IFC’s Green Buildings Market Transformation Program
Green Buildings are Critical in Mitigating Climate Change

Today's buildings generate **19 percent of GHG emissions** and consume 40 percent of electricity globally. By 2050, the built environment is expected to double due to high population growth and urbanization trends. Most of this growth will occur in emerging markets, particularly in middle-income countries. The adoption of resource-efficient building practices offers a chance to secure emission cuts at a low cost and lock in energy and water savings for decades.

Currently only a small volume of buildings is designed and certified as green. Government regulations are often not in place to require green building practices, and voluntary standards are complex and not widely applied. Developers and consumers are only beginning to become aware of the financial benefits of resource-efficient buildings, and financing is not yet designed to support green development. These obstacles inhibit the potential for an era of green construction.

The Multi-Trillion Dollar Opportunity

In an analysis of 21 emerging markets, IFC's report on [Climate Investment Opportunities in Emerging Markets](https://www.ifc.org) found that there is a $16 trillion investment potential for green buildings between now and 2030.

Buildings will continue to be built whether green or not, as financing is readily available. What is important is to diverge the flow of construction finance to support a green economy. The financial sector is critical to unlocking this opportunity, and stands to gain from the dramatically lower risk of climate-proof investments. Governments can do their part to help spur green building adoption by providing either fiscal or non-fiscal incentives to the private sector.

Green buildings sell faster, with higher value, and reflect well on a company's brand, all of which can be capitalized upon by the property sector. It's an opportunity for the industry to create a more profound relationship with customers, as ultimately it is homeowners and commercial property owners who benefit from lower utility bills and higher resale potential. The decision to build green is a business proposition that resonates with all.

A Priority for IFC and the World Bank Group

IFC's Green Buildings Market Transformation Program helps to create a virtuous cycle of supply and demand for resource-efficient building design, construction and ownership. The aim is to set a metrics-driven definition of what constitutes a green building, reward property developers for building green, increase regulatory pull, and promote direct investment.

Following is IFC's strategy to promote green building growth:

1. **An enabling environment** of supportive government policies that raises the bar through increasingly greener building codes. Governments can provide the right mix of incentives to the private sector and raise public awareness about the benefits of green building ownership. IFC offers expertise on government policy reform.
2. **A metrics-driven definition** through the EDGE green building standard and scalable certification system that focuses on a minimum achievement of less energy, water and embodied energy in materials. The standard is verifiable and leads to demonstrated reductions in utility costs.
3. The identification of low-cost, high-return design options through **easy-to-use software** that encourages architects and engineers to choose the best design practices and solutions, combined with a fast, inexpensive certification system to verify that the standard has been met.
4. **Direct investment** in IFC's own green buildings portfolio, mobilization through its banking partners, and support for new product development such as green mortgages, green bonds and green construction financing. EDGE can be used to streamline eligibility procedures and the reporting needs of financial institutions as they move towards green investment portfolios.
5. **A collection of evidence** that building green is profitable for all parties in the ecosystem. This can best be achieved through a network of global champions and certification entities who support the verification, rewarding and collection of data for proof of concept reporting.
Engagement with Policy Makers

IFC has long-standing experience working with regulators on green building codes that are low-cost for the private sector to implement, easily enforceable, and impactful for the environment. This includes raising building efficiency standards, promoting policies to leverage private sector innovation, and providing support once codes are established. IFC has helped to develop regulations in Bangladesh, Colombia, Costa Rica, Indonesia, Panama, Peru, the Philippines and Vietnam.

Engagement with government counterparts at the city, regional and national level has led to the development of a road map for code implementation:

- **Preparation**: Prior to code development, IFC prepares a cooperation agreement with the responsible government agency to designate the scope of the project along with the budget and resources required.

- **Development**: IFC uses a ground-up approach that is informed by internationally accepted best practices, tempered by the local context (i.e., analysis using local climatic data, local building stock data and conducting a rigorous sensitivity analysis based on local data). Surveys on recently built buildings are used to calibrate computer models that predict the effect of energy and water efficiency measures on the consumption and cost of energy by building type. Financial feasibility for each proposed efficiency measure is evaluated based on costs sourced from the local market to establish realistic costs of implementation.

