IFC | International Finance Corporation
WORLD BANK GROUP

*Creating Markets, Creating Opportunities*

# IS BLENDING WITH GREEN WORTH IT?

**Presented by: Njambi M. Macharia**

# IFC is a Member of the WORLD BANK GROUP

WORLD BANK GROUP

| IBRD | IDA | IFC | MIGA | ICSID |
|---|---|---|---|---|
| International Bank for Reconstruction and Development | International Development Association | International Finance Corporation | Multilateral Investment Guarantee Agency | International Centre for Settlement of Investment Disputes |
| Loans to middle-income and credit-worthy, low-income country governments. | Interest-free loans and grants to governments of poorest countries. | Solutions in private sector development. | Guarantees of foreign direct investment's non-commercial risks. | Conciliation and arbitration of investment disputes. |

# IFC HAS A FOUR-PART STRATEGY TO SUPPORT GREEN BUILDING GROWTH




**>20** banking clients — Financial Institutions (FIs) supported for green buildings (direct finance or technical assistance)

**$1.4bn** — Investment to FIs since 2005 for green mortgages or green construction-related projects

**$5bn** — Investments to clients with green demonstration projects (equity and debt for developers)

**~124M SQM** — Floor area certified post-design using EDGE

**50** — Countries with EDGE certified projects

**10** — Countries supported on developing green building codes and incentives

Edge

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# THE CHALLENGE OF UNSUSTAINABLE CONSTRUCTION

**Housing Demand** → **Unsustainable Construction** → **Climate Challenges**

**1.6 bn** people in sub-standard conditions

**Half** of 2060 buildings are **not built yet**

**18%** of energy-related GHGs from residential buildings

**10%** of emissions from buildings construction

Speed of decarbonization is falling

**140 million** climate refugees by 2050 – need for resilience

Efficiency benefits end-users: low-income families spend **25%** of income on utilities and housing

*Further resource: Global Status Report for Buildings and Construction*

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# DRIVERS OF PROFITABILITY FOR GREEN AND AFFORDABLE HOUSING

1



Access to international green finance flows for better financing terms

2



Minimized incremental cost through early planning

3



Faster sales through market differentiation

4



Savings on utility bills for owners and renters

5



Lowered default rates and superior collateral value for green mortgages

6




Government incentives

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# DRIVERS OF PROFITABILITY FOR GREEN AND AFFORDABLE HOUSING

| | Main stakeholder | | | |
|---|---|---|---|---|
| **Profitability driver** | **Government** | **Lender** | **Developer** | **Homebuyer** |
|  **Access to green finance** | Attract better financing & increase access | Attract better financing | Attract better financing | Receive pass-through better financing terms |
|  **Minimized costs** | Minimize costs for socialized housing | | Minimize costs for a differentiated product | |
|  **Faster sales** | | | Reduce total cost of financing | |
|  **Utility bill savings** | Lower burden on utilities | Leads to lower default rates | Marketing for differentiated product | Increase in disposable income |
|  **Lowered default rates** | Possibility for regulatory change | Possibility for financial innovation | | Receive pass-through better financing terms |

| Green Mortgage Scenarios | Base Case: Conventional Home, Conventional Mortgage |
|---|---|
| Price of conventional home | 15,000 |
| Incremental cost of green measures | - |
| Price of green home | 15,000 |
| Down payment (% of price) | 20% |
| Down payment ($) | 3,000 |
| Loan amount | 12,000 |
| Interest rate | 18% |
| Term (years) | 10 |
| Monthly mortgage | 216 |
| Monthly utility savings | - |
| Monthly cost of ownership | 216 |

| Green Mortgage Scenarios | Base Case: Conventional Home, Conventional Mortgage | Scenario 1: Green Home, Conventional Mortgage | Scenario 2: Green Home, Developer Absorbs Incremental CapEx | Scenario 3: Green Home, Lower Mortgage Down Payment | Scenario 4: Green Home, Lower Mortgage Interest Rate |
|---|---|---|---|---|---|
| **Price of conventional home** | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 |
| **Incremental cost of green measures** | - | 150 | 150 | 150 | 150 |
| **Price of green home** | 15,000 | 15,150 | **15,000** | 15,150 | 15,150 |
| **Down payment (% of price)** | 20% | 20% | 20% | **15%** | 20% |
| **Down payment ($)** | 3,000 | 3,030 | 3,000 | 2,273 | 3,030 |
| **Loan amount** | 12,000 | 12,120 | 12,000 | 12,878 | 12,120 |
| **Interest rate** | 18% | 18% | 18% | 18% | **17.5%** |
| **Term (years)** | 10 | 10 | 10 | 10 | 10 |
| **Monthly mortgage** | 216 | 218 | 216 | 232 | 214 |
| **Monthly utility savings** | - | -15 | -15 | -15 | -15 |
| **Monthly cost of ownership** | 216 | 203 | 201 | 216 | 199 |
| **Change in resident's monthly cost of ownership** | - | **-6%** | **-7%** | **0%** | **-8%** |
| **Change in bank's monthly income** | - | **1%** | **0%** | **7%** | **-0.8%** |

