



GREEN BUILDINGS MARKET INTELLIGENCE ARMENIA COUNTRY PROFILE



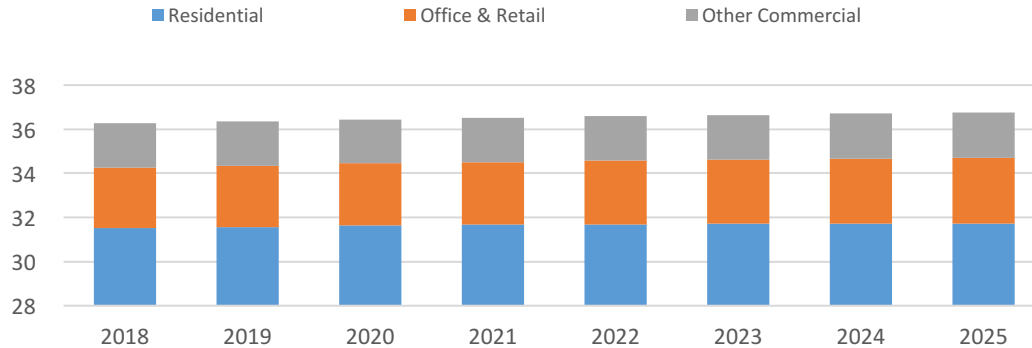
Creating Markets, Creating Opportunities

ARMENIA: COUNTRY SUMMARY



MARKET GROWTH

Building Stock (million m2)



Market through 2025

Commercial
Residential

Total market

USD .28 B
USD .33 B

Green market

nascent
nascent



OTHER FACTORS

Second-most densely populated of the post-Soviet states.

From 2010 to 2013, country pursued Armenian Sustainable Energy Finance Facility funded by EBRD to expand financing to development of green power supply generation



CLIMATE POLICIES (NDCS)

Urban development, including buildings and construction, identified as one of the 6 sectors for climate mitigation.



MARKET STATUS

Building stock is shrinking in the logistics sector and in multi-unit residential and growing very little in other sectors.
Opportunity lies in retrofits, instead of new construction.



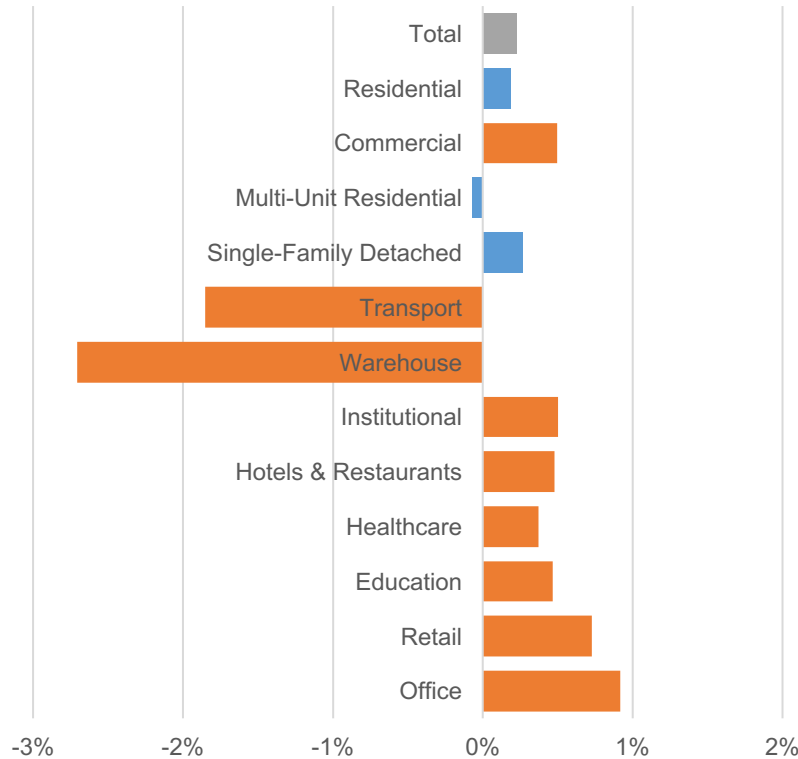
GREEN BUILDING PROGRAMS

Nascent market without an established local advocate agency.
Only two certified projects.
IFC-led green financing indicate green building market has growth potential.



CONSTRUCTION HAS SLOW GROWTH AND GREEN EXPECTATIONS ARE MODEST EXCEPT IN RETROFITS

MARKET GROWTH BY SUB-SECTOR (CAGR)



MARKET PREDICTIONS

- New buildings market growth is very slow, at less than 1% CAGR through 2025.
- Some sectors, like transport and warehousing, are losing floor space as new buildings are not replacing obsolete Soviet-era structures.
- Investment opportunity will be in refurbishments.

GREEN PREDICTIONS

- Given low expectations for new buildings, green expectations for new construction are modest.
- EDGE refurbishment tool will greatly enhance the viability of green buildings in Armenia.



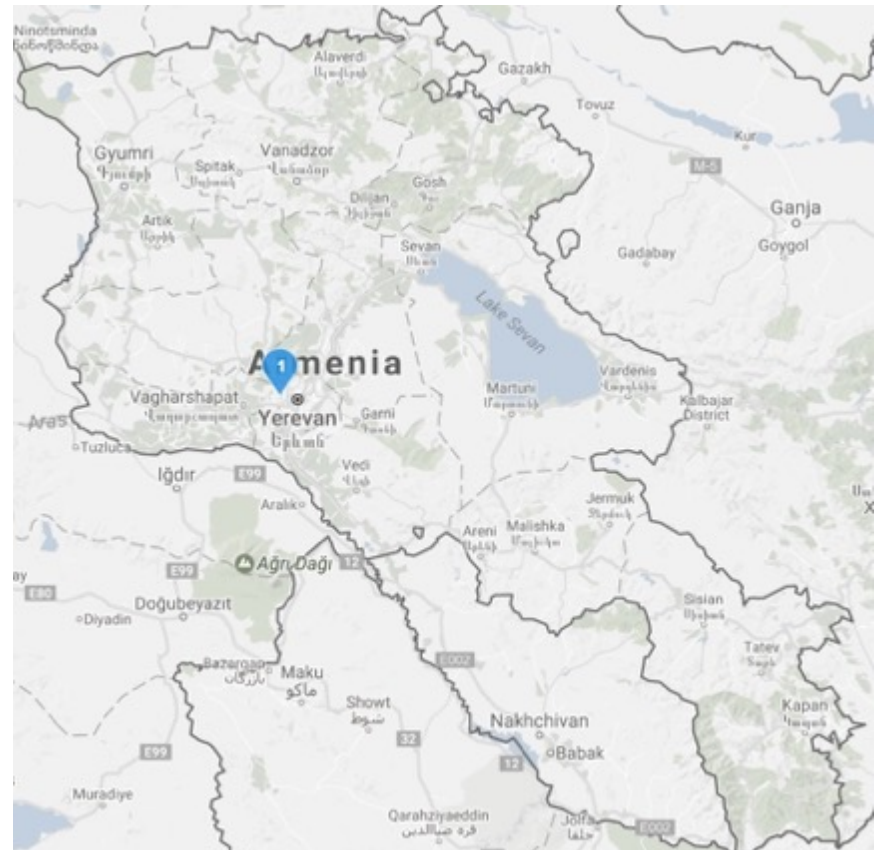
GREEN PENETRATION IS LOW BUT COUNTRY IS FAMILIAR WITH FINANCING FOR REFURBISHMENTS

Certified and registered buildings are located within Yerevan, Armenia's highest density city and capital.

Country is familiar with green financing, as IFC and Byblos Bank Armenia initiated green residential financing in 2012.

In 2017, Armenia had only two green building activities by educational non-profits, including both certifications and registrations.

With familiarity with residential green financing and green certified projects, Armenia is an opportunity for green building growth in the Caucasus.



Recent projects include:

Type	Name	Location	Investor
Non-Profit	AMAA Avedisian High School	Yerevan	AMAA
Non-Profit	UWC Dilijan	Dilijan	UWC Dilijan



GREEN RESIDENTIAL FINANCING EXPERIENCE IN ARMENIA

- In 2012, Armenia's Byblos Bank partnered with the IFC to expand mortgage lending to homeowners who wanted to make their residences energy efficient by nearly 10%.
- A \$10 million loan was provided by the IFC to Byblos Bank Armenia to design financial products in conjunction with the IFC's experienced advisory and consulting support partners.
- IFC's Armenia Sustainable Energy Finance Project was implemented in partnership with the Austrian Ministry of Finance, extending green financing knowledge beyond borders to experienced policy makers.
- Individual loans up to \$100,000 USD were allocated for 15 years at market interest rates.
- The IFC and Byblos Bank partnership illustrates the successful application of green building financing to individual residential housing.
- The loan duration, market interest rates, and loan amounts segmented borrowers whose residential buildings were best-suited for upgraded energy efficiencies.





LEARN MORE ABOUT EDGE CERTIFIED PROJECTS IN EUROPE

The EDGE website provides a wealth of resources for developers and investors interested in learning more about the EDGE planning and certification process and calculating the approximate energy and water savings that can be obtained as a result of green construction.

EDGE has also documented construction projects from around the world in a series of case studies. The Kaufland project in Bulgaria is Europe's first case study:



KAUFLAND

Bulgaria

Building Category: Retail

Predicted Savings of EDGE Certification:



37% Energy Savings



53% Water Savings



30% Less Embodied Energy in Materials

To access this case studies and others, visit <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



PROJECT TYPE	CERTIFICATION	DESIGN AUDIT	FINAL AUDIT	TOTAL
Residential (one unit type)	\$1,500	\$3,650	\$4,320	\$9,470
<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	\$10,265
<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

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