Sustainable Foundations:

Exploring Integration of ESG in Real Estate Development

India | January 2024

ESG: Paving way for sustainable development

In the last few years, Environmental, Social and Governance (ESG) considerations and compliance has become instrumental in promoting sustainable business practices and ensuring responsible corporate behaviour. Investors, across the spectrum, especially in matured markets, now view ESG as an essential criteria while evaluating potential investments. In the real estate sector, sustainable practices, energy efficiency measures, social responsibility initiatives and corporate governance principles have become pivotal elements at portfolio level decision making. This paradigm shift not only meets the growing demand for eco-conscious and socially responsible spaces but also results in brand enhancement, client retention and thus value creation for investors, developers and occupiers alike.

ESG adoption: All pervasive

In the 2023 Sustainable Development Report of the United Nations (UN), India was ranked 112th out of 166 countries, a low if not dismal performance. The report evaluates countries based on indices related to the 17 UN-developed Sustainable Development Goals (SDGs), and pegs India at a score of 63.4% (100% indicates achievement of all goals). Amongst the critical observations of the report, there are major challenges with respect to sustainable cities in India, which can be tackled by making the built environment in our cities greener.

ESG perspective basis SDG ratings across countries

SDG parameter/Country (Rank)	Finland 1	UK 11	Japan 21	USA 39	Australia 40	Brazil 50	China 63	Egypt 81	India 112
ENVIRONMENTAL (E)									
Affordable and clean energy	SDG Achieved	Significant Challenges remain	Significant Challenges remain	Significant Challenges remain	Significant Challenges remain	SDG Achieved	Significant Challenges remain	Significant Challenges remain	Significant Challenges remain
Sustainable cities and communities	Challenges Remain	Challenges Remain	Challenges Remain	Significant Challenges remain	Challenges Remain	Significant Challenges remain	Significant Challenges remain	Significant Challenges remain	Major Challenges Remain
Responsible consumption and production	Major Challenges Remain	Major Challenges Remain	Major Challenges Remain	Major Challenges Remain	Major Challenges Remain	Significant Challenges remain	Challenges Remain	Challenges Remain	SDG Achieved
Climate action	Major Challenges Remain	Major Challenges Remain	Major Challenges Remain	Major Challenges Remain	Major Challenges Remain	Challenges Remain	Challenges Remain	Challenges Remain	SDG Achieved
SOCIAL (S)									
Good health and wellbeing	Challenges Remain	Challenges Remain	Challenges Remain	Significant Challenges remain	Significant Challenges remain	Significant Challenges remain	Significant Challenges remain	Major Challenges Remain	Major Challenges Remain
Gender equality	Challenges Remain	Challenges Remain	Major Challenges Remain	Significant Challenges remain	Significant Challenges remain	Significant Challenges remain	Challenges Remain	Significant Challenges remain	Major Challenges Remain
Decent work and economic growth	Challenges Remain	Challenges Remain	Significant Challenges remain	Significant Challenges remain	Challenges Remain	Significant Challenges remain	Significant Challenges remain	Major Challenges Remain	Significant Challenges remain
GOVERNANCE (G)									
Peace, justice and strong institutions	Challenges Remain	Significant Challenges remain	Challenges Remain	Major Challenges Remain	Challenges Remain	Major Challenges Remain	Major Challenges Remain	Major Challenges Remain	Major Challenges Remain
Partnerships for the goals	Significant Challenges remain	Major Challenges Remain	Significant Challenges remain	Major Challenges Remain	Major Challenges Remain	Challenges Remain	Significant Challenges remain	Significant Challenges remain	Significant Challenges remain

SDG Achieved · Challenges Remain · Significant Challenges remain · Major Challenges Remain

Source: Sustainable Development Report, 2023, Colliers

India concerns: Still a long way to achieve ESG goals

E aspect

39

Indian cities among world's 50 most polluted cities

Source: World Air Quality Report 2023, IQAir

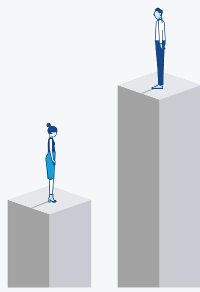
S aspect

India's annual per capital income of

USD2.6

thousand against world average USD13.3 thousand

Source: World Economic Outlook, 2023



India at

37%

gender parity on economic participation and opportunity (India ranks 127th out of 146)

Source: Global Gender Gap Report 2023, WEF

G aspect

India scores

40%

clean in the corruption perceptions Index (India ranks 85th)