nly

| Green Mortgage Scenarios | Base Case: Conventional Home, Conventional Mortgage | Scenario 1: Green Home, Conventional Mortgage |
|---|---|---|
| Price of conventional home | 15,000 | 15,000 |
| Incremental cost of green measures | - | **150** |
| Price of green home | 15,000 | 15,150 |
| Down payment (% of price) | 20% | 20% |
| Down payment ($) | 3,000 | 3,030 |
| Loan amount | 12,000 | 12,120 |
| Interest rate | 18% | 18% |
| Term (years) | 10 | 10 |
| Monthly mortgage | 216 | 218 |
| Monthly utility savings | - | **-15** |
| Monthly cost of ownership | 216 | 203 |
| Change in resident's monthly cost of ownership | - | **-6%** |
| Change in bank's monthly income | - | **1%** |

Price Increase

Mortgage Increase

Lower utility bills

Lower cost of ownership

**The larger monthly mortgage is offset by lower utility bills for lower overall monthly cost of ownership.**

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| Green Mortgage Scenarios | Base Case: Conventional Home, Conventional Mortgage | | Scenario 2: Green Home, Developer Absorbs Incremental CapEx |
|---|---|---|---|
| Price of conventional home | 15,000 | | 15,000 |
| Incremental cost of green measures | - | | **150** |
| Price of green home | 15,000 | Price Stays the Same | **15,000** |
| Down payment (% of price) | 20% | | 20% |
| Down payment ($) | 3,000 | | 3,000 |
| Loan amount | 12,000 | | 12,000 |
| Interest rate | 18% | | 18% |
| Term (years) | 10 | | 10 |
| Monthly mortgage | 216 | | 216 |
| Monthly utility savings | - | Lower utility bills | **-15** |
| Monthly cost of ownership | 216 | | 201 |
| Change in resident's monthly cost of ownership | - | Lower cost of ownership | **-7%** |
| Change in bank's monthly income | - | | **0%** |

**Developers usually choose to absorb incremental CapEx and offset the additional costs through faster sales**

## CASE STUDIES:

Inmobiliaria Vinte

CapitalHouse
KIẾN TẠO CUỘC SỐNG XANH

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| Green Mortgage Scenarios | Base Case: Conventional Home, Conventional Mortgage | Scenario 3: Green Home, Lower Mortgage Down Payment | |
|---|---|---|---|
| Price of conventional home | 15,000 | 15,000 | |
| Incremental cost of green measures | - | 150 | |
| Price of green home | 15,000 | 15,150 | |
| Down payment (% of price) | 20% | **15%** | ⬇ Lower down deposit |
| Down payment ($) | 3,000 | 2,273 | |
| Loan amount | 12,000 | 12,878 | |
| Interest rate | 18% | 18% | |
| Term (years) | 10 | 10 | |
| Monthly mortgage | 216 | 232 | ⬆ Mortgage Increase |
| Monthly utility savings | - | -15 | ⬇ Lower utility bills |
| Monthly cost of ownership | 216 | 216 | |
| Change in resident's monthly cost of ownership | - | **0%** | ⬆ Higher cost of ownership amortized on a monthly basis |
| Change in bank's monthly income | - | **7%** | |

## CASE STUDY:



**Governments can lower down deposit requirements to increase purchasing power of lower income groups. Additional mortgage costs are partially offset by lower utility bills.**

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| Green Mortgage Scenarios | Base Case: Conventional Home, Conventional Mortgage | Scenario 4: Green Home, Lower Mortgage Interest Rate |
|---|---|---|
| Price of conventional home | 15,000 | 15,000 |
| Incremental cost of green measures | - | 150 |
| Price of green home | 15,000 | 15,150 |
| Down payment (% of price) | 20% | 20% |
| