Building the Market for Green Buildings
Financing Green Buildings

Real estate is a large and well-established long-term investment asset class for institutional investors and commercial banks. Institutional investors—pension funds, insurance companies, sovereign wealth funds, hedge funds, and mutual funds—hold $100 trillion in assets,\(^71\) of which about 8 percent to 10 percent comprises real estate investments.\(^72\) Commercial banks hold over $110 trillion on their balance sheets\(^73\) and are a key source of financing for real estate through construction finance, mortgages, and home improvement loans. The global market for residential mortgages was estimated to be more than $31 trillion at the end of 2018.\(^74\)

Mobilizing institutional investors is essential to accelerate the uptake of green building practices. Institutional investors participating in the green real estate market will help inject liquidity and enable primary lenders to free up capital to develop new green lending products. They can also play a key role in scaling up local currency financing through direct lending or equity investments in green buildings. Likewise, commercial banks can significantly accelerate the uptake of green building practices by developers and owners through new green financial products for resource-efficient buildings. In return, investors and banks can expand their client base and product offering, build a higher-value and lower-risk portfolio, and access new sources of finance through green bonds, green securitizations, and green credit facilities. To reap these benefits, investors and financiers will need to adjust how they do business: from modifying internal practices and procedures, to overcoming barriers in the green buildings market.
Photo: The homes of Ecoloft Jababeka Cikarang, developed by Asia Green Real Estate and certified with EDGE, are estimated to be more than 80 percent energy efficient.
How to build a green real estate portfolio

To build green real estate portfolios, investors and banks can follow these steps and best practices from both developed and emerging markets.

1. Develop a green buildings asset strategy and process

- Develop a green buildings asset strategy for the company.
- Define green buildings and eligibility criteria for projects and develop a selection and valuation process.
- Embed green building criteria into loan documents.
- Establish a system for identifying, analyzing, and reporting green buildings finance.
- Train investment and credit staff on how to identify and screen projects.

*Best practice is to rely on well-established green building certification and labeling systems for an industry-accepted definition and eligibility criteria for green buildings. The most material considerations for green assets include resource efficiency and carbon emissions that can be measured, tracked, and reported.*

2. Create green buildings finance products

- Develop green buildings finance products—green construction loans, green equity, and green mortgages—and consider appropriate financing terms for specific markets.
- Consider developing interlinked products (such as financing green construction and offering green mortgages for the same building).
- Consider developing products to expand services to existing clients (for example, loans to improve the energy efficiency of existing buildings in your portfolio or green loans to existing developers).
- Consider developing new capital markets products such as green bonds and securitizations to boost liquidity.

*Best practice is to consider providing better financing terms that can help offset or spread over time the higher upfront cost of green construction to developers and home buyers.*
Develop a marketing and outreach strategy for developers and home buyers.

- Develop internal technical expertise in green construction and green finance. Consider training through an internationally accepted green building certification system.
- Provide technical advice and support to developers on green construction and how to minimize upfront costs.
- Train residential property developers on how to issue green building certificates to each home buyer, so that banks can issue a green mortgage.

Best practice is for financial institutions to actively engage developers to demonstrate the economic benefits of green construction and offer technical support on how to cost-effectively build green.

To reach prospective home buyers, it is important to explain that the long-term benefits of green homeownership outweigh the slightly higher upfront cost. IFC is helping banks generate a pipeline of eligible green building projects through its EDGE Green Building Market Transformation Program. It can also train financial institutions’ staff on technical aspects of green construction, as well as developing and securitizing green finance products.

The green bond and green loan markets are expanding rapidly, with the potential to provide lower-priced capital to support the expansion of green buildings financial products. Green buildings are included in the acceptable use of proceeds within both the Green Bond Principles and the Green Loan Principles, as well as climate bonds and impact investing.

Own capital.
- Access capital markets through green bonds.
- Access dedicated green loans.

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Building a green real estate portfolio: From vision to supporting clients

Dutch bank ABN AMRO views sustainability within the real estate sector as strategically important for managing risk and opportunity. The bank aims to become the most sustainable property bank in the Netherlands and to accelerate the transition to sustainable commercial property. To implement this vision, ABN AMRO developed a sustainability policy to guide its real estate business. The policy sets out specific due diligence standards and minimum requirements for lending to different real estate asset classes, divided into new and existing buildings. It identifies five crucial sustainability issues for real estate: energy consumption and greenhouse-gas emissions, regulatory risk, vacancy levels, asset value, and innovation. The policy establishes processes and targets for each of these five issues to monitor and manage the associated risks.