Source: Transparency International, 2022

ESG picks up pace in real estate

ESG in real estate: Need of the hour

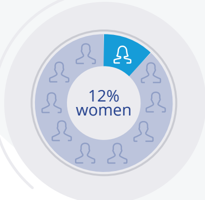
E aspect

40%
Contribution of real estate sector in annual **global emissions**

12%
Women participation in Indian real estate sector. Only **2% women** are executives in construction companies compared to **14% in UK**

S&G aspect

30-40%
Gender **pay gap** in the construction and real estate industry



Source: UNEP, Global status report for buildings and construction

Source: Primus Partners and World Trade Center India Services Council

Real estate sector is stepping up to integrate and implement Environmental, Social and Governance (ESG) related components in its future developments to build an equitable, efficient and sustainable economy. A comprehensive ESG based approach is inevitable and developers, investors and occupiers have begun recalibrating investment and business strategies to build sustainable structures that ensure long term value creation and sustainable returns to all the stakeholders, while retaining the environmental quotient.

Increasing role of ESG in real estate

E — ENVIRONMENTAL FACTORS

Foster growth of green and energy-efficient buildings by using eco-friendly materials

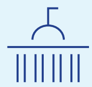
- Reduction in carbon emissions and trash disposal
- Optimum utilization of energy and natural resources

S — SOCIAL FACTORS

Improve social effects of businesses encompassing real estate angles as well

- Supports community involvement, human rights, diversity and inclusion
- Ensures fair labour practices and policies

G — GOVERNANCE FACTORS



Inspect internal structures and procedures ensuring transparency in businesses and real estate portfolio actionable items

- Board diversity, executive remuneration, shareholder rights
- Anti-corruption measures and ethical business standards

Source: Colliers

Real estate stakeholders embrace ESG framework to gain competitive edge

Investors

- Prefer portfolios with stable income and sustained **long-term value** over one-time expenses
- ESG conscious investments undergo thorough **ESG due diligence** and, hence less vulnerable to risks
- Inclined towards assets enjoying **tax breaks** associated with eco-friendly investments

Occupiers

- **Cost-savings** in operational expenses, regular O&M is more energy efficient
- Helps **achieve ESG targets** set for their overall portfolio
- Promotes **employee well-being** and improves productivity
- Aligns with **Corporate Social Responsibility (CSR) values**

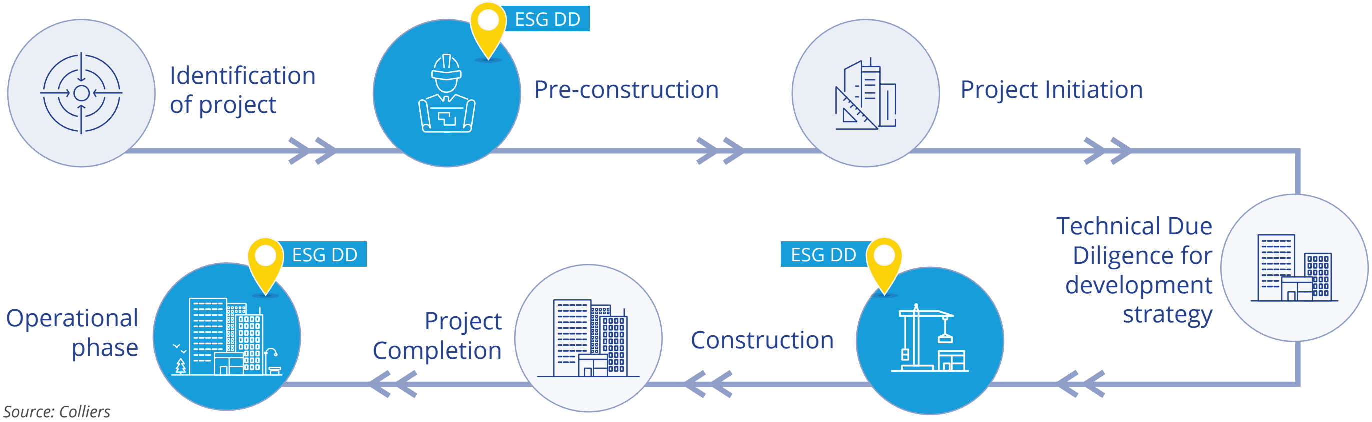
Developers

- Environmental assessment fosters easy availability of **funding**
- Appealing projects provide competitive edge, **enhancing brand/project reputation**
- Increasing adoption of **innovative and cost-effective construction** methods/ material

Source: Colliers

ESG developing as a process not an outcome

To ensure that the built structure conforms and complies to ESG norms, it is essential that it becomes part of the project lifecycle. ESG due diligence can be conducted at various milestone phases of a project, beginning from the pre-construction phase to the operational phase until the asset is disposed. Critical inputs from ESG due diligence (ESG DD) during the project's lifecycle will serve in formulation of a timely ESG action plan, thus aiding in building ESG compliant structures.



Source: Colliers

Formulating ESG action plans

ESG Due Diligence » Preparation of ESG approach driven action plan » Addressing unresolved concerns

ESG due diligence mitigating risks at all phases of project life cycle

Pre-construction stage

- Helps in making sound investment decisions
  - Sheds light on track record of investee
  - Keeps investors ethically well-informed and responsible

Construction stage

- Ensures development as per ESG norms
  - Provides partnership opportunities for sustainability conscious client network
  - Testifies external corporations on company's values and worth
- Quantifies ESG performance
  - Provides insights into value proposition of ESG policies and performances.
  - Holistically evaluates each of the ESG parameters

Operational stage

- Enhances long-term viability
  - Enhances project's long term viability and emphasizes sustainable real estate practices
  - Insights into positive ESG actions and programs
- Protection against environmental concerns
  - Benefits of risk awareness and mitigation from an ESG perspective far outweighs the initial investment on diligence.

Additional reference material on the ESG reporting framework and rating system provided in Annexures

“E” in ESG: The unequivocal frontrunner

The Government has been driving aspirational objectives to address challenges in real estate from a climate change perspective. There is a coordinated effort to set national targets which further trickles down to the state and corporate level, thus driving investments to build sustainable real estate.

India’s targets to achieve sustainability

45%
Reduction in emission intensity of its GDP by 2030#

Net-Zero by 2070
Long term goal of achieving net-zero by 2070#

BRSR Guidelines
Business Responsibility and Sustainability Reporting (BRSR) framework to streamline ESG rating & investing

#Source: NDC Update, 2022

“E” quotient in real estate: A requisite

Given that we are almost at the cusp of irreversible environmental damage, the “E” factor in ESG is the most vital component. All economic sectors should prioritise incorporating elements of sustainability in a holistic manner. The real estate sector, with both forward and backward linkages, is a critical engine of growth and employment in the country. Thus, it becomes imperative for stakeholders to incorporate sustainable elements across real estate related developments and investments on an urgent footing. Sustainable practices must be adopted across all real estate sectors – be it residential, commercial, retail, industrial & logistics or data centres. Corporations must fully integrate the “E” aspect in their operations and long-term growth plans. Hence, the criticality of driving sustainable development is even more profound in commercial real estate.

Due diligence: Then and now

Pre-Pandemic assessments and diligence were aimed at controlling costs

Technical and financial assessments were done largely to:

- Evaluate statutory compliance and project potential
- Project profitability and returns on investments
- Study associated financial risks

Post-Pandemic the focus has shifted towards sustainability

Focus has shifted towards environmental & social assessment with significant focus on:

- Building performance against sustainability elements
- Evaluating long-term goals
- Commitment to net-zero goals

India office market: Stepping up green adoption

The top six cities of the country have witnessed a five-fold increase in green-certified office buildings since 2010, led by an increased focus on sustainability and health and wellness. As of 2023 end, about **432 msf of Grade A office stock** in the top six cities of the country accounting for about **61% share is green certified**. This underscores increasing preference for green real estate portfolios for developers, occupiers and investors alike.

