



# GREEN BUILDINGS MARKET INTELLIGENCE PAKISTAN COUNTRY PROFILE



*Creating Markets, Creating Opportunities*

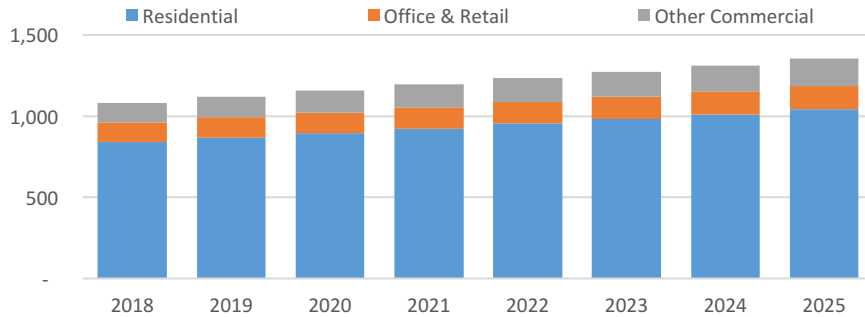


# PAKISTAN: COUNTRY SUMMARY

## MARKET GROWTH



Building Stock (million m2)



Market through 2025	Total market	Green market
Commercial	USD 53.45 B	USD 1.55 B
Residential	USD 232.6 B	USD 9.84 B
Total Residential Units	3,100,000	140,000



## OTHER FACTORS

- Households are experiencing shortage in electricity.
- Climate Change has severely affected Pakistan.



## CLIMATE POLICIES (NDCS)

- Recognizes the need for climate action in rapidly urbanizing country.

## MARKET STATUS



- Green buildings are nascent but growing: in 2014, the area of green buildings was 5,000 sq ft. of green building, and now it is 7 million sq ft.
- Annual energy consumption in domestic sector 45.9%, industrial sector 27.5% mainly for heating, ventilation, and air conditioning.
- Large energy deficiency in the country.



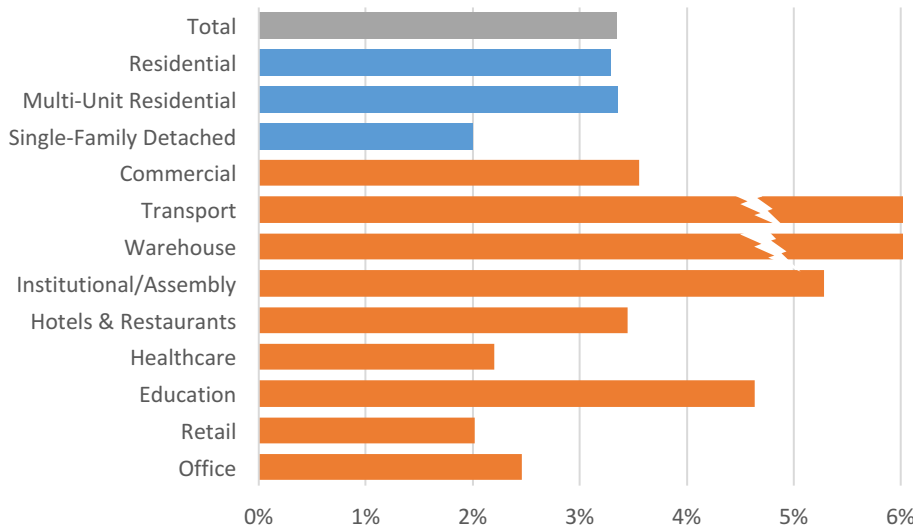
## GREEN BUILDING PROGRAMS

- Pakistan Green Building Council has a growing presence in the market: started trainings in 2016 and held two conferences last year.
- 21 green projects are tracked.



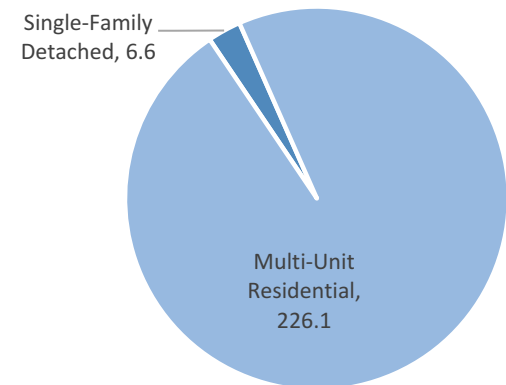
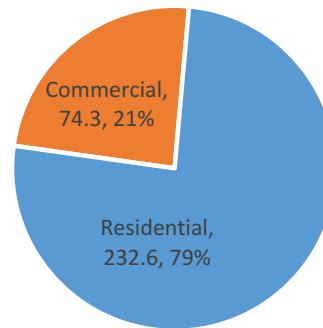
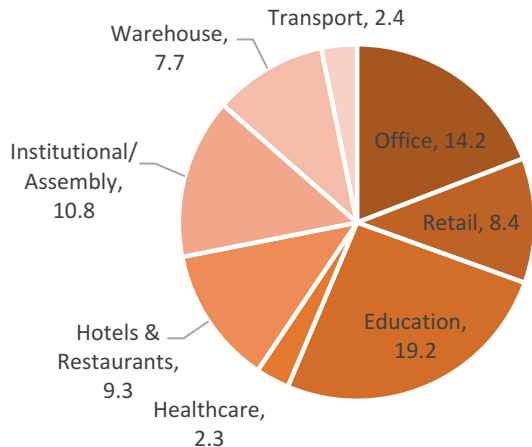
# RAPID GROWTH IS EXPECTED, WITH RESIDENTIAL LEADING

## MARKET GROWTH BY SUB-SECTOR (CAGR)



- The total market size in Pakistan is made of 79% residential buildings and 21% commercial buildings.
- Warehouses are growing faster than all other sectors at a rate of 16.3%.
- Due to high urbanization rate, multi-unit residential is much bigger than single-family housing.
- The green market will have a slow uptake over the next several years.