According to the bank's policy, all new buildings must have a minimum energy label of "A," in line with Energy Performance Certificate requirements, and new commercial buildings must have a BREEAM "excellent" or LEED "platinum" certification. Existing buildings must have an average energy label of "C" on gross floor area in square meters, and a strategy for reducing "D," "E," "F," and "G" labels.

To help commercial real estate clients transition to sustainable real estate, ABN AMRO has launched an online application that allows clients to calculate the investment, return times, and carbon reduction figures for each energy efficiency measure, such as insulation, LED lighting, and solar panels. These economically effective measures can improve a property's energy label by at least two grades. The bank has made €1 billion in financing available for these improvements.

Types of green financial products

The following green financial products are being used by financiers leading the transition to green building portfolios.

GREEN CONSTRUCTION FINANCE: DEBT AND EQUITY

Many banks in emerging markets lack a pipeline of green properties to finance. To build this pipeline, banks can incentivize green construction practices by offering financial incentives to developers and actively engaging with them to raise their awareness and improve capacity in green construction.

To help spread out or offset the higher upfront costs of building green for developers, banks can offer beneficial financing terms such as a discounted rate, longer tenor, longer grace period, or lower front-end fee. To ensure that beneficial financial terms will be used for green construction, banks can start with a conventional loan until the preliminary green certification, based on the planned design, has been achieved. Following the preliminary certification, the beneficial conditions of a green loan will kick in, with clear requirements of the timeframe within which the building has to be completed and certified green.

Another financial benefit that banks can offer is to cover green certification costs in part or in full. To offset this investment, banks can peg their green mortgage product to the certified building they are financing to build.
Shaping the green construction market in Colombia

Bancolombia, Colombia’s largest commercial bank, provides over 40 percent of the construction finance in the country. Realizing the business value of green construction, it decided to grow its green building portfolio. To finance this expansion, the bank issued a $117 million green bond with IFC in 2016. Using the proceeds of the green bond and its own capital, the bank offered green construction financing at an interest rate of 0.5 percent to 2 percent lower than conventional loans. The more measurably green the project was, the better the financing rate. Qualified projects had to receive a preliminary certification from an approved green building rating system such as LEED or IFC’s EDGE and confirm the certification on the building’s completion. Until the preliminary certification was received, the bank provided a developer with a conventional, non-discounted loan.

To build its pipeline of green construction projects, Bancolombia held events in 17 cities around the country, attracting 500 property developers. An intensive digital marketing strategy supplemented its approach, with an online knowledge platform, webinars, prime-time advertising, and social media. In the first year, 25 projects were put forward by developers to secure the discounted rate.

In addition, Bancolombia offers green mortgages to qualifying home buyers who buy certified properties at a rate 65 basis points lower than usual for the first seven years of the loan.

To recover its investment and continue to expand its green construction and mortgage portfolio, the bank is tapping into lower-cost capital. In 2018, it issued a second green bond worth $100 million. The bond was oversubscribed 2.8 times and attracted 72 domestic investors, lowering the cost of capital for the bank.

Access to the bond market and cheaper capital is key to the bank’s strategy to profitably build a better portfolio of green assets. The bank expects that once there is sufficient proof that greener assets have greater value and less risk, the cost of incentives can be assumed by the other players in the market.

Next, the bank plans to expand its program to El Salvador and Panama, where it also operates.
In other words, banks can finance the same building twice: through green construction finance and through green mortgages. The building’s green certification could satisfy the conditions required for green mortgages without extra appraisal steps.

To support the development of new green construction finance products, banks can boost their liquidity and lower their cost of capital through green bonds, green securitizations, green loans, and government programs designed to incentivize building green.

Offering beneficial financial terms attached to green products may be necessary to jump-start the market. However, such terms could be phased out over time as awareness of the benefits of green buildings grows among developers and buyers, and the upfront incremental costs decline due to economies of scale with the wider adoption of green building practices. Alternatively, banks may choose to retain these incentives to maintain their competitive position and remain attractive to lower-risk borrowers.