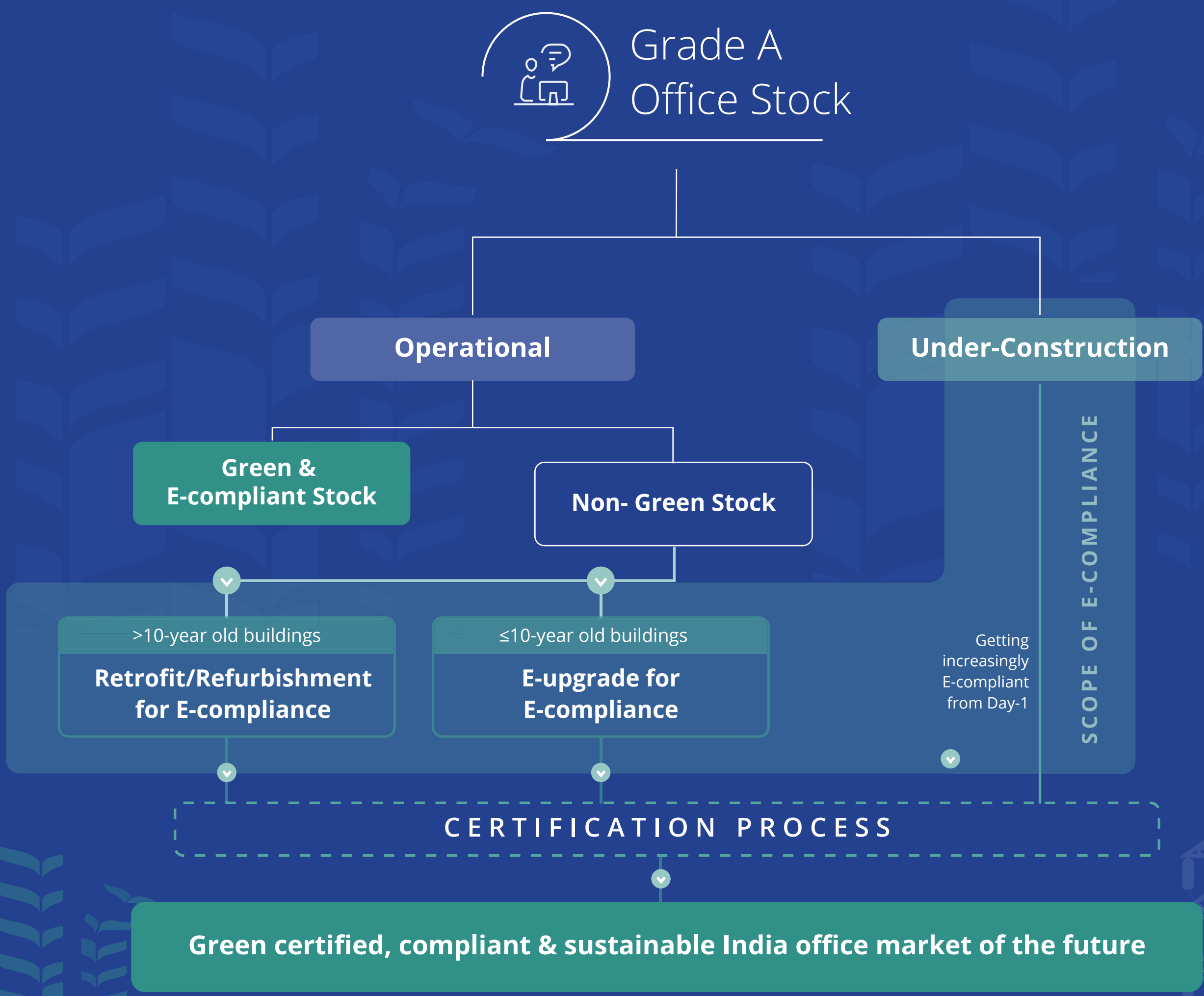
At the same time, there is a need to upgrade and refurbish the existing stock of Grade A commercial offices which are not replete with sustainability features. Our in-house analysis indicates that existing older buildings can be upgraded through adopting a differential approach basis the age of the building.

Retrofit/refurbishment
(for buildings over 10-year-old)
– major overhaul

E-upgradation
(for buildings less than 10-year-old)
– minor works

Interestingly, the newer buildings including under-construction Grade-A developments are mostly being built by adopting a sustainable development framework.

Grade A office stock hold significant potential for complete E-compliance



Note: Although green certification and E-compliance of commercial office spaces are typically used interchangeably, it does not necessarily mean all E-compliant Grade A buildings are green certified. Green certification is largely provided based on a set of standards provided by the respective entity.

What does **retrofitting** include?

>10 years

Structures older than 10 years require **"Retrofitting"** which includes major refurbishment in

- Electrical works
- HVAC upgradation
- Plumbing & fixtures
- External upgradation
- Security surveillance
- E-upgrade

What does **E-upgrade** include?

≤10 years

Structures with age less than 10 years require certain fixatures called **"E-upgrade"** and include corrections in

- Water flow
- Structural changes
- Renewable energy systems
- Electro mechanised systems

Grade A office stock becoming E-compliant

For Retrofitting

300-350 msf

About **300-350 msf** of Grade A office stock across the top six cities have the potential to be get **refurbished /retrofitted and become E-compliant**

- This accounts for about 46% of the existing Grade A office stock across the top six cities

For E-upgrade

95-110 msf

95-110 msf of existing Grade A office stock hold potential for, getting E-compliant upon E-upgrade or with minimal capex.

- Currently, at 62% of existing Grade A stock, top three cities – Bengaluru, Delhi NCR and Mumbai hold the maximum E-compliance potential

Upcoming Supply (3 Years)

160-190 msf

In the next three years, the top six cities of the country are likely to see about **160-190 msf** of new Grade A developments, further increasing the overall E-Compliance potential by similar levels.

- E-Compliance and ultimately green certification of the upcoming supply, will increase the green certified Grade A office stock to more than 550 mn sq ft by 2026 (without taking into account existing non-green certified developments)

City-wise split

	>10-year-old office developments	≤10-year-old office developments	Upcoming office developments in 3 years
Bengaluru	60-65	20-22	40-45
Chennai	45-50	12-14	15-20
Delhi-NCR	70-75	20-22	30-35
Hyderabad	30-35	12-14	50-55
Mumbai	75-80	20-22	10-15
Pune	30-35	12-14	15-20

Source: Colliers | Values are in msf
All data pertains to Grade A office developments.
Non green certified Grade A office stock with age <10 years old are likely get E-compliant upon minimal capex/upgrade-expense. Older developments are likely to opt for complete refurbishment

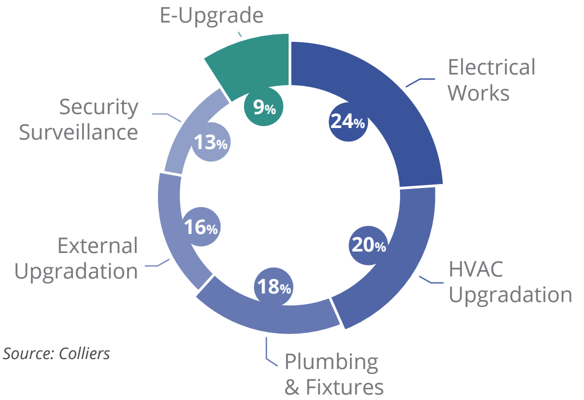
A huge investment opportunity unfolds

About INR360 bn investment opportunity arising out of **retrofitting** of older commercial office buildings

Developers can consider retrofitting including upgradation in the E-aspect of existing ageing inventory, to enhance operational efficiency and extend building lifespan. About **46% of Grade A office stock** across the top six cities have the **potential to be upgraded and become E-compliant**

Colliers estimates an average retrofitting rate of INR1,100-1,200 (USD13-15) per sq ft which includes E-upgrades. The existing ageing stock of about **325 msf** holds a **potential of upto INR 360 bn** for investors.

Estimated cost breakup - Retrofitting



Source: Colliers

About INR20-30 bn investment opportunity arising out of **E-upgrading** existing office buildings

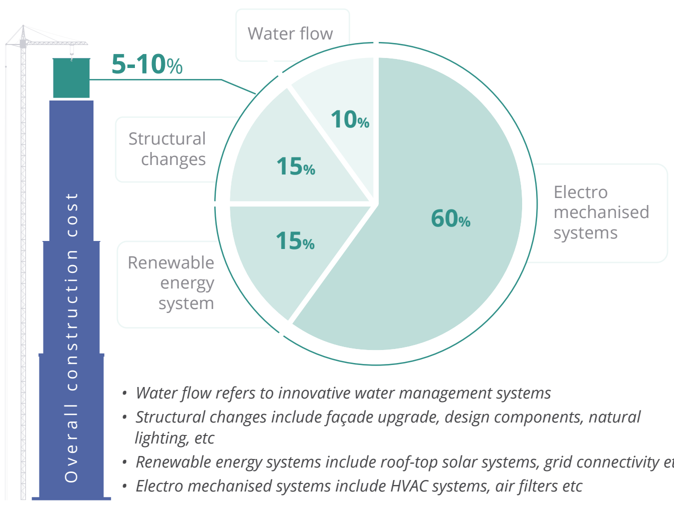
Around 95-110 msf of existing Grade A office buildings (which are mainly less than 10 years old) can be upgraded to give them a facelift incorporating sustainable elements, translating into an opportunity of up to INR30 billion.

Although the initial capex expenses for this E-upgradation is pegged at 5-10% of the construction cost, several tangible benefits such as energy savings, rental appreciation, and higher occupancy are expected to offset the initial investments sooner rather than later.

At the same time, it will lay a strong foundation for several long-term intangible benefits including a positive impact on the environment and improved health, wellness, and overall productivity for employees.

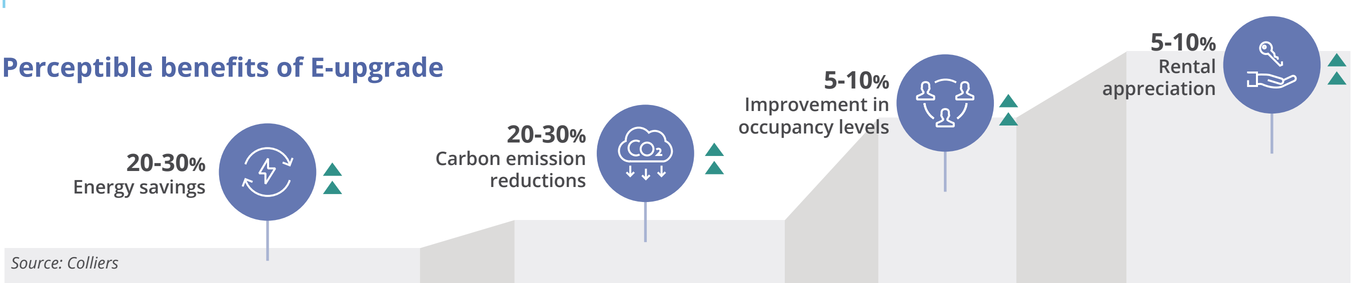
E-upgrade: Cost vs benefit analysis

Overall cost: 5-10% of construction costs



- *Water flow refers to innovative water management systems*
- *Structural changes include façade upgrade, design components, natural lighting, etc*
- *Renewable energy systems include roof-top solar systems, grid connectivity etc*
- *Electro mechanised systems include HVAC systems, air filters etc*

Perceptible benefits of E-upgrade

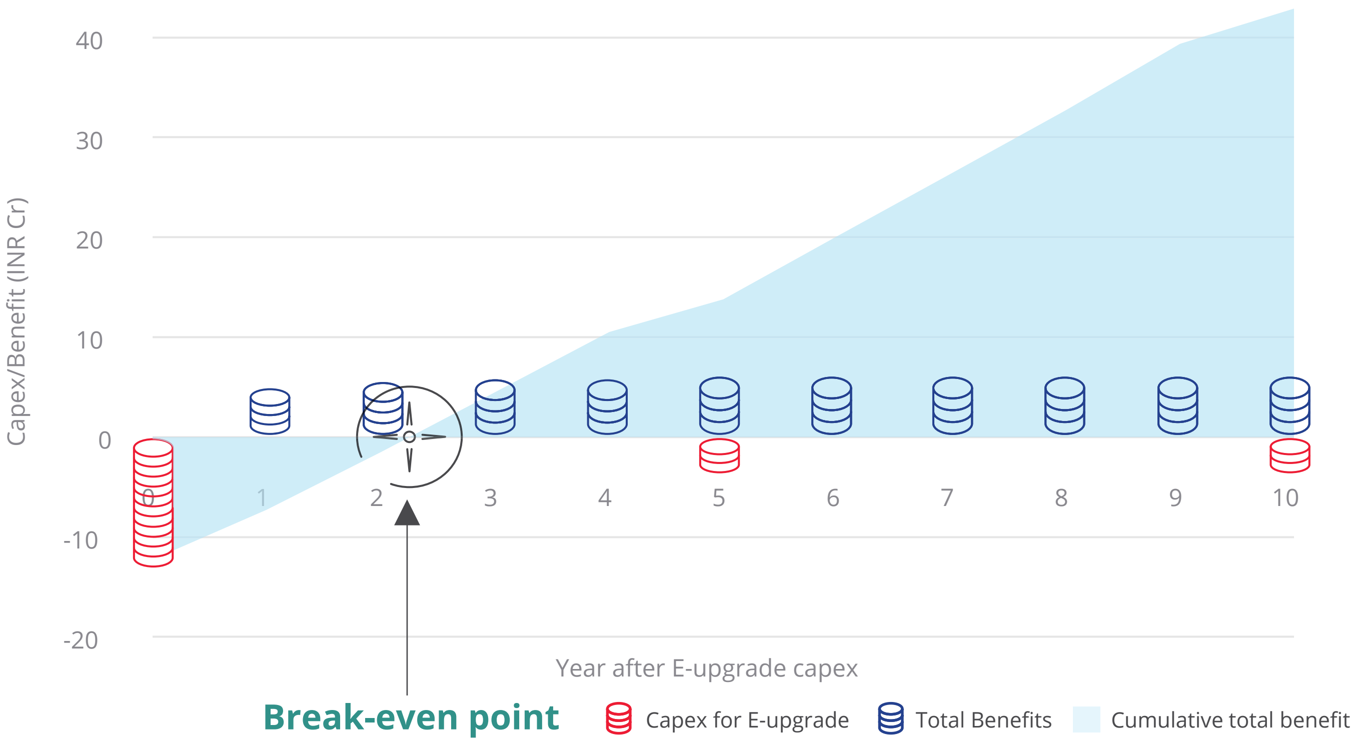


Source: Colliers

E-upgrading existing commercial developments - A rewarding strategy

Colliers' estimates a likely **2–3 year break even period** for capex investment of E-upgrade in existing commercial buildings. Moreover, statistical modelling shows a **3-4X net cashflow benefit** for developers of commercial real estate developments over the remaining asset life.

