



GREEN BUILDINGS MARKET INTELLIGENCE

BANGLADESH COUNTRY PROFILE



Creating Markets, Creating Opportunities

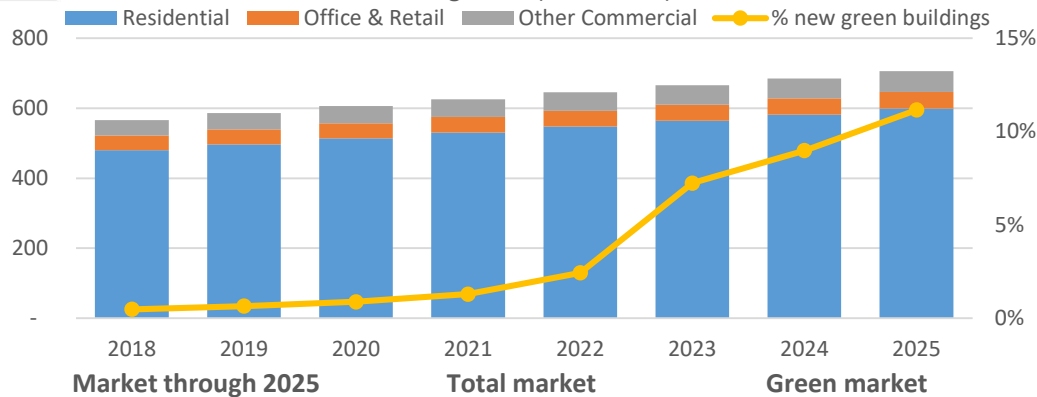


BANGLADESH: COUNTRY SUMMARY

MARKET GROWTH



Building Stock (million m²)



Commercial	USD 9.7 B	USD 1 B
Residential	USD 62.6 B	USD 2.2 B
Residential units	2,100,000	90,000

OTHER FACTORS



- Climate Change Vulnerability Index ranks Bangladesh as the country most vulnerable to the impacts of climate change
- U.N. predicts that, by 2025, Dhaka will have more people than Beijing and Mexico City.
- Half of the population was under the age of 25 in 2016.

GREEN BUILDING PROGRAMS



- Government has buildings efficiency policies.
- The green market, while not fully established, grew considerably in 2015 and is making strides thanks to the industrial sector.
- 541 green certifications as of 2017.
- The industrial sector is being helped by programs like one sponsored by the IFC, which is helping factories make innovations in resource efficiency, and a Central Bank of Bangladesh sponsored "green fund."
- Bangladesh Green Building Academy (BGBA) manages LEED training and certification.

CLIMATE POLICIES (NDCS)



- Tax reduction in the industrial sector for green buildings.
- NDC targets a 25 percent reduction of overall energy consumption of commercial buildings.
- The garment industry is primarily driving growth in green building.

MARKET STATUS

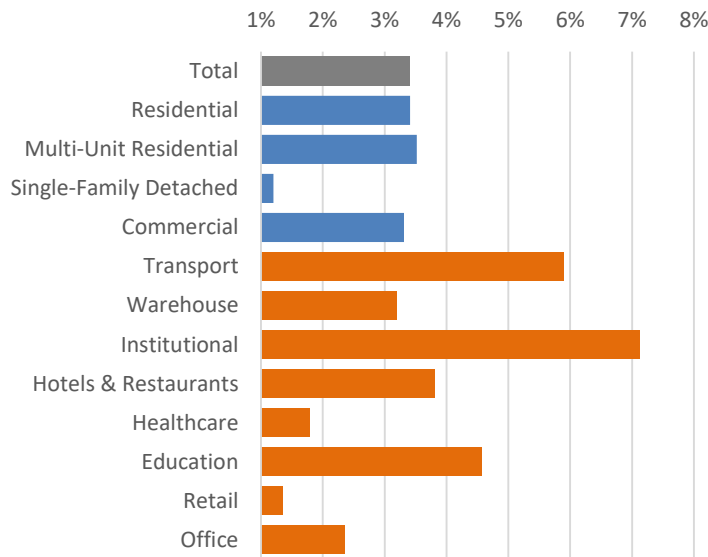


- Growth driven by garment industry.
- Shortage of about 5 million houses in Bangladesh. 500,000 houses are added annually in urban areas, 3.5 M added in rural.



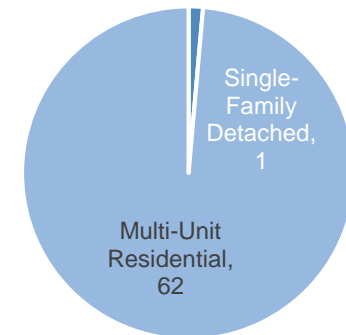
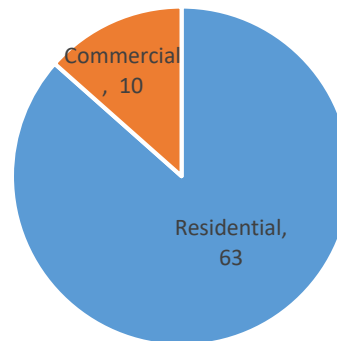
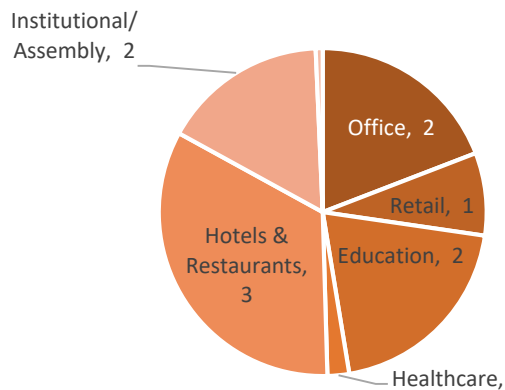
GROWTH IN RESIDENTIAL, TOURISM, AND INDUSTRIAL

MARKET GROWTH BY SUB-SECTOR (CAGR)



- Bangladesh is the 8th most populated country in the world, with tremendous urban growth.
- While all sub-sectors are growing, the residential sector will be the majority of the floor space.
- Multi-unit buildings are expected to be the primary area of growth within residential, with an emphasis on affordable housing
- Shortage of about 5 million houses in Bangladesh. Additional need for housing upgrades.

TOTAL MARKET SIZE 2018-25 (USD BILLIONS)





RAPID GROWTH IN BANGLADESH GREEN MARKET

Green Certification Activity



62

LEED certified activities



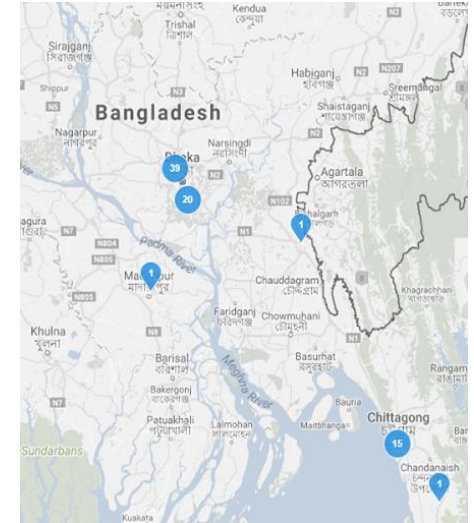
.989 M

LEED certified sq. m

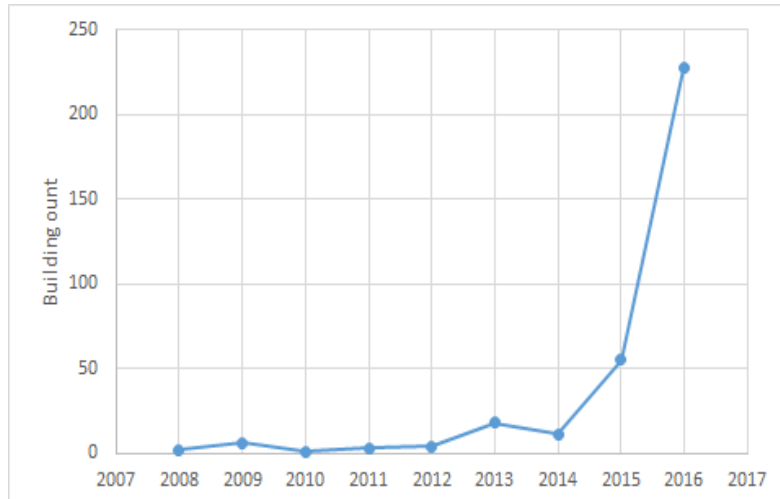
541

Total Activities
(including certifications
and registrations)

This market follows garment manufacturers and has the strongest growth in and around Dhaka.



Total activity was slow until 2015 when it shot up



Notable Industrial Manufacturing Green Projects:

- Arkay Knit Dyeing Mills, Dhaka
- Columbia Washing Plant, Dhaka
- Pioneer Denim Limited, Gurabo
- M.H. Sportswear Ltd, Dhak
- Bay Creation Ltd, Dhaka
- Creative Collections Limited, Tongi



GOVERNMENT IS MAKING GREAT STRIDES TOWARDS ENCOURAGING GREEN BUILDING, BUT IS STILL IN **EARLY STAGES OF DEVELOPMENT**

WHAT'S BEING DONE NOW

- The government is trying to incentivize private sector climate investment via the Bangladesh Investment Authority and make a one-stop business center by December 2017.
- The Bangladesh bank created an initiative to encourage private lending to SMEs and microfinance institutions that invest in green technologies.
- State owned Infrastructure Development Company Ltd made initiative to finance decentralized climate friendly programs, which include setting up over 3 million solar homes.

SUGGESTIONS FOR NEXT STEPS

- In addition to policy incentives being created by the government, it is also important to raise awareness among developers of the long-term benefits of green buildings.
- The enforcement of green building codes will be essential, and can be complemented by a policy on voluntary certifications for all new constructions.
- An important step in facilitating climate-smart investment, including in green buildings, is to improve access to low-cost, long term finance.

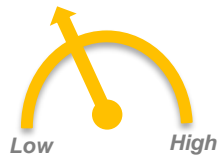
GREEN MARKET SUPPORT RATING



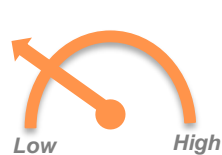
GOVERNMENT



ENVIRONMENT



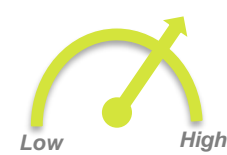
FINANCING



CURRENT GREEN
MARKET



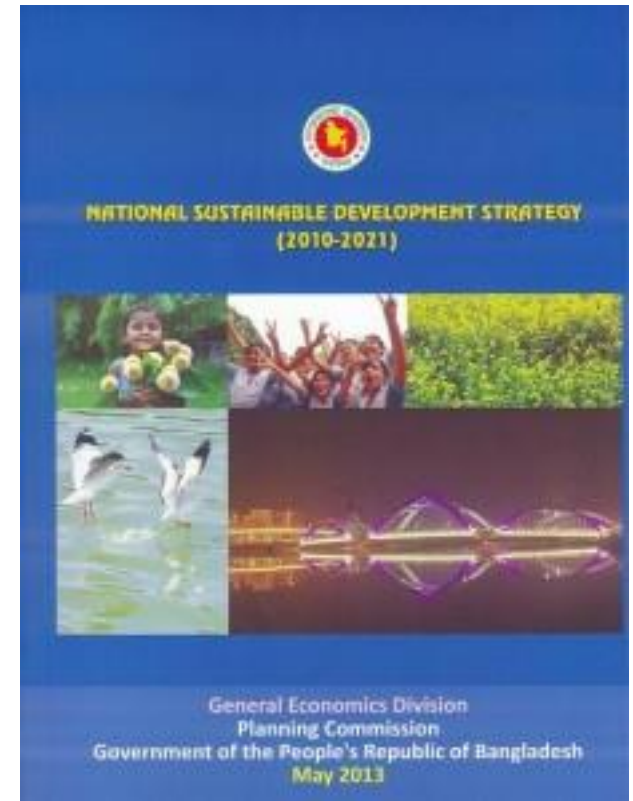
GROWTH
POTENTIAL





GOVERNMENT POLICIES ENCOURAGE GREEN BUILDINGS

- Bangladesh's Ministry of Housing and Public Works is creating **Green Buildings Guidelines**.
- Revising the National Building Code to promote energy-efficiency and conservation in building.
- Bangladesh's Paris agreement **targets a 25% reduction** in energy consumed by commercial sector.
- The state owned Infrastructure Development Company Limited aims to set up more than **3 million solar homes** in the country.





FINANCING INITIATIVES FOR GREEN BUILDING

Solar Energy, Biogas and Effluent Treatment Plant Sector Refinance Scheme:

If an individual sets up solar panels in their residence, business enterprise or cooperative society and was issued financing from banks in urban and rural areas, they can refinance under this program.

- Loans range from 10,000 - 6,000,000,000 taka (\$119.69 - \$71,813,520)
- If the borrower received a loan directly from a bank, then the interest rate will range from 8 - 9% or 11 - 12% if borrowing from a bank linked with a Monetary Financial Institution.