## TOTAL MARKET SIZE 2018-25 (USD BILLIONS)



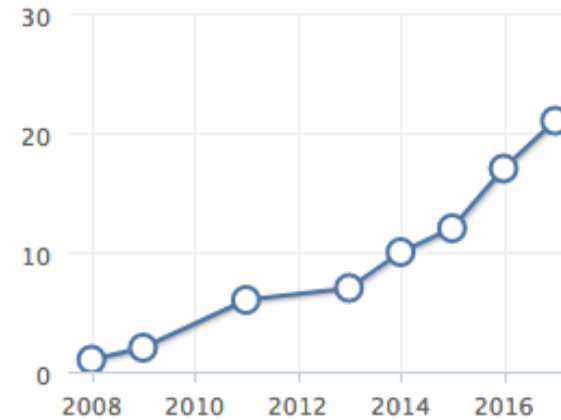


## THE GREEN MARKET IS STILL NASCENT

- 21 projects are currently tracked, all administered by LEED.



Cumulative activity count, by year:



Projects are clustered in the Karachi area and the capital.



Notable projects include:

- SIKA Pakistan Ad-Mix Plant
- Sapphire Fibres Limited Denim Division
- British Council Library
- AFGI K2 & K5
- Artistic Garment Industries PVT LTD
- Citibank Dolmen Karachi
- Coca-Cola Icecek As Multan Plant



# PAKISTAN GREEN BUILDING COUNCIL

## OVERVIEW

- Relationships with IDAP, ENERCON, PEECA
- PGBC is working to develop Pakistan specific Green Guidelines
- Launching Chapters in Karachi, Hyderabad, Multan, Quetta, Peshwar, Gilgit, Islamabad, Gawadar

## LEED AP Building Design & Construction (BD+C) Exam Prep

Prepare your entire team over the course for the LEED Building Design and Construction exam with our LEED experts.



## NOTABLE PROGRAMS

- Started LEED AP preparatory course in 2016
- Held First ever Expo and Conference in Karachi in October 2016
- Held 2 Conferences in Greenbuild
- Conducted 5 Technical LEED workshops

GBC Founding Members

Access more Information at [www.pakistangbc.org](http://www.pakistangbc.org)





# GOVERNMENT IS COMMITTED TO GREEN BUILDING GROWTH

## GOVERNMENT POLICIES AND SUPPORT

- New law establishes Pakistan Climate Council, Pakistan Climate Change Authority, and Pakistan Climate Change Fund
- Action on Climate Today (ACT) is working toward better adaptation and delivery in Pakistan
- National Energy Conservation Centre and Pakistan Engineering Council finalized Building Energy Code in 2011 which was expected to save 25 to 30% of energy



## NEED FOR GREEN BUILDINGS

- Ranked seventh most impacted country by climate risks between 1996 to 2015, cost to its economy \$3.8 billion
- One of the countries with highest energy consumption in the domestic sector – 45.9% and Industrial Sector – 27.5%
- 50% energy consumption in buildings or HVAC systems
- Energy Crisis



## LEARN MORE ABOUT EDGE CERTIFIED PROJECTS



### KESERWAN MEDICAL CENTER

Ghazir, Lebanon - Hospital

Predicted Savings of EDGE Certification:



21% Energy Savings



25% Water Savings



26% Less Embodied Energy in Materials



### KESAR CITY

Gujarat, India - Residential

Predicted Savings of EDGE Certification:



23% Energy Savings



24% Water Savings



71% Less Embodied Energy in Materials

Access more case studies at <https://www.edgebuildings.com/projects/>



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



CERTIFICATION	PRICE (PER M <sup>2</sup> , 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 m<sup>2</sup>; Project appoints an auditor



PROJECT TYPE	CERTIFICATION	DESIGN AUDIT	FINAL AUDIT	TOTAL
Residential (one unit type)	\$1,500	\$3,650	\$4,320	<b>\$9,470</b>
<i>Residential (per additional unit type)</i>	<i>\$490</i>	<i>\$890</i>	<i>\$460</i>	
Commercial (single end use)	\$1,550	\$4,005	\$4,710	<b>\$10,265</b>
<i>Mixed-Use Buildings (per additional end use)</i>	<i>\$990</i>	<i>\$2,670</i>	<i>\$1,560</i>	

\*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/>





# 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 the [World Bank NDC Database](#).
- 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**

IFC thanks the following national donors for their generous support of the EDGE program: the State Secretariat for Economic Affairs of Switzerland (SECO); the European Union; the Ministry of Finance of Japan; the Hungarian Export Import Bank; the Canada Climate Change Program and the Department of Foreign Affairs, Trade and Development Canada; the Royal Ministry of Foreign Affairs of Denmark and the Danish Green Growth Fund; the Federal Ministry of Finance of Austria; and the Ministry of Foreign Affairs of Finland.

In addition, IFC thanks contributors to the GEF-IFC Earth Fund Platform, and the Energy Sector Management Assistance Program (ESMAP) of the World Bank whose support helped seed EDGE.

## **COLLABORATION ACKNOWLEDGEMENT**

IFC thanks the Georgetown University McDonough School of Business for collaborating on developing the market intelligence reports.

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