

INDIA GREEN BUILDING MARKET MATURITY SNAPSHOT 2020¹

This Green Building Market Snapshot is a summary of key market indicators based on IFC's research on policy environment, building construction, and Green Building certification and finance. The year of the snapshot coincides with the launch of the UK-IFC Market Accelerator for Green Construction (MAGC) program in the country. Additionally, most recent Green Building developments in the market are included where available. IFC welcomes readers' comments.

CERTIFIED GREEN BUILDING MARKET STATUS:

India's Green Building market was underdeveloped as of 2020. Certified floor space represented about 2%² of formal new built area. Green Buildings have traditionally been limited to commercial and high-end residential buildings. In terms of financing, green finance forms only a sliver of India's financial institution portfolios and is generally not reported by financial institutions separately. Several Indian states' Green Building policies and incentives, and investors' increased interest in Green Buildings likely provide a push for the development of Green Building market.



COUNTRY LANDSCAPE



Energy Consumption: The commercial, public, and residential sectors consume around 33% of electricity. India's energy demand is growing at three times the global average due to its growing economy, population, urbanization, and industrialization.³



Construction Market: Dominated by residential buildings, the building construction market grew at a compound annual growth rate of ~12.5% between 2015 and 2020.⁴ Furthermore, India is expected to more than double its building space over the next two decades, mainly in urban areas.⁵



Developers: The residential building segment has over 12,500 active developers across more than 60 cities. The top 100 developers contributed to around 34% of annual sales in the formal residential segment in 2019.⁶



Finance: India's housing finance market witnessed a rapid growth, with mortgage lending significantly contributing to growth in construction of and demand for housing between 2015 and 2019. The mortgage industry comprises Housing Finance Companies (HFC) and public sector banks, corresponding to 80% of the mortgage market. In terms of construction finance, HFCs and Non-Bank Financial Companies had a combined share of 57% of the construction finance pie in 2019, up from 48% in 2015.⁷

1. GREEN BUILDING POLICIES AND REGULATIONS

Is there a national definition of Green Building?

The Government of India (GoI) has not established a formal definition of a Green Building.⁸

Is Green Building part of the country's Nationally Determined Contributions (NDC)?

India has an economy-wide 2030 emissions intensity target of 33%–35% below 2005 levels. The NDC includes enhancing energy efficiency as one of the strategic approaches. Energy efficiency of buildings and national energy rating system are presented as part of this approach.⁹

Is there a national Green Building strategy/action plan?

There is no national Green Building strategy/action plan.

Public Policy and Regulations

National Policies and Regulations:

The Bureau of Energy Efficiency launched mandatory building energy codes (both for commercial and residential buildings). However they are not yet adopted by all states yet. India's National Building Code 2017 and Model Building Bye Law 2015 also refers to sustainable buildings.

At National Level, Ministry of Environment, Forest and Climate Change provides fast track environmental clearance for Green Buildings. The eligible certifications are GRIHA, IGBC, LEED, EDGE (proposed). endnote: Draft EIA 2020 notification - http://environmentclearance.nic.in/writereaddata/Draft_EIA_2020.pdf

Ministry of Housing and Urban Affairs offers extra FAR 1% – 5% five per cent for projects of more than 3,000 sqm plot size to incentivize Green Buildings. The only eligible certification is GRIHA. endnote: [https://www.grihaindia.org/sites/default/files/pdf/Grihaincentives/S.O.%202894%20\(E\)%20dated%2023.09.2013_211013.pdf](https://www.grihaindia.org/sites/default/files/pdf/Grihaincentives/S.O.%202894%20(E)%20dated%2023.09.2013_211013.pdf)

Subnational Policies and Regulations:

Many states in India have announced fiscal and other incentives for Green Building construction.

Examples include:

- ▶ Karnataka Green Building Incentive Policy, in draft version since 2018.
- ▶ Punjab Municipal Green Building Incentive Policy, 2016.
- ▶ Kerala State Housing Policy, 2011.
- ▶ Odisha Development Authorities (Planning and Building Standards) Rules, 2020.
- ▶ Haryana Building Code, 2017.

Property Tax Incentives:

- ▶ 15% rebate in property tax is granted to buildings compliant with the Punjab Energy Conservation Building Code.
- ▶ All non-industrial buildings certified by GRIHA are provided a discount on property tax within the limits of Pimpri Chinchwad Municipal Corporation. A 3-star rated building gets 5% discount, 4-star gets 8% and 5-star gets 10%.