- **Stakeholder consultations** are held to build consensus and once the assessment and a draft code is ready for implementation, IFC supports with recommendations on awareness raising.

- **Enforcement**: After the code is launched, IFC advises on permit integration and compliance mechanisms, including both incentives and penalties. Support for adoption is provided through user guides, technical calculators and training, with pilot projects showcasing best practices.

- **Improvement**: IFC takes a long-term view by assisting the government agency with code revisions to adapt to policy changes and higher aspirations over time.

IFC finds great value in engaging the public sector on codes and policies. IFC has also developed a tip sheet on **10 Ways Governments Can Encourage Green Building Growth**. Awareness raising by the public sector through a code initiative inevitably seeds support for beyond-code policies. When enforced, codes deliver GHG gains across a broader base of buildings than voluntary certification alone can realize.

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GREEN BUILDING CODES IN JAKARTA

By 2030, 70 percent of Indonesia's population will live and work in cities, with building sector emissions expected to grow by 4.5 percent annually. On average, families spend 10 to 15 percent of their household incomes on utilities.

In 2012, as part of its plan to reduce emissions by 26 percent by 2020, the Indonesian government turned to IFC for support in writing its green building codes.

Already, more than 15 million square meters of floor space in Jakarta have complied with the new code.

IFC advised the city through code design, stakeholder consultation, and a communication campaign, including an [IT platform].

Photo credit: [http://www.fourseasons.com/jakarta/](http://www.fourseasons.com/jakarta/)
A Long-Term Commitment to Financing Green Buildings

IFC makes direct investments in green affordable homes, hotels, shopping malls, warehouses and hospitals, and mobilizes green financing from intermediaries to support the growth of all green building typologies. IFC provides existing and new clients with investment support and advisory services intended to facilitate development of effective green buildings. IFC focuses on:

- Investment and technical assistance for clients who wish to develop green buildings or retrofit existing buildings;
- Assessment of developing green building investment facilities, either country or region-specific or client-specific;
- Promotion of the benefits of greener construction technologies and materials across the supply chain.

With a cumulative investment portfolio in green buildings now over 3 billion dollars, IFC demonstrates the potential for financial success in the sector within rapidly urbanizing markets. This encourages positive change in investment patterns where the greatest potential impact can be made. IFC’s own investments are a strong proof of concept that can help catalyze the $16 trillion investment potential for green buildings that exists between now and 2030.

Encouragement of Financial Innovation

Financial institutions play a leadership role in supporting the transition to a low-carbon economy by investing in green building projects and technologies while making attractive returns in the process. Through innovative new products such as green mortgages, lenders can capitalize on a nascent market segment with unlimited potential and generate attractive risk-adjusted returns resulting from a better asset risk profile and higher revenue per borrower.

IFC provides investment and advice to financial institutions to help launch a pipeline of competitive products, which each have tangible benefits for the issuing institution:

- **Green Construction Finance**: potentially lower risk weighting for green real estate financing.
- **Green Mortgages**: increase allowable loan to value from 80% to up to 95%.
- **Green Bonds**: securitization of green building loans as collateralization.
- **Home Improvement Loans**: green housing renovation or purchase plus renovation.

IFC has helped financial institutions offer green buildings investment products in Colombia, India, Kenya, the Philippines, South Africa and Turkey. IFC also provides advisory assistance on business development and strategy, credit and risk management, and training for loan officers and their clients.

THE EXCHANGE: IFC’S INVESTMENT IN ACCRA, GHANA

IFC’s cumulative investments in green buildings now top $3 billion (including own account finance and mobilization via syndicated loans). More and more IFC clients are signing on to use the EDGE green building design and certification system – and some are going a step further to become EDGE champions.

Architecture firm HOK, Carlson-Rezidor hotel group (owner of the Radisson brand) and construction firm Bouygues Bâtiment International have all become EDGE champions, with commitments to use EDGE on up to 80 percent of their client portfolios in emerging markets by 2020.