BANGLADESH GREEN BUILDING **ACADEMY** (BGBA) PROVIDES EDUCATION AND ADVOCACY



<http://www.greenbuildingacademy.com.bd/index.php#>

- Member of the US Green Building Council
- Created to offer design consultancy services for Green building
- BGBA has completed fifty diverse projects
- 2 Green certified projects
- More than 20 MEP Projects



LEARN MORE ABOUT EDGE CERTIFIED PROJECTS IN SOUTH ASIA






Location: **Indore, Madhya Pradesh**

Developer: **Manish Kumat**

Sector: **Commercial - Office**

Size: **Multi-story, 573m²**

Predicted Savings of EDGE Certification:

-  68% Energy Savings
-  83% Water Savings
-  28% Less Embodied Energy in Materials






Location: **Bangalore South, Karnataka**

Developer: **Value Budget Housing Corporation**

Sector: **Residential – Multi-family**

Size: **6,552 m²**

Predicted Savings of EDGE Certification:

-  33% Energy Savings
-  39% Water Savings
-  23% Less Embodied Energy in Materials

Case studies from other countries: <https://www.edgebuildings.com/projects/>



PROJECTS CAN CHOOSE BETWEEN TWO EDGE CERTIFIERS FOR **FAST, EASY, AND AFFORDABLE** CERTIFICATION



CERTIFICATION	PRICE (PER M ² , EXCLUDING PARKING)	MINIMUM
0-25,000 FLOOR AREA (SQM)	\$0.27	\$2,250
25,000-50,000 FLOOR AREA (SQM)	\$0.22	\$6,750
50,000-75,000 FLOOR AREA (SQM)	\$0.17	\$11,000

*Price per m²; Project appoints an auditor



thinkstep

PROJECT TYPE	CERTIFICATION	DESIGN AUDIT	FINAL AUDIT	TOTAL
Residential (one unit type)	\$2,100	\$3,600	\$3,650	\$9,350
Commercial (single end use)	\$2,100	\$3,600	\$3,650	\$9,350

*Price per type of project; Auditor fee is included

Details and registration forms can be found on the EDGE program website:
<https://www.edgebuildings.com/certify/other-countries/>



REGIONAL EDGE EXPERTS CAN HELP PROJECTS NAVIGATE THE CERTIFICATION PROCESS

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Full list available at : www.edgebuildings.com/edge-experts/edge-experts-around-the-world



RESEARCH METHODOLOGY

COUNTRY LIST

- IFC chose countries that correspond to the [Climate Investment Opportunity Report](#) (CIO Report) as well as countries of strategic interest for IFC.
- IFC plans to release additional country analysis, pending resources.

TOTAL MARKET OVERVIEW

- Building stock was sourced from the [Global Building Stock Database](#) and confirmed by country experts, if possible.
- The research team found local prices for capital construction expenses, or used global proxies otherwise.
- Market sizing was executed for new construction and did not focus on retrofits.

SNAPSHOT OF THE CURRENT GREEN MARKET

- Main source of information was the [Green Building Information Gateway](#), confirmed by local green building council reports, if such existed.
- The research team focused on properties certified as green.

GOVERNMENT POLICIES

- Main information was sourced from [IFC's Climate Investment Opportunities Report – South Asia](#).
- Additional information was found using various searches as well as government websites.

PROJECTIONS FOR GREEN PENETRATION

- Based on the total market growth, snapshot of the current green market, and the enabling environment of government policies, the research team projected green penetration per each of the sub-sectors.
- Weighted average of combined sector data produced the final penetration number.
- The analysis focused only on new construction, and focused only on certified properties.
- As tools for retrofits take off in the market (including IFC's EDGE product), analysis may be amended to include the retrofit market.
- Market potential may be different from numbers reported in the CIO Report, as a more conservative estimate was used for business planning purposes.

OTHER

- Information for green building councils was sourced from [World GBC website](#).
- Case studies were presented only for IFC's EDGE green building software and certification system.
- However, lists of all green certified projects in a given country can be found through the [Green Building Information Gateway](#).
- Finally, pricing for EDGE certification was included to illustrate that green certification is affordable and achievable in emerging markets.



ACKNOWLEDGEMENTS

DONOR ACKNOWLEDGEMENT

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COLLABORATION ACKNOWLEDGEMENT

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