1. GREEN BUILDING POLICIES AND REGULATIONS, *Continued*

Public Policy and Regulations

Building Permission Discounts:

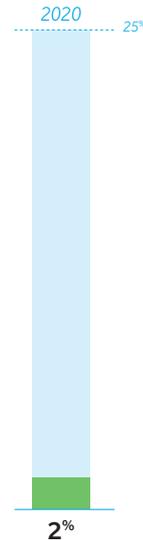
- ▶ The Department of Housing and Urban Development, Government of Punjab, offers a 100% exemption on the building scrutiny fee for projects that are rated gold or above by the Indian Green Building Council.
- ▶ Developers with new construction projects in the jurisdiction of the Pune Municipal Corporation get discounts (5% to 15%) on premium charges payable to the corporation, as per the star rating awarded by the GRIHA Council.
- ▶ Developers in the jurisdiction of the Pimpri Chinchwad Municipal Corporation get discounts on the premium amount of building permission charges (10–50%, depending on GRIHA rating).

2. GREEN BUILDING MARKET SIZE

New and existing floor space certified green in 2020: 7.6 million square meters



Share of certified new green buildings among all new developments (based on square meters)



Share of green building developers among major developers¹⁰



3. CERTIFICATIONS AND STANDARDS

National Green Building Rating Systems

The Indian Green Building Council (IGBC) was established by 2001 and has certified around 3 million sqm in 2020.

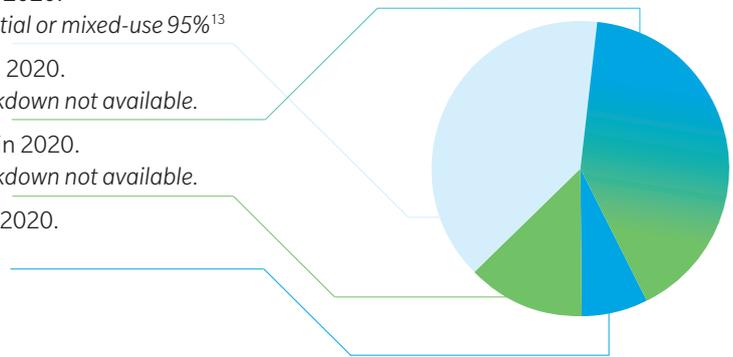
GRIHA was developed by TERI (the Energy and Resources institute) and is endorsed by the Ministry of New and Renewable Energy. GRIHA's footprint is 52 million sqm since 2005.¹¹ GRIHA has certified around 1 million sqm in 2020.

International Green Building Rating Systems¹²

- ▶ LEED was established in India in 2001 and has certified 3.1 million sqm in 2020.
- ▶ EDGE was established in India in 2014 and has certified 0.5 million sqm in 2020.

Voluntary Green Building certification systems' market share by square meters certified (in 2020).

- ▶ LEED accounts for 41% of GB in 2020.
*LEED residential 5%, non-residential or mixed-use 95%*¹³
- ▶ IGBC accounts for 39% of GB in 2020.
Residential/non-residential breakdown not available.
- ▶ GRIHA accounts for 13% of GB in 2020.
Residential/non-residential breakdown not available.
- ▶ EDGE accounts for 7% of GB in 2020.
EDGE non-residential 100%



4. GREEN BUILDING FINANCE

Financial Institutions offering Green Building finance (by public/private) and their products as of 2019

- ▶ The National Housing Bank, SUNREF program provides funding to the green housing sector by refinancing home buyers and developers of eligible green building projects certified by local labels via banks and Housing Finance Companies.
- ▶ IIFL Home Finance Ltd, supports small and medium-size developers through the green certification process and offers loan products.
- ▶ The State Bank of India has a Green Home Loan scheme to support environment-friendly residential projects that are rated by the Indian Green Building Council.¹⁴
- ▶ PNB Housing Finance Ltd, issued secured fixed rate green bonds (2015) to finance certified green residential projects.
- ▶ The Small Industries Development Bank of India (SIDBI) provides financial assistance to green building certified projects.¹⁵
- ▶ Piramal Capital & Housing Finance Ltd supports affordable green housing segment. IFC extended a \$125 million loan to the company for this purpose in 2019.
- ▶ Update 2021: HDFC Ltd—India's largest housing finance company supports affordable housing and emerging green affordable housing. IFC extended \$250 million loan to the company for this purpose.
- ▶ Update 2021: Aavas Financiers Ltd, a housing finance company supports green affordable housing segment.

Green bonds or other capital market instruments earmarked for Green Building finance between 2015 and 2019.

- ▶ In 2016, Axis Bank issued green bonds worth USD 500 million, of which USD 150 million were allocated for Green Buildings.
- ▶ In 2016, PNB Housing Finance Limited issued USD 75 million green bonds, of which all the proceeds were allocated to Green Buildings.
- ▶ The State Bank of India issued three green bonds worth USD 800 million between 2018 and 2020 with use of proceeds allocated to low carbon buildings.^{16,17}

41. GREEN BUILDING FINANCE, *Continued*

Financial institution lending to Green Buildings as a % of total lending to building sector (Climate financing as a % of total bank credit)

- ▶ Green Building finance constitutes a very small share of portfolios of India's financial institutions and is generally not reported by the institutions separately.

Financial Incentives

- ▶ In West Bengal, IGBC-rated Green Building projects in the MSME sector are eligible for financial assistance at concessional rates from Small Industries Development Bank of India (SIDBI).¹⁸

5. COST OF UTILITIES

Share of cost of utilities (Electricity and Water) for an average income: 18%¹⁹



6. EDUCATION AND SKILLS

Number of Universities offering Green Building programs

- ▶ There are many universities offering energy efficiency for buildings or green building programs as part of their curriculum.

ENDNOTES

1. If not footnoted, the source of the information is a report prepared by CRISIL "Assessment of Green Building Market in India 2020" commissioned by IFC.
2. IFC's calculations consider the formal construction sector. The rate covers EDGE post-design, LEED, GRIHA and IGBC certified floor area divided by estimated new build for the formal sector, for calendar year 2020. There may be a delay between certification and completion of the building.
LEED numbers were retrieved from USGBC website (<https://www.usgbc.org/projects>) on October 19, 2021
GRIHA and IGBC numbers are from Green Letter November 2020 (<https://greentree.global/greenletter/greenjobs-1/>) data is provided for April-October 2020, extrapolated to the entire year).
EDGE numbers were retrieved from EDGE App data as of September 30, 2021.
Green certification numbers do not differentiate between buildings certified with more than one certification system or product (that is, each certification is counted as unique) and may include certifications for existing buildings.
Estimated new build area is from IFC 2020 India market assessment.
3. <https://www.iea.org/reports/india-energy-outlook-2021>
4. 2019 exchange rate for India (LCU per US\$) from the World Development Indicators.
5. <https://www.iea.org/reports/india-energy-outlook-2021>
6. Omaxe Annual Report 2019.
7. India Green Building Market Study for IFC, by CRISSIL "Mannapuram Home Finance Ltd DRHP dated September 19, 2019; CRIS analysis". Page 39.
8. The Council of Architecture (statutory body of the Government of India) <https://www.coa.gov.in/> uses IGBC's Green Building definition: "Buildings which use less water, optimize energy efficiency, conserve natural resources, generate less waste and provide healthier spaces for occupants, as compared to conventional buildings."
9. India's NDC for 2021 to 2030. Page 48. Available at: <http://spappssecext.worldbank.org/sites/indc/Pages/Mitigation.aspx?Region=EAST%20ASIA%20AND%20PACIFIC&Sector=Buildings&SubSector=Buildings>
<https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/India%20First/INDIA%20INDC%20TO%20UNFCCC.pdf>
10. Share of top 10 developers who have certified at least one green building (2019).
11. GRIHA footprint retrieved from <https://www.grihaindia.org/>
12. GEM was established by 2019 and BEE star was established by 2009. There is no public data for the floor area certified by these two rating systems.
13. IFC's estimate based on LEED publicly available data.
14. https://bank.sbi/documents/17826/24027/2007201345-SBI+Sustainability+Report+V37+20_07_2020_Spread_layout.pdf/801cc0de-a47d-c860-f5c3-fc57efb58339?t=1595232977158
15. [https://igbc.in/igbc/html_pdfs/5.%20Small%20Industries%20Development%20Bank%20of%20India%20\(SIDBI\).pdf](https://igbc.in/igbc/html_pdfs/5.%20Small%20Industries%20Development%20Bank%20of%20India%20(SIDBI).pdf), <https://www.firstgreen.co/sidbiprovides-fundings-forenergy-efficiency-green-building-projects/>
16. https://sbi.co.in/documents/17836/1275616/15122020_SBI+ESG+Strategy_FINAL.pdf/3e4673c4-3952-9dc6-eb33-b026b82bbf08?t=1608032668207
17. IFC does not have information on exact amounts earmarked for Green Building Loans.
18. <https://igbc.in/igbc/redirectHtml.htm?redVal=showGovtIncentivesnosign>
19. Calculated based on the Economist Intelligence Unit Database for country utility data in major cities (year) and the World Bank GNI per capita 2019.

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