Banks have also been incorporating outreach and support to developers into their business marketing efforts to raise awareness and build capacity in green construction, and build a pipeline of projects to finance. Such outreach efforts include holding road shows to present the business case for green buildings and the bank’s green construction finance offering, providing information on various green building certification systems, and employing a technical specialist on green construction who can advise clients. As building codes and building energy efficiency codes become more stringent to drive green construction, the need for developer education will diminish. However, banks may choose to continue to educate consumers as part of their marketing outreach and customer service to help clients comply with new requirements.

In addition to commercial banks, equity investors such as real estate funds and real estate investment trusts (REITs) can offer similar products.

**ING: Client education to strengthen client relationships**

ING, the largest commercial real estate financier in the Netherlands, developed an app to help its borrowers identify the energy improvement measures for their buildings that provide the most attractive financial returns and biggest carbon emission reductions. The borrower enters basic information about their buildings such as type, age of construction, and floor area. The app analyzes their portfolio and recommends the top 10 measures per building to lower energy costs and reduce carbon emissions, showing indicative costs, financial returns, and carbon reductions. If the app indicates energy savings greater than €15,000 per year for a building, the client is offered a free on-site BREEAM and energy audit.

Within its first two years, the app had been used to scan 18,000 buildings measuring 10 million square meters (65 percent of ING’s real estate finance portfolio). ING’s goal is to reach 5,000 clients that would equal to 28,000 buildings. It plans to roll out the app to other European countries. In addition, to help stimulate the Dutch market, ING has started providing discounts on “sustainable loans,” as well as providing advice and offering free Energy Performance Certificate assessments to its clients.78
RETAIL BANKING: GREEN RESIDENTIAL MORTGAGES

Home buyers are often more concerned with a home’s immediate affordability than its long-term operating costs. Typically, a green home is more expensive than regular construction, though not as much as the market perceives, and the cost can be minimized if green measures are brought early into the design process. Banks can work together with developers to educate home buyers about how the energy performance of a green home will yield a return on a high sales price through lower utility bills and other benefits, decreasing the cost of homeownership over time.

An important tool to advance greater adoption of residential energy and resource efficiency is flexible mortgage pricing or underwriting that reflects the savings that come from resource efficiency. It can include a lower down payment, as savings on utility bills can be redirected into a larger loan payment. Banks can adjust the debt-to-income ratio by treating savings as an increase in a customer’s income, allowing them to expand the pool of eligible customers. They can also pass lower interest rates for green financing to end customers to incentivize buying green homes and to build a higher-value, lower-risk mortgage portfolio.

Banks have been reluctant to implement these incentives partly because there has been insufficient data on loan performance to justify such measures. However, a recent survey of 10 large European banks found that the emerging financial case for green energy improvements is compelling enough to test green products without a perfect green

Using green construction finance to launch a green mortgage program

In 2016 Costa Rican bank Banco Promerica obtained a $30 million loan from the Dutch development bank, FMO, to launch a green construction finance and green mortgage program. Before the bank could launch a green mortgage program, it had to build a sufficient pipeline of certified green properties. To incentivize developers to build green, the bank offered a discount on green construction finance. It charged 8.75 percent (instead of 9.25 percent), offered a 0.75 percent front-end fee (instead of 1 percent), and provided a four-year term (instead of three years). Depending on the project, the discount on the front-end fee covered most of the cost of the upfront requirement of green certification. Promerica succeeded in building a sufficient supply of green properties to start offering green mortgages. It offers qualifying home buyers a 30-year fixed rate that is slightly higher than the market rate for 30-year variable-rate mortgages in the country. It aims to expand its mortgage portfolio, which is currently 10 percent of its business. To finance this expansion, the bank plans to securitize its green mortgage portfolio once it reaches $20 million to $30 million in size.
Examples of green bonds issued to finance green buildings in 2018

Financial institution ING: $3 billion. About 35 percent of the proceeds will finance buildings with an Energy Performance Certificate Label A and emissions performance within the top 15 percent of the Dutch market.

Mortgage institution DNB Boligkreditt: $1.7 billion. Proceeds will finance or refinance new and existing mortgages for housing that complies with the Norwegian building codes 2010 (TEK10) or 2017 (TEK17), corresponding to the top 7 percent of Norwegian housing in terms of energy performance.

Lithuania placed the first tranche (€20 million, or $24 million) of its sovereign green bond program, with proceeds earmarked for energy efficiency upgrades to about 160 apartment buildings.