The three companies were all involved in bringing to life The Exchange, an EDGE-certified 98,000 square meter mixed-use development in Accra. Along with IFC, the Exchange was financed in part by CDC, the UK’s development finance institution, as well as Actis, an investor and IFC client.

Please see the case study and news story for more information on this project.
GREENING BUILDINGS IN COLOMBIA

Bancolombia, Colombia’s largest commercial bank, has issued its first green bond, raising 350 billion Colombian pesos – equivalent to $115 million – to expand financial services for private sector investments that help to address climate change. The green bond, which will be used for green building construction finance, is the first to be issued by a commercial bank in Latin America. IFC is the sole investor. IFC launched the EDGE program in Colombia with CAMACOL, Colombia’s Chamber of Construction.

A Focus on Achievable Resource Efficiency through EDGE

An innovation of IFC, EDGE (“Excellence in Design for Greater Efficiencies”) is an online platform, a green building standard and a certification system for more than 130 countries. The EDGE application helps to determine the most cost-effective options for designing green within a local climate context. EDGE can be used for buildings of all vintages, including new construction, existing buildings and major retrofits.

A project that reaches the EDGE standard of 20 percent less energy use, 20 percent less water use, and 20 percent less embodied energy in materials compared to a base case building can be independently certified. The value of EDGE certification is a promotional advantage, as customers benefit from lower utility bills.

The EDGE software shows within minutes how committing to a few practical energy and water-saving options improves building performance at little or no cost. The numbers are brought to the forefront to reveal the most economically viable path to building green. EDGE focuses the certification process on technical aspects that yield meaningful results. This makes it easier for developers to build a portfolio of innovation that attracts new customers and boosts brand equity.

EDGE works for a variety of residential and commercial buildings, including homes and apartments, hotels and resorts, office buildings, health care facilities, retail establishments, warehousing and light manufacturing.EDGE has been expanded to include the full stage of a building’s life cycle, making it possible to certify existing buildings and major renovations in addition to new construction.

Certification is initiated at the early design stage, when details of the project are entered into the EDGE software and green options are selected. Projects that meet the EDGE standard receive a certificate confirming predicted performance. Offered at a modest cost, EDGE certification includes a preliminary certificate at the end of the design audit, and final certification after a construction audit. The preliminary EDGE certificate can be used to promote the project with the EDGE brand and develop a value proposition for customers who wish to own, rent or work in a green building. EDGE reduces investor risk, attracts customers and makes a CSR statement of corporate excellence and environmental responsibility.

Through its partners, IFC also offers trainings for EDGE Experts. EDGE Experts encourage the construction sector to design and build green by serving as trusted and experienced advisors. They bring their skills, insights and thorough understanding of the EDGE software to instill confidence that a project is certifiably green. Their persuasiveness paves the way for a client to imagine and realize an entirely green portfolio.

Every certified project receives a project study on the EDGE website, building on the evidence that it is faster, easier, and more affordable than ever before to build and brand green.

Technical materials, EDGE Expert training opportunities, and more are available from the EDGE website.
Green Building Market Intelligence

To scale the uptake of green buildings, IFC provides various market intelligence on green buildings.

ICF partnered with Georgetown University to analyze the state of the market and projections for green building penetration in different regions around the world. The analysis includes:

- market growth projections through 2025 for both commercial and residential buildings;
- total investment potential through 2025;
- analysis of climate policies for buildings; and case studies of green building projects.

ICF also provides targeted marketing materials for business development across the various sectors, white papers and updates on technical questions, and insights about the EDGE methodology.

Build a Green Portfolio and Become a Part of a Growing Community of Global Leaders

Join a wide network of market players that extends to national and local governments, banks and real estate funds, major architectural firms, commercial and residential building developers, and academia.

- Register as an EDGE user to receive email updates and keep current on our recent technical developments.
- To book an EDGE Discovery session, please contact Rusmir Music, EDGE business development lead, at rmusic@ifc.org.

Donor Appreciation

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In addition, EDGE thanks contributors to the GEF-IFC Earth Fund Platform, and the Energy Sector Management Assistance Program of the World Bank whose support helped seed EDGE.
EDGE makes it faster, easier and more affordable than ever before to build and brand green in more than 130 countries.

www.edgebuildings.com