Representative cashflow analysis of E-upgrade in existing commercial developments



In case of new commercial developments, sustainability elements are being incorporated from the initial planning phase itself and is a part of due diligence as well at various stages. Sustainable elements are incorporated at various stage of development and includes the following:

Locally sourced and eco-friendly materials

Biophilic design

Energy efficient lighting

Durable & multi-functional furniture

Note- Representative cashflow analysis is from a developer perspective and for a Grade A office building of less than 10-years age in a typical Secondary Business District (SBD)

Broad level assumptions
0.5 mn sq feet gross leasable area with monthly base rental of INR100/ sq ft
E-upgrade capex is at 5-10% of construction cost, resulting in staggered improvement in base rentals (5-10%) and occupancy levels (5-10%) of the specific building. Energy costs are assumed to reduce by 20-30%
Major maintenance of E-upgrade take place the end of every 5 years
Source: Colliers

Annexure

Select ESG frameworks and key parameters

International Finance Corporation (IFC) Framework

Resource efficiency
Minimizing pollution and biodiversity conservation

Equity at working
Better work environment

Community health
Safeguarding local communities and their special interests

Rights and Compensation
Land acquisition rights

Mitigating impact
and possible adverse effects on cultural heritage

The IFC framework devised by the World Bank is a client-centric standard, which evaluates and handles the environmental & social risks, consequences linked to the projects it funds, and expectations of the end-user community.

Asian Development Bank (ADB) Framework

Environmental Considerations
Mitigating pollution, protecting natural habitats, and promoting resource efficiency

Social Inclusion
Livelihood restoration, cultural heritage protection, and community consultation

Governance and Accountability
To enhance transparency, reduce corruption, and ensure responsible use of project funds

Gender Equality
To empower women

ADB's ESG standards cover broader developmental aspects. These standards are designed to address potential environmental and social risks associated with projects, as well as measures to enhance governance and accountability.

Green rating systems in India

The typical ESG due diligence process assigns significant importance to a Green rating of the property in consideration. A higher green rating results in an overall low risk perception, providing higher assurance to sustainability-conscious investors. Furthermore, a green certification serves as a tangible representation of a developer's commitment to their ESG principles. Some of the popular and widely accepted green rating systems in India are given below

LEED
- 3-year validity
- Versions available: V3, V4, V4.1, V5 etc
- Certifications : Platinum, Gold, Silver
- Applicable to all types of buildings including office, retail, data centers etc

IGBC
- 3-year validity
- Scoring system: Up to 100
- Applicable to new buildings, green homes, factories, townships, SEZs and existing buildings as well

GRIHA
- Developed by TERI
- Rating scale: 1 to 5 stars
- 5-year validity
- Categorized depending upon building size: GRIHA, SVAGRIHA, GRIHA LD (Large Development)

ECBC
- Devised by BEE
- Rating scale: 1 to 5
- Categorized based on energy load: ECBC building, ECBC+, Super ECBC for Commercial and ENS for residential

LEED: Leadership in Energy and Environmental Design | GRIHA: Green Rating for Integrated Habitat Assessment | TERI: The Energy and Resources Institute

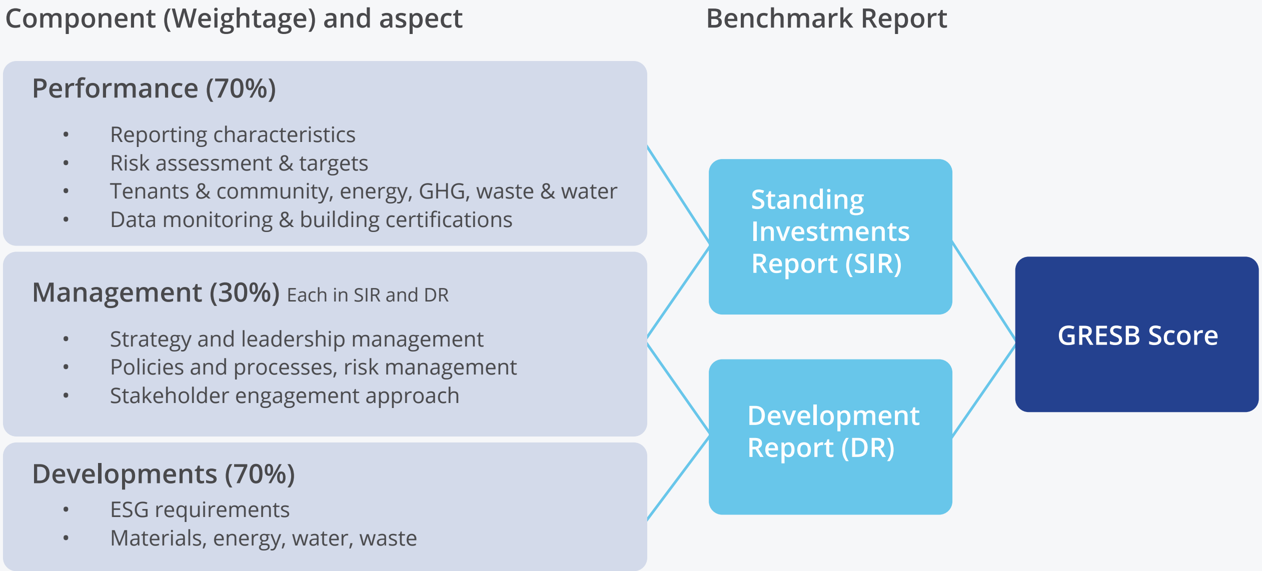
IGBC: Indian Green Building Council | ECBC: Energy Conservation Building Code | BEE: Bureau of Energy Efficiency

Annexure - 2

A step further: the Global Real Estate Sustainability Benchmark (GRESB)

The GRESB Rating measures how well companies and funds integrate Environmental, Social, and Governance (ESG) issues into their management. The rating is based on the GRESB Real Estate Score and its position compared to all reporting entities globally. Moreover, the rating/assessment is unbiased across asset classes and geographic locations. It also provides investors insights into the overall ESG performance of the global real estate sector, showing how companies and funds compare on a global scale. Regions consistently performing better, typically have higher-rated companies and funds.

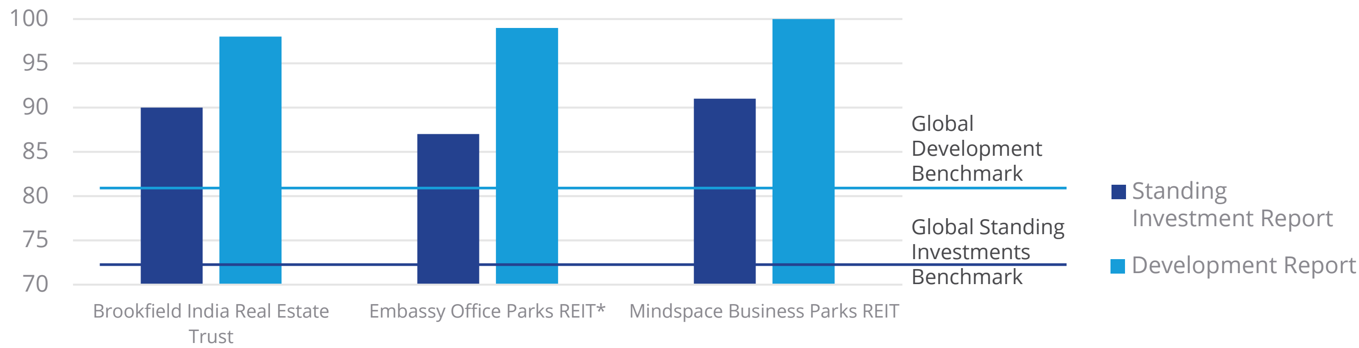
The assessment structure



Source: Real Estate Standard and Reference Guide 2023, GRESB

The three components – Performance, Management & Developments, contribute to creating two comprehensive benchmarking reports. The first is the Standing Investments report, commonly known as the Real Estate Benchmark, which includes Management and Performance components. The second report is the Development Benchmark report, consisting of Management and Development components. REITs, which are investor instruments with professionally managed funding systems and diversified current and planned portfolios, typically maintain both of these reports.

Scoring of Indian REITs



Source: Latest financial reports/websites of respective REITS (Oct, 2023)
**Standing report score is of 2022 for Embassy*

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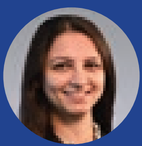

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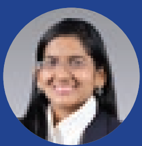

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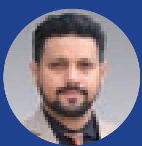

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