Industrial Development Corporation, South Africa: $651 million for low-carbon buildings.
performance data history and, in the process, collect data to further assess the financial performance of green buildings loans. Furthermore, 47 European banks and mortgage lenders have joined the EU-sponsored Energy Efficient Mortgage Initiative, under which they provide preferential financial terms for buying energy-efficient buildings or improving the energy efficiency of existing buildings. The initiative collects large-scale empirical evidence from the participating financial institutions on the financial performance of energy-efficient mortgages.

**GREEN BONDS**

Building a portfolio of certified green buildings provides an opportunity for banks to increase their liquidity, develop new capital markets products, and expand their access to lower-cost capital, and for institutional investors to put their capital in green assets.

Green bonds tap into international resources to leverage a wider investor base such as pension funds, sovereign wealth funds, and insurance companies and can potentially reduce the cost of borrowing for the issuer. Offering a similar risk-return profile to traditional bonds, green bonds provide lower-cost, stable funding opportunities. Low-carbon buildings are one of the eight sectors accepted for the use of proceeds under the Green Bond Taxonomy.

To provide sector-specific real estate guidance for issuers and investors, the Global Real Estate Sustainability Benchmark (GRESB) developed the Green Bond Guidelines for the Real Estate Sector. The guidelines establish a framework to identify eligible green projects, implement and manage investment proceeds, and communicate outcomes.

2018 saw a record $167.4 billion in green bond issuances, bringing the total market size to $521 billion. 2019 is expected to be another record year, with issuances estimated to reach $250 billion. Commercial banks, property banks, and REITs were the most active in financing real estate property in 2018.

Banks have used mainly senior unsecured bonds to fund mortgage lending programs for energy-efficient homes (ABN AMRO, Barclays) and commercial properties (BerlinHyp, LBBW), along with residential mortgage-backed securities (Obvion, NAB) and covered bonds.
How to issue a green bond, loan, or sukuk

Any entity that has suitable green assets can issue a green bond, a green sukuk (the Arabic name for financial certificates that comply with Islamic religious law commonly known as Sharia), or a green loan. Green assets that are suitable for these instruments include renewable energy, low-carbon transport, low-carbon buildings, sustainable water and waste management, sustainable land use, and climate change adaptation measures such as flood defence infrastructure. To issue a green bond, loan, or sukuk, follow these key steps:

1. Develop a green bond framework that outlines eligibility criteria for projects/assets, a selection process, and a tracking and reporting mechanism.

2. Arrange an external review, which could include:
   - An assurance report to confirm the framework’s compliance with the Green Bond Principles and the Green Loan Principles.
   - A green rating against a well-recognized third-party rating methodology to consider the investments’ environmental aspects.
   - A verification report by a third party before and after issuance confirming that the use of proceeds of the certified climate bond adheres to the Climate Bonds Principles and Sector Criteria and the 2°C scenario and full decarbonization by 2050.

3. Check for local subsidies and support. Some governments offer grants, subsidies, and tax deductions to cover green advisory and issuance fees, and the cost of external reviews.

4. Issue a green bond, sukuk, or loan.

5. Report after issuance every year on the allocation of funds to green projects. It is best practice to also report on the environmental performance of financed projects in absolute terms and against an accepted benchmark.

Adapted from the Climate Bonds Initiative report: https://www.climatebonds.net/resources/reports/green-bonds-state-market-2018.
Barclays blueprint for green bonds

Barclays has a significant presence in the UK residential mortgage market. In 2017, it launched the Barclays Green Bond Framework to enable it to finance and refinance low-carbon buildings. The framework, which complies with the International Capital Market Association’s 2017 Green Bond Principles, articulates the use of proceeds and the process for evaluating and selecting projects, managing proceeds, and reporting.

**Use of proceeds:** Barclays will allocate an equivalent amount of funding proceeds from its green bonds to finance and refinance energy-efficient residential mortgages that are in the top 15 percent of the lowest carbon-intensive properties, based on Energy Performance Certificate data.

**Process of evaluation and selection:** Barclays’ residential mortgage portfolio will be mapped against the latest Energy Performance Certificate data and filtered to ensure mortgages are not encumbered and are in the top 15 percent of the lowest carbon-intensive properties.

**Managing proceeds:** The size of the allocated portfolio of eligible mortgage assets will be monitored monthly, while redeemed or ineligible mortgages will be replaced by other eligible mortgage assets.

**Reporting:** Barclays will publish an annual investor report. A suitably qualified assurance provider will also perform and report on verification testing.
for commercial property (Berlin Hyp, Deutsche Hypo) or housing 
(SpareBank 1, DNB Boligkreditt). Securitization remained the second-
largest bond type, driven by the $20 billion issued by mortgage loan 
company Fannie Mae. Swedish mortgage bank SCBC issued its debut 
green covered bond in January 2019. Of the green bond allocations 
made for green buildings, 13 percent were by emerging market issuers 
and 19 percent by developed market issuers.

**GREEN LOANS**

In March 2018, the Loan Market Association published the Green 
Loan Principles to support and encourage green lending. Modeled on 
the Green Bond Principles, the Green Loan Principles specify how loan 
proceeds should be used and how projects should be selected in order to 
qualify for green-loan status. The market for green loans is expected to 
surpass the market for green bonds because it is more widely accessible. 
In 2018, the green loan market reached nearly $56 billion, 
with real estate entities issuing 32 percent of green loans by amount.

**GREEN INSURANCE PRODUCTS**

Insurance companies play a unique role in advancing green 
construction. They are both a source of capital, as institutional 
investors managing $31 trillion in assets, and insurers that can help 
promote green finance products.

Insurance companies’ ability to develop new green insurance products 
depends largely on green building certifications, because going through 
well-established green building certification systems allows developers 
to better identify and reduce risk, making them better candidates for 
insurance.

New insurance products that support the growth of the green buildings 
market include:

- Premium discounts for homes that meet stringent efficiency and 
sustainability standards.

- Homeowners’ coverage for replacing or rebuilding after a loss with 
more eco-friendly materials as part of a standard homeowner’s 
policy. Some companies will pay homeowners extra if they replace 
old energy-inefficient appliances with Energy Star devices and recycle 
debris rather than send it straight to a landfill.

- Policies designed for homeowners who generate their own power. 
These policies cover income loss due to power outages and extra 
expenses homeowners might incur to buy electricity from another 
source. They generally cover the cost of getting back online, such as 
utility charges for inspection and reconnection.

- For commercial properties, green upgrade insurance enables 
policyholders to replace traditional systems and materials with green 
ones, in accordance with well-established certification systems. If the 
entire building is destroyed, green insurance will often pay for the 
replacement with a green-certified building.

For properties that have already been certified green, some insurers 
offer reduced rates and provide coverage for vegetated roofs, alternative 
water systems, and green power generation equipment if a loss occurs. 
In addition to providing green insurance, many companies are starting 
to provide green risk management consulting to help organizations 
select the most cost-effective and proven options. They help clients 
identify ways to reduce energy consumption and costs, decrease 
operating costs, and reduce risk and losses.

**Investors needed to create markets**

Mobilizing private investors and financiers to participate in the green 
construction market is essential to reducing emissions from buildings at 
the scale required to reach carbon neutrality. National and multinational 
development finance institutions and governments play a critical role in 
catalyzing nascent markets and facilitating the entry of private capital.

**DEVELOPMENT FINANCE INSTITUTIONS**

National and multinational development finance institutions pursue 
a number of development objectives, including climate goals. While 
the amount of financing they have invested in green buildings is small 
in absolute terms, these institutions play a critical role in catalyzing 
markets and facilitating the entry of private investors.
Development finance institutions provide a range of financial products, including blended finance, not readily available in their markets, often in combination with technical support and capacity-building programs for local financial institutions, developers, and other stakeholders. They also advise governments on developing the enabling environment to incentivize green construction and green finance, and work with multiple stakeholders to create the right conditions for the green buildings market to grow.

IFC is coordinating the development of a green building programmatic approach with other development finance institutions and is sharing best practices and lessons learned. In collaboration with the Inter-American Development Bank, GIZ, and others, IFC is advancing green buildings through joint investments, and technical trainings, and by demonstrating the business case in emerging markets.

In addition, development finance institutions have a clear role in supporting the growth of green affordable housing. Many emerging markets face the urgent need to meet the shortfall in affordable housing. The priority has been placed on building fast and at scale, while the attention on green construction has been lagging. The green buildings market is currently too nascent to scale and compete with the cost margins of conventional practices. Development finance institutions can help demonstrate the viability of affordable green housing finance through their own investments in partnership with private lenders for the market to follow.