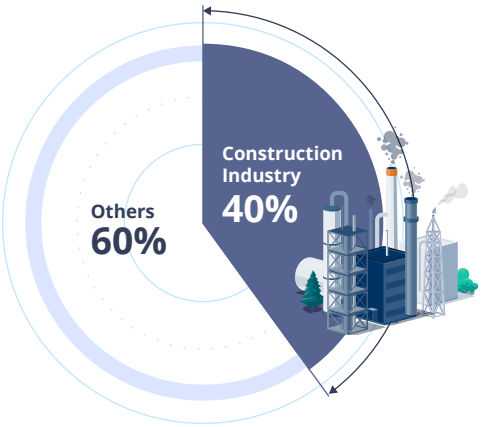
0.8%
Annual increase in global CO_2 emissions during 2024

8.1%
India's share in global CO_2 emissions in 2024

Sustainability shaping the future of built spaces

The future of India's real estate sector is set to be shaped by sustainable practices. Growing environmental awareness, stringent regulatory policies, and sustainability commitments are driving green building adoption over the last few years. The construction industry contributes about 40% of global emissions, underscoring the need for immediate action towards decarbonization. With rapid urbanization and increasing real estate demand, the sector must embrace technology and innovations throughout the project life cycle. Minimizing carbon footprint in the construction stage and strengthening of policy frameworks to incentivize green building adoption will be pivotal in sustainable real estate and urban development.

Share of construction industry in CO_2 emissions



Source: United Nations Environment Programme (UNEP)

Indian real estate is rapidly embracing sustainability across the value chain to pave way for a carbon-neutral future. Regulatory frameworks, government policies, and corporate ESG commitments are driving sustainability in Indian real estate. Despite challenges like relatively higher construction cost and low unskilled worker familiarity with technology, model construction guidelines such as Energy Conservation Building Code (ECBC) for commercial buildings and Eco-Niwas Samhita for residential buildings are accelerating green building adoption in India. Developers and occupiers are increasingly opting for sustainable, energy-efficient buildings to align with climate targets and committing to net-zero practices. Moreover, simplification of approval processes, tax benefits on renewable energy installations, and SEBI-mandated ESG disclosures are driving real estate stakeholders to adopt sustainable practices.

Green building certifications have become pivotal for promoting sustainable building practices and quantifying building performance metrics. Over the years, certifications such as Building Research Establishment Environmental Assessment Method (BREEAM), Energy Conservation Building Code (ECBC), Indian Green Building Council (IGBC), Green Rating for Integrated Habitat Assessment (GRIHA), Leadership in Energy and Environmental Design (LEED), Green Business Certification Inc. (GBCI), Global Real Estate Sustainability Benchmark (GRESB) and WELL Building Standard have gained prominence in distinguishing sustainable buildings. These certifications are driving sustainability in India's real estate sector by promoting energy efficiency, resource conservation, regulatory compliance and environmental responsibility. Moreover, broader frameworks and goals pertaining to sustainable development and net-zero emissions tend to influence corporate policies significantly. Overall, green building certifications have become a significant differentiator in Indian real estate, especially commercial real estate. Going ahead, green building certifications/standards are likely to become mandatory for all new buildings as a part of climate-action goals.

Green building adoption: Key barriers and mitigation strategies

Challenges for green building adoption

Funding constraints:
Developers face financial challenges in form of higher construction cost and limited access to funds promoting sustainability

Slower than anticipated technological breakthrough:
Availability of highly efficient materials and technology is yet to permeate in real estate construction

Information gaps:
Reliable and exhaustive data on green buildings is scarce

Training and capacity building:
Lack of skilled workforce who can effectively implement advanced technologies slows down adoption in certain real estate segments

Measures to incentivize greater green building adoption

For developers
- Fast-track environment clearance for projects
- Additional Floor Area Ratio (FAR)
- Rebate on development charges
- Reimbursement of green building certificate fee

For occupiers
- Awareness campaigns & trainings on employee wellness
- Incentives for renewable energy usage in form of power purchase agreements and renewable energy credits

For property owners
- Rebate on stamp duty, property tax etc.

Source: Colliers

Government schemes promoting sustainability in construction

SELECT GOVERNMENT SCHEMES

ENERGY CONSERVATION BUILDING CODE (ECBC)

ENERGY CONSERVATION (AMENDMENT) ACT

NATIONAL BUILDING CODE

ECO-NIWAS SAMHITA

REAL ESTATE IMPACT

Sustainability

– Prioritization of eco-friendly construction materials, renewable energy integration and resource efficiency reduces adverse environmental impact while enhancing long-term resilience

Cost savings

– Implementing energy-efficient HVAC systems, LED lighting, and high-performance insulation lowers utility bills, minimizes maintenance costs, and improves overall operational efficiency

Heightened demand

– Investors and tenants are actively seeking green-certified properties, driving occupancy rates, rental premiums, and long-term asset appreciation

Ease of doing business

– Developers and occupiers of green buildings typically benefit from tax rebates, subsidies, and expedited regulatory approvals

Better occupancy standards

– Improved indoor air quality, natural lighting, and optimization of natural resources create healthier, more comfortable, and productive environments for occupants

Future proofing cities

– Most government schemes align with evolving environmental regulations ensuring long-term compliance and risk mitigation

Property valuations

– Sustainable buildings attract leading buyers and tenants, commanding higher market valuations supported by lower operating costs over project life cycle

Supports climate goals

– Reduction in carbon footprint which optimizes energy consumption, and minimizes waste, thereby helping organizations to achieve climate targets and sustainability commitments

Source: Industry, Colliers

Select certifications in Indian market

CERTIFICATIONS	RATING LEVELS
Energy Conservation Building Code (ECBC) Developed by the Bureau of Energy Efficiency (BEE), ECBC sets minimum energy efficiency standards for commercial buildings, focusing on optimized energy use in lighting, HVAC, and electrical systems.	**ECBC Compliant, ECBC+** (Enhanced), **Super ECBC** (Highest efficiency)
Indian Green Building Council (IGBC) Evaluates buildings on sustainability, water conservation, energy efficiency, material usage, and indoor air quality. It aligns with global green standards to encourage eco-friendly construction.	**Certified, Silver, Gold, Platinum**
Green Rating for Integrated Habitat Assessment (GRIHA) Supported by the Ministry of New and Renewable Energy (MNRE), GRIHA assesses projects based on energy performance, waste management, water efficiency, and occupant well-being to minimize environmental impact.	**1 to 5 Stars** (higher stars indicate greater sustainability)
WELL Building Standard WELL certification, developed by the International WELL Building Institute (IWBI) focuses on health, well-being, and human experience in buildings. It evaluates factors such as air quality, water, nourishment, light, fitness, comfort, and mental well-being to create healthier indoor environments.	**Owner Occupied Projects*:** Bronze, Silver, Gold, Platinum **WELL CORE Projects**:** Bronze, Silver, Gold, Platinum
Global Real Estate Sustainability Benchmark (GRESB) GRESB is an ESG-focused assessment for real estate and infrastructure projects, measuring sustainability performance, energy efficiency, carbon emissions, governance, and stakeholder engagement. It helps investors evaluate the ESG impact of their portfolios.	**1 to 5 Stars** (higher stars indicate greater sustainability)

Source: Industry, Colliers
**Owner-occupied: The project is mainly occupied by the project owner (which may be different than the building owner)*
***WELL Core: The project owner occupies a small portion of the project area and rents/leases most of the space to one or more tenants*

Green buildings: Gaining prominence in real estate

Driven by various advantages, favorable government policies and increased focus on sustainability, green building adoption in India is on the rise across various real estate asset classes such as residential, commercial, industrial & warehouses, data centers etc. In the commercial real estate segment, corporate ESG compliance and CSR initiatives are driving the demand for green buildings in India. Occupiers are increasingly preferring to take up space in green-certified buildings such as Leadership in Energy and Environmental Design (LEED), and Green Rating for Integrated Habitat Assessment (GRIHA) certified buildings. In the residential sector too, homebuyers are increasingly seeking homes which advocate the usage of sustainable practices. Sustainable homes typically offer homebuyers tangible benefits in the form of lower utility bills, better air quality, and healthier living environment. Rainwater harvesting and recycling of waste including sewage treatment plants have already become established practices in gated communities across major cities of the country. Similarly, green penetration has also started picking pace in other asset classes such as data centres, retail and hospitality segments.

Green-certified buildings on the rise

Green-certified projects

Benefits of green buildings

64.3
bn units
of energy savings per annum

51.4
mn tonnes
of CO_2 emission reduction per annum

198
bn litres
of water savings per annum

2.5
mn tonnes
of construction waste diverted from landfills every year

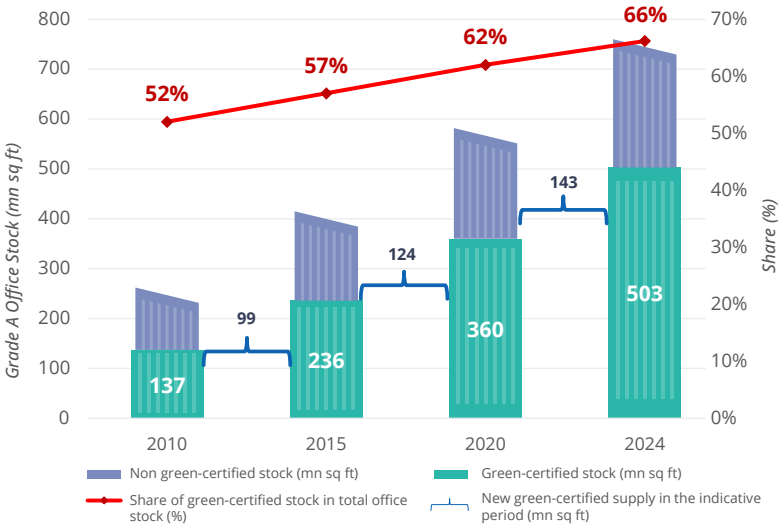
Source: IGBC, Industry, Colliers

India office market: Green building footprint

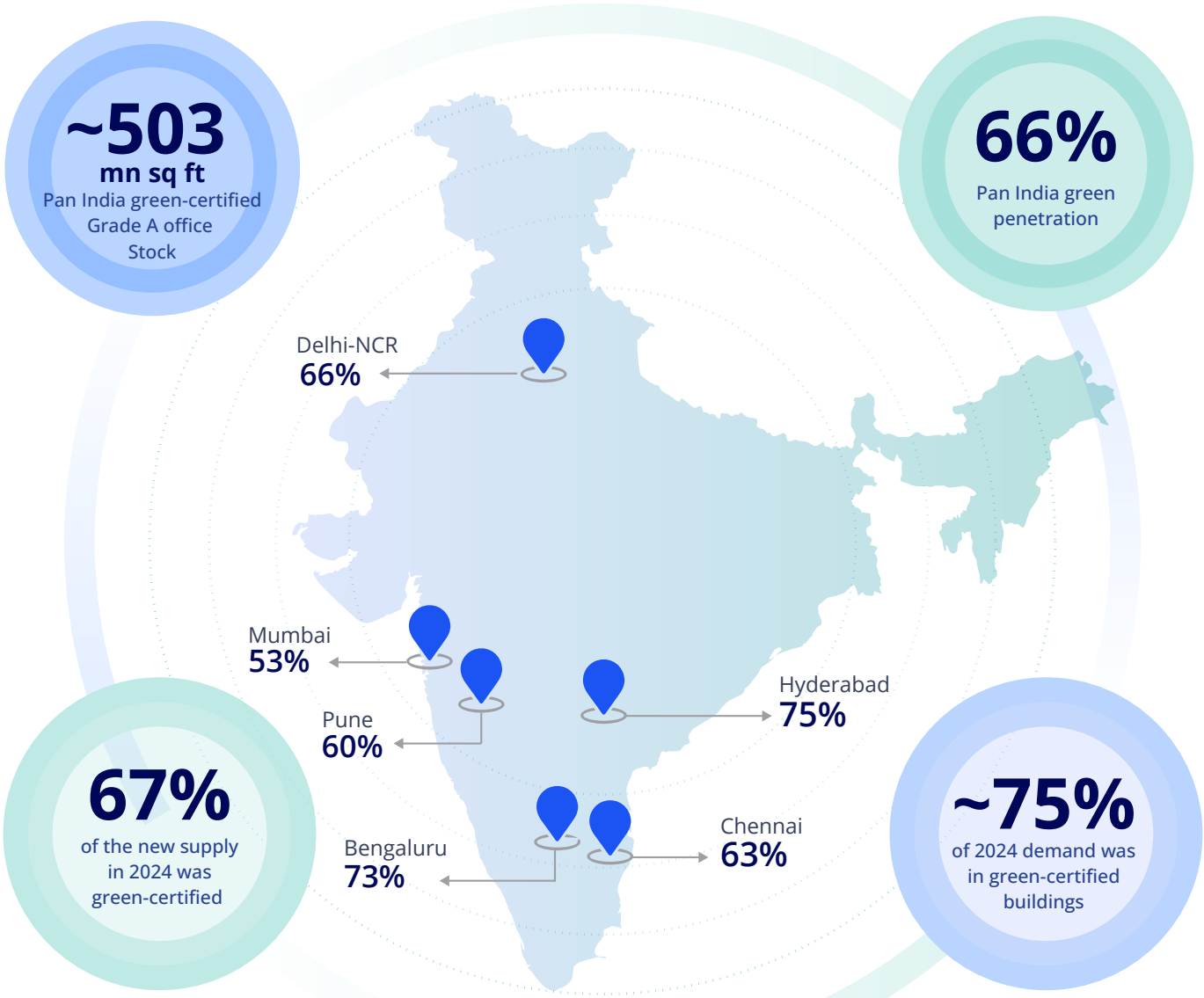
About two-thirds of Grade A office stock is green-certified

Over the last few years, especially post COVID 19, there has been a rise in green-certified office stock. As of 2024, 66% of India's Grade A office stock was green-certified, marking a steady rise from a 52% share in 2010. Over the last 5 years (2020-2024) about 80% of the new Grade A office supply has been green-certified, reinstating developers growing commitment to sustainability. In terms of green penetration which is indicated by the share of green-certified buildings in the total Grade A office stock in each city, Hyderabad leads other major cities with a penetration rate of 75% in 2024.

Rise in green-certified stock (2010-2024)



Green penetration in India office market (2024)

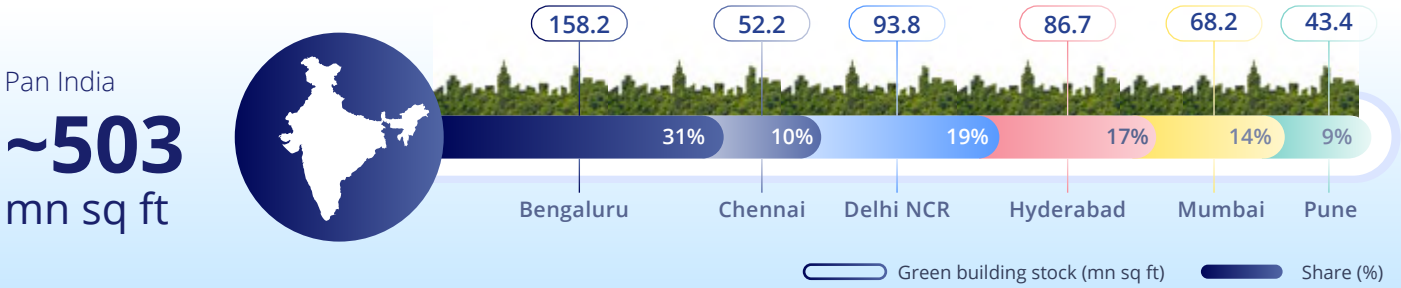


Source: Colliers
Note: Green penetration refers to the share of green-certified buildings in the total Grade A office stock in each city

As of 2024, the total green stock in India's office market accounts for nearly **503 mn sq ft**. Of this Grade A green-certified office stock in the country, 31% is concentrated in Bengaluru, followed by Delhi NCR and Hyderabad at 19% and 17% respectively.

LEED remains the most preferred green certification in India. However, occupiers are likely to increasingly explore other certifications such as GRIHA, WELL etc. Going forward, green adoption in commercial real estate is anticipated to become a "***Hygiene Factor***", reinforcing India's commitment to a sustainable built environment.

City wise green-certified Grade A office stock (2024)



LEED certification most preferred among developers in office market

~60%

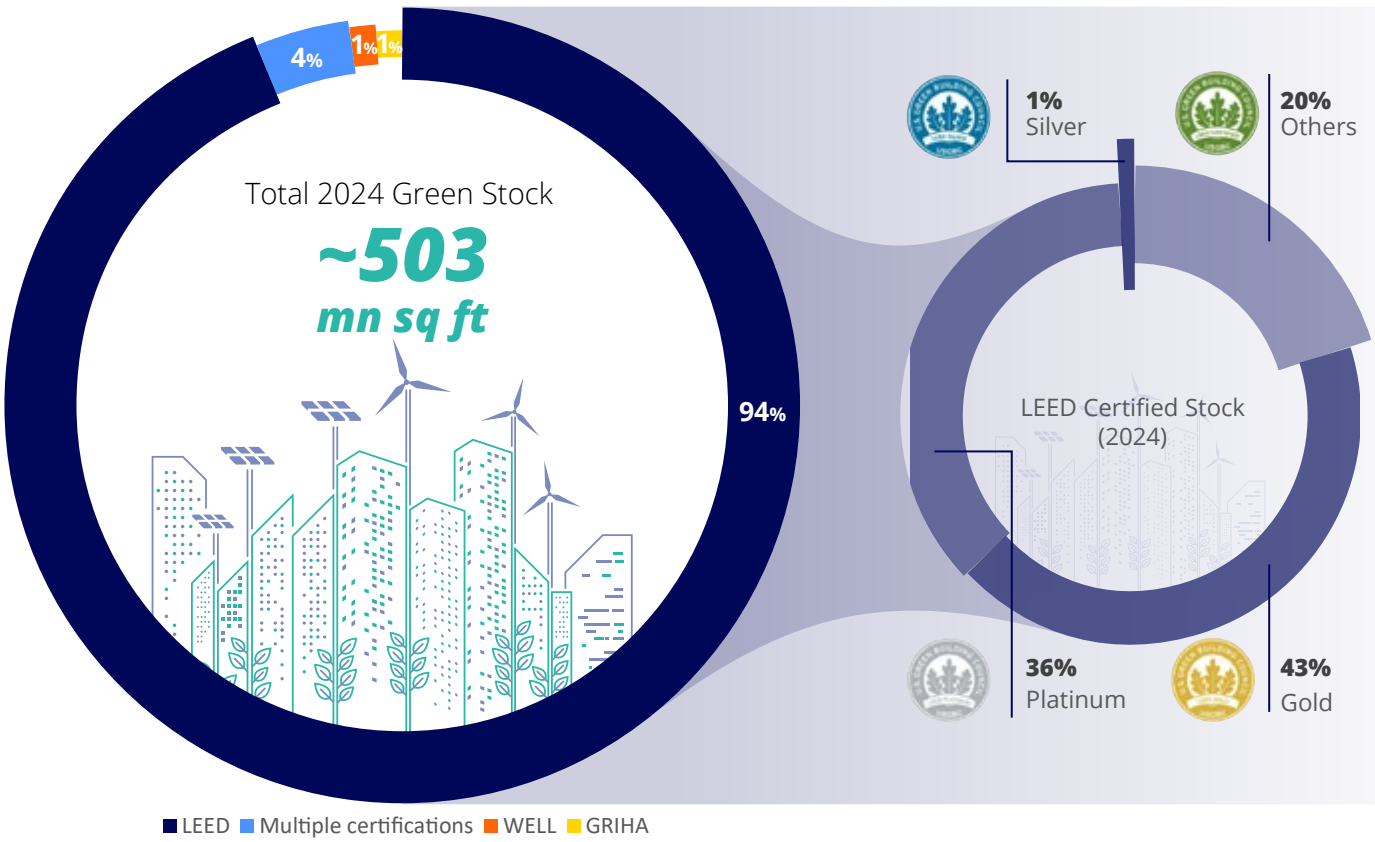
of the total LEED certified stock has come over last 10 years (2015-2024)

95%

of the new supply in last 5 years (2020-2024) was LEED certified

2X

WELL certified office stock has doubled since 2009



Source: Colliers
Note: Data Pertains to Grade A office buildings only | Top 6 cities include Bengaluru, Chennai, Delhi-NCR, Hyderabad, Mumbai, and Pune | IGBC certifications included under LEED certifications

~75% of leasing in 2024 were in green buildings

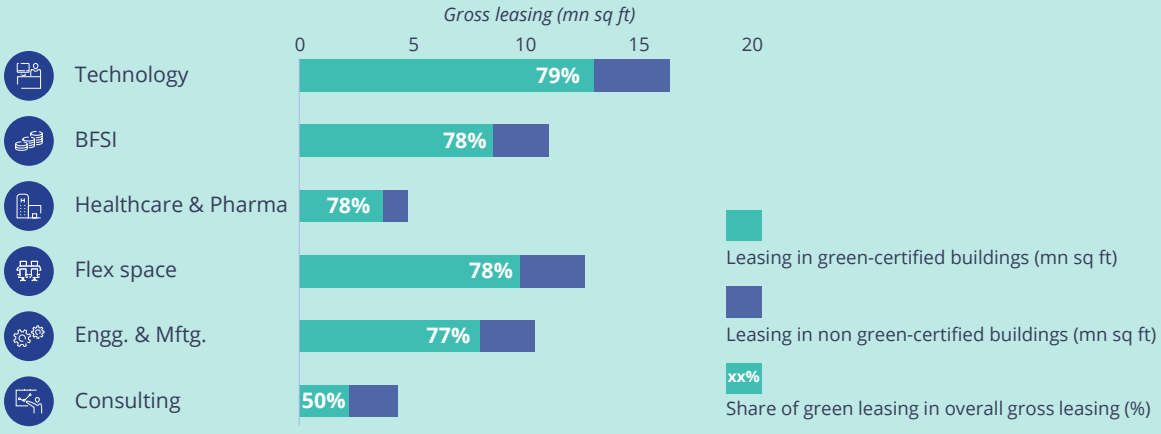
Over the past few years, corporates have been increasingly opting for office spaces that align with global sustainability standards with respect to energy efficiency, carbon emissions, and employee well-being. This shift is driving growing preference for green-certified workplaces.

About 75% of Grade A office space uptake across the top six cities in 2024 took place in green-certified buildings, with Delhi-NCR and Pune faring better as compared to other major markets. Overall, at almost 50 mn sq ft, leasing volumes in green-certified buildings surged annually by 20% in 2024.

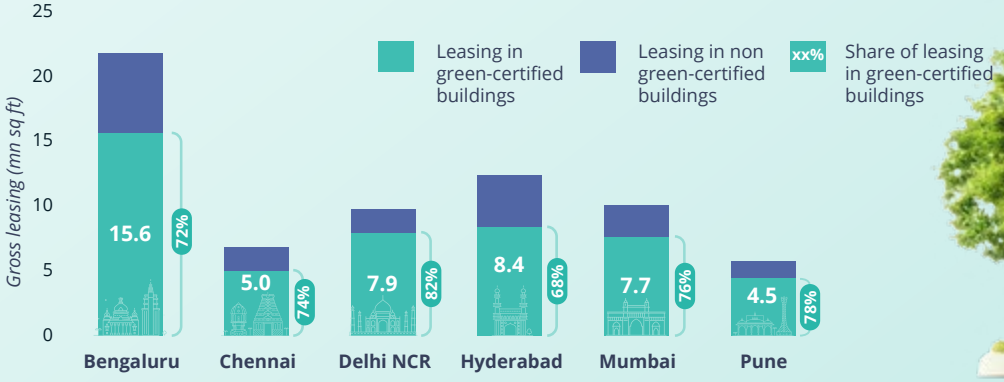
Occupiers across sectors are stepping up green adoption, with technology and engineering & manufacturing firms leading the trend. Looking ahead, 80-85% of overall office space demand in 2025 is expected to come from green-certified spaces, underscoring the continued shift towards sustainable real estate development.

Leasing trend in green-certified buildings (2023–2025F)

Sector wise leasing trend in green-certified buildings (2024)

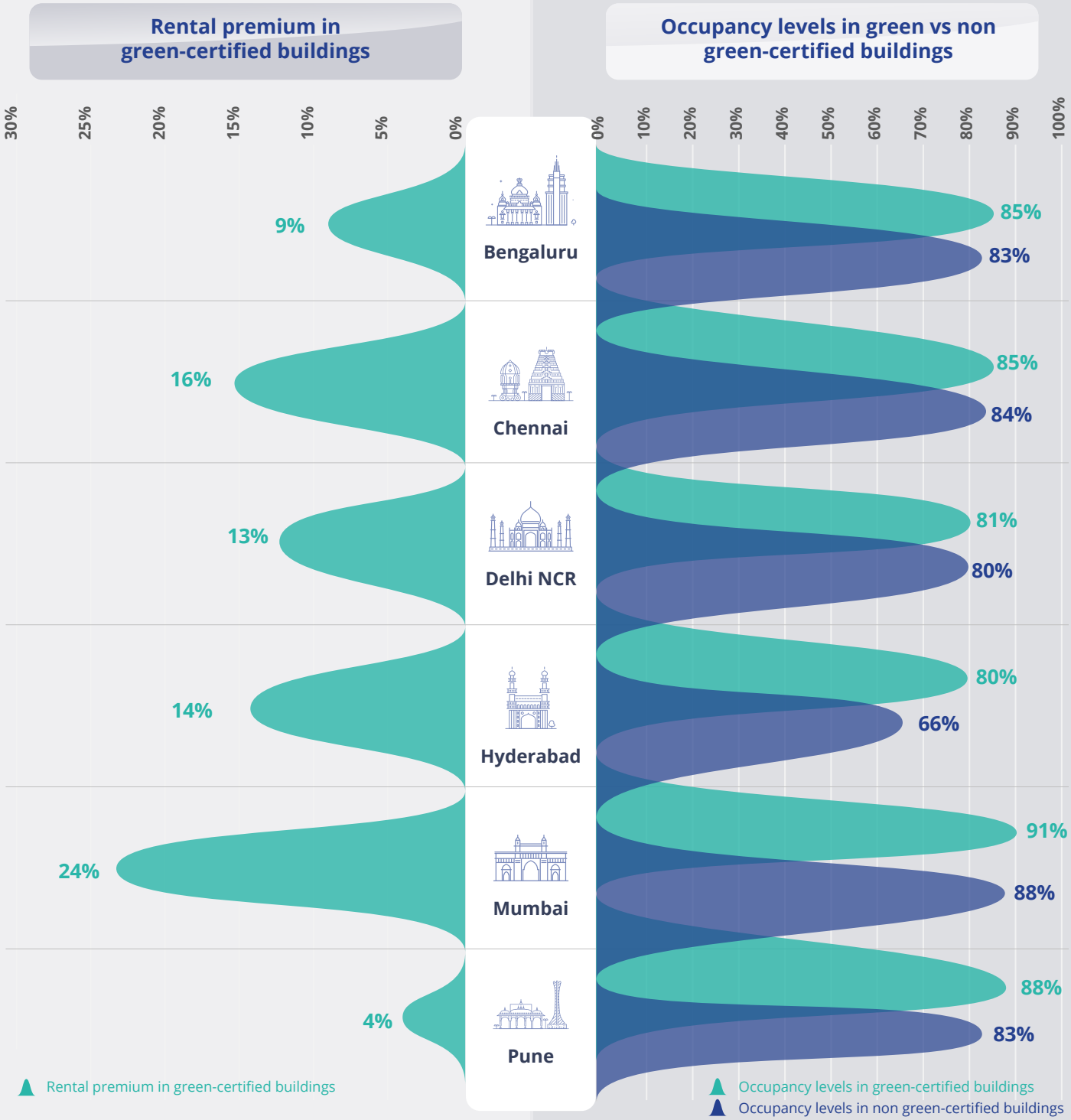


City wise leasing trend in green-certified buildings (2024)



Source: Colliers
Note: Data Pertains to Grade A office buildings only | Top 6 cities include Bengaluru, Chennai, Delhi-NCR, Hyderabad, Mumbai, and Pune | Gross absorption does not include lease renewals, pre-commitments and deals where only a letter of Intent has been signed

Higher rentals & occupancy levels: The business case for green buildings



Average quoted rentals are consistently higher for green-certified buildings, indicating a strong preference for sustainable office spaces. As of 2024, Mumbai recorded the highest rental arbitrage at 24%, followed by Chennai (16%) and Hyderabad (14%). Interestingly, green penetration is the lowest in Mumbai and this in a way contributes to the rental premium commanded by green-certified buildings in the city.

Occupancy levels typically remain higher in green-certified buildings, reinforcing their growing demand amongst occupiers. As of 2024, Hyderabad showed significant improvement in occupancy levels. The city saw occupancy levels of around 80% in green-certified buildings compared to 66% in non green-certified buildings. On an average, green-certified buildings saw occupancy levels in the range of 80-90%, while occupancy levels in non green-certified buildings were at 65-85% in leading office markets of the country.

Source: Colliers
Note: Data Pertains to Grade A office buildings only | Top 6 cities include Bengaluru, Chennai, Delhi-NCR, Hyderabad, Mumbai, and Pune

Growing demand for green buildings: Unlocks new opportunities in office segment

Scope for retrofitting of older buildings (>10 yrs)

355-385 mn sq ft

Relatively older buildings (>10 years) accounting for about 355-385 mn sq ft of office space need major overhaul, presenting **more than INR 425 bn** retrofitting potential. These older buildings can become healthier, more efficient and sustainable spaces for work.

Scope for upgradation in relatively newer buildings (<=10 yrs)

80-110 mn sq ft

Relatively newer buildings (≤10 years) of about 80-110 mn sq ft need minimal capex, presenting **INR 22-32 bn** E-upgrade potential. E-upgrade of existing building typically results in 3-4X net cashflow benefit for developers over remaining asset life.

Upcoming supply likely to get green certifications (2025-27)

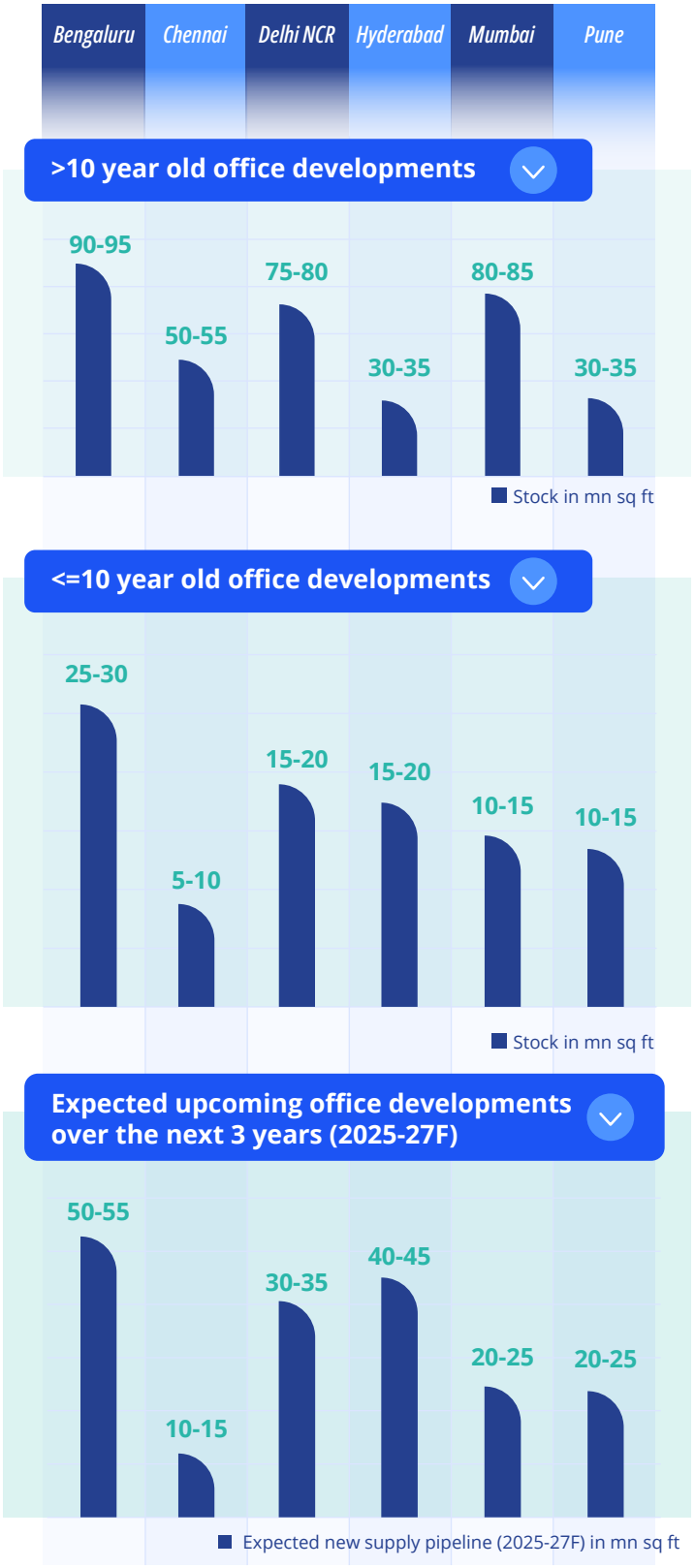
170-200 mn sq ft

A significant portion of the 170-200 mn sq ft of upcoming commercial developments in next three years will become sustainable from the outset, further increasing the overall share of green buildings in the Indian commercial real estate by similar levels.

The capital expenditure for E-upgrade of existing buildings (10 years old or less) includes intervention and upgradation with respect to water flow, energy, cooling, electro-mechanical systems and uplifting interior fitouts.

Tangible benefits include about **20-30% energy savings** and **rental upside of up to 25%. Occupancy levels** can also potentially **improve by 10-15%** over the remaining asset life.

City wise opportunities for enhancing sustainability in Grade A office stock



Source: Colliers
Note: Data Pertains to Grade A office buildings only | E-upgrade refers to Environmental upgrade

India office: Green outlook (2025-27F)

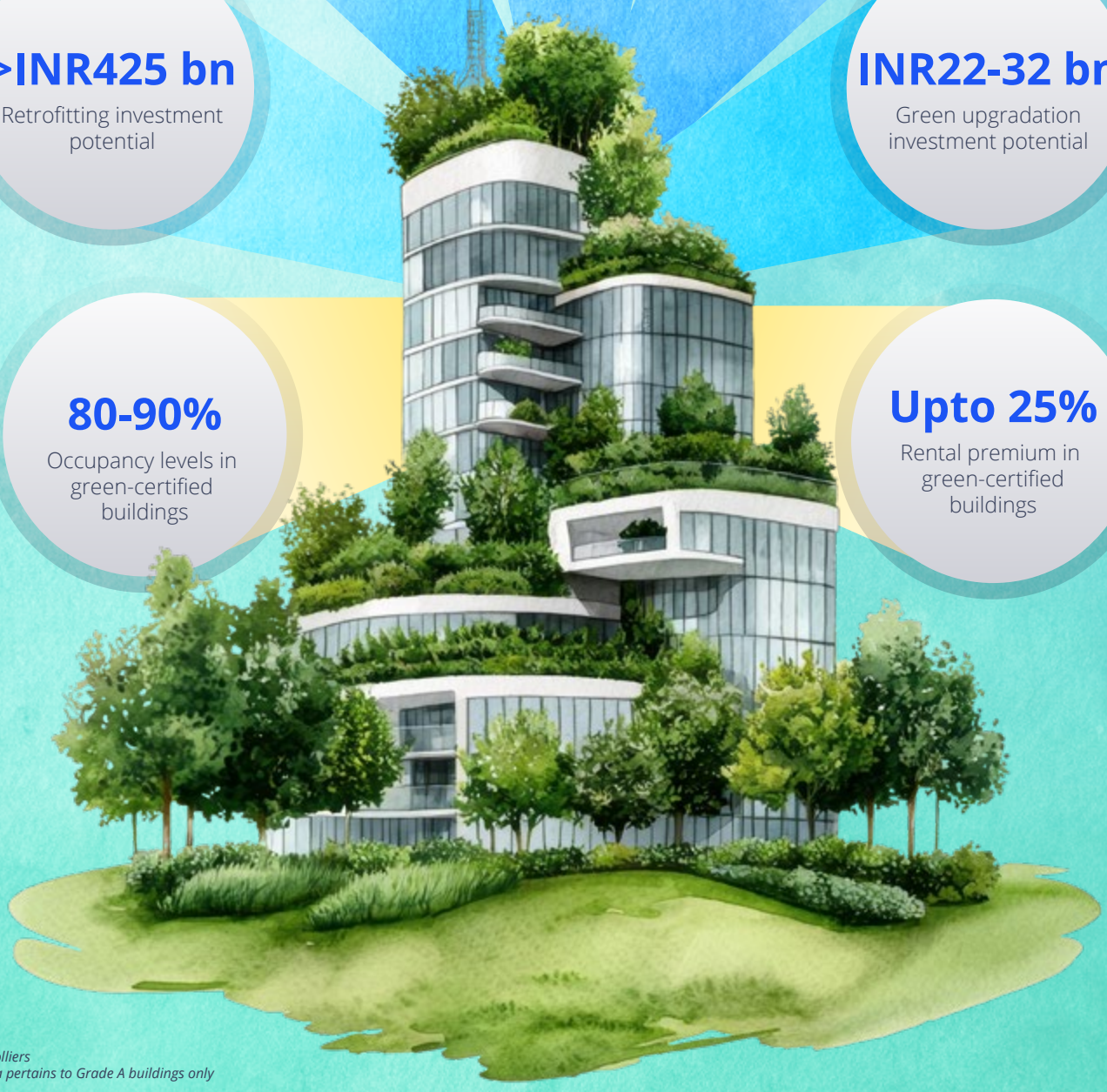
355-385
mn sq ft
Scope for retrofitting

170-200
mn sq ft
Upcoming green-certified stock

80-110
mn sq ft
Scope for green upgradation

>INR425 bn
Retrofitting investment potential

INR22-32 bn
Green upgradation investment potential



80-90%
Occupancy levels in green-certified buildings

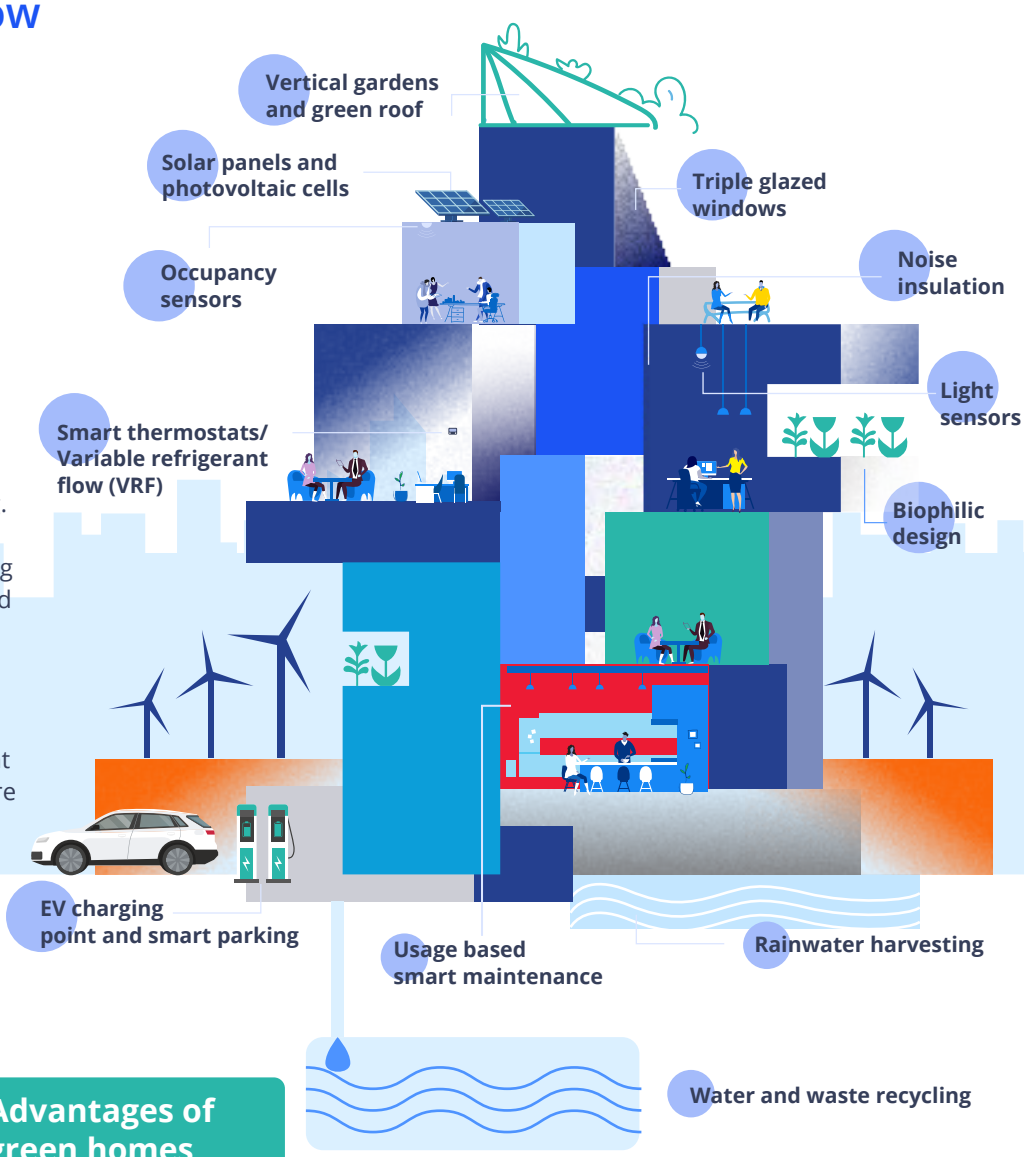
Upto 25%
Rental premium in green-certified buildings

Source: Colliers
Note: Data pertains to Grade A buildings only

Residential: Eco-friendly living paving the way for a greener tomorrow

Green living spaces prioritize sustainability, energy efficiency, and environmental well-being by incorporating renewable energy sources, and water conservation techniques. The benefits of green living extend beyond environmental impact to health, economic savings, and long-term resilience. Reduced energy consumption lowers utility expenses, while improved air quality and natural ventilation contribute to occupant well-being. With government incentives, ESG-driven investments, and rising consumer awareness, the demand for green housing is expected to grow. The future of urban development lies in net-zero buildings, self-sustaining communities, and climate-resilient infrastructure, which would ensure a smarter, greener, and more sustainable way of living.

Innovative material & advanced technology usage in green homes



Source: Colliers

Green homes in India

28+
Green cities

48+
Green villages

21 lakhs+
Green-certified homes

60+
Green-certified townships

Source: IEA, IGBC, UGBC

Advantages of green homes

Smart devices can reduce energy by
10-30%

Net water consumption can potentially decrease by
30-50%

Biophilic homes command a rental premium of
5-10%

Passive House Standard: Gaining prominence

The Passive House Standard is an international concept for high-performance buildings aimed to provide high indoor comfort & good air quality at very low operational costs & energy demand. The standard, now gaining traction worldwide including North America, Europe and Asia can be adapted to different climates and building types, especially residential buildings. Some of the architectural principles of passive houses include airtightness, insulation, adequate lighting and insulation.

In the Indian context, incorporation of reflective roofing, external shading, and light-colored exteriors can potentially lower indoor coolant usage by 80%. The key to sustainable architecture in India remains in integration of local materials and construction techniques. Usage of readily available and climate-appropriate construction materials can enhance the effectiveness of Passive House Standards in India.

Sustainability expansion in multiple real estate segments

Industrial and warehousing: Embracing sustainable practices

The industrial and warehousing segment has witnessed significant growth in demand and availability of Grade A industrial sheds & warehouses in recent years. As the segment continues its upward trajectory, sustainability is becoming a focal area for both developers and occupiers preferring energy-efficient and sustainable buildings to offset adverse environmental impact. Amidst a growing demand for green-certified industrial and warehousing spaces, developers are incorporating features like solar power integration, adaptive climate control, advanced warehousing management systems (WMS) and water conservation systems using cutting-edge technologies. These will not only enhance operational efficiency but also contribute to long-term cost savings. Leading ecommerce and Third-Party Logistics (3PL) players are increasingly adopting sustainable practices in their warehouse operations. Moreover, institutional investors in the segment have been consolidating their portfolios, as they plan to access the primary markets through likely Real Estate Investment Trust (REIT) listings in the future. Green-certified portfolios, thus are likely to gain more prominence in the next few years.

Advantages of green-certified warehouses

FOR DEVELOPERS

Higher asset value: Growing demand for ESG-compliant logistics spaces makes green-certified warehouses attractive and command higher rentals which enhances improves long-term valuations.

Regulatory compliance & incentives: Government policies encourage sustainable infrastructure through tax benefits and approvals. Sustainable warehouses align with global environmental goals, ensuring long-term viability.

Drive institutionalization: Integrating sustainable elements in warehouses enhances asset value and attracts global capital. Overall, it can expedite institutionalization in the segment and drive in global investments.

FOR OCCUPIERS

Lower operating costs: Energy-efficient warehouses reduce electricity and water consumption, lowering utility expenses and ensures operational continuity amid energy price fluctuations.

ESG compliance: Occupying green-certified logistics spaces strengthens brand reputation and investor confidence. Simultaneously. it supports corporate sustainability goals including net-zero and emission reduction targets.

Improved workforce productivity: Healthier work environment with better ventilation and natural lighting enhances employee well-being in warehouses as well.

Source: Colliers

Green hospitals: A sustainable healthcare model

As healthcare accessibility and efficacy in India scales up, prioritizing green initiatives can complement treatment procedures and improve overall hospital performance. Green hospitals can also contribute to environmental sustainability, ensuring a resilient & future-ready healthcare system. Green hospitals integrate advanced ventilation and air purification systems, improving indoor air quality and reducing hospital-acquired infections. They also focus on sustainable procurement, minimizing carbon footprints through local sourcing and usage of energy-efficient equipment. Additionally, environment friendly practices including waste disposal mechanism promotes a sense of sustainability in healthcare as well.

Critical aspects in development of green hospitals

Site selection and planning: Choosing locations and planning facilities to minimize environmental impact and enhance accessibility

Energy efficiency: Reducing energy usage by following principles of LEED & WELL buildings and integrating advanced HVAC and predictive maintenance systems

Building materials and resources: Using sustainable and non-toxic materials like stone, ceramic and bamboo in construction which are free from harmful chemicals

Indoor Environmental Quality: Low Volatile Organic Compounds (VOCs) paints and finishes ensure good air quality. Adequate ventilation, and access to natural light improves patient health and comfort

Source: Colliers

Sustainable data centers : Imperative for the future

985 MW	16%	~3,500 MW	1/3rd
DC Capacity as of 2024	YoY increase in DC Capacity recorded in 2024	Expected DC Capacity in 3-5 years	of stock as of 2024 is green-certified

Source: IEA, Colliers
Note: Data pertains to Co-location data centers in top 7 cities - Bengaluru, Delhi-NCR, Mumbai, Pune, Hyderabad, Chennai & Kolkata only. Data center capacity represents total IT load capacity including occupied as well as unoccupied space

As data center footprint in India is expected to grow multi-fold over the next few years, its share in carbon footprint is likely to surge significantly. Hence, upcoming data centers are required to be future-ready as they will have a long-lasting impact on the environment and climate. While some operators have already reduced emissions by 10-20% through sustainable practices, further action is required. As part of their short-term goals, leading operators aim to source over 50% of their energy requirements from renewables, lower power usage effectiveness (PUE) by 10%, achieve water positivity, use advanced cooling technologies and cut emission intensity by 40%.

In the long-term, most operators intend to accelerate their decarbonization efforts and strive for net-zero emissions by 2050, by implementing 100% wastewater recycling and designing new facilities with green building principles. Significant investments in solar and wind energy will further support these long-term sustainability goals. Additionally, sustainability plays a critical part in adherence of globally recommended thermal guidelines pertaining to temperature and humidity aspects in data centers. Overall, optimizing power consumption through broader temperature parameters will remain a key focus area. In fact, sustainability and adoption of green building elements will boost asset value, rental premiums, brand reputation, and improve operational efficiency of data centers in India.

Retail and Hospitality: Green building adoption on rise

India remains a crucial market for global brands aiming to expand their consumer base. Favorable demographics and rising disposable income will continue to support real estate demand coming from retail outlets, high street stores and Grade A malls. Leading global retail chains are increasingly focusing on sustainability of their real estate footprint outlets to align with the growing environmental awareness of their consumer base. Sustainability and green building adoption is expected to be on the rise, especially in Grade A malls having the potential to come under the ambit of listed REITs in India.

A growing awareness of sustainability amongst travelers is shaping the future of hospitality segment. A recent report from the Global Sustainable Tourism Council (GSTC) reveals that 81% of global travelers consider sustainable travel important, with 50% acknowledging that they would make more environmentally conscious travel decisions. These travelers are increasingly inclined to choose accommodations and hotels that demonstrate a genuine commitment to sustainability.

Over the last few years, especially post pandemic, hospitality segment has been increasingly focusing on sustainable practices like energy efficiency, water conservation, and waste reduction to minimize environmental impact. The hospitality segment encompassing a wide range of businesses focused on providing services and experiences related to lodging, food & beverage, travel, tourism, events and recreation is expected to demonstrate heightened commitment to adoption of sustainable practices and green buildings in the long-term.

Focal aspects of sustainability in hospitality segment

ASPECT	IMPACT
Guest experience	Green resorts and hotels with eco-friendly amenities enhance guest experience and overall satisfaction levels
Design and infrastructure	Sustainable buildings and biophilic design minimizes environmental impact and blends seamlessly with nature
Sustainable landscape	Sustainable landscaping enhances property appeal and improves occupancy levels
Facility management	Efficient facility management reduces carbon ecological footprint and simultaneously enhances guest comfort
Societal contribution	Green resorts and hotels support local communities and promote eco-conscious behavior

Green buildings: Pathway to net-zero goals

Sustainability is pivotal across all real estate asset classes including office, residential, industrial & warehousing, data centers, hospitality, healthcare & pharma, retail etc. As climate change awareness grows, green buildings are increasingly shaping the future of urban development by supporting global sustainability goals. With built spaces expected to drive almost half of the global energy demand by 2030, the transition to green buildings is essential to address energy challenges and reduce environmental impact. The World Green Building Council aims for net-zero carbon emissions in the built environment by 2050, which is achievable through widespread adoption of sustainable building practices. Green buildings not only enhance real estate portfolio valuations, but also improve rentals and occupancy levels, thereby making them attractive for investors. Moreover, retrofitting and redevelopment of older budlings and circular economy adoption are vital for meeting sustainability targets. The pathway to this transition is realizable only through heightened adoption of green buildings, supportive government initiatives, real estate stakeholder participation and streamlining of green certifications.

Recommendations for faster adoption of green-certified buildings

- Adoption of low-carbon construction materials and advanced technologies such as Building Information System (BIM).
- Workforce upskilling with usage of green building materials and technologies.
- Integration of sustainable design and operations.
- Adoption of Life Cycle Assessment (LCA) in building design.
- Expediting environmental clearances for green projects.
- Promotion of the renewable energy usage.
- Raising awareness of green building benefits.
- Encouraging sustainable Water, Sanitation, and Hygiene (WASH) practices.
- Retrofitting and redevelopment of older buildings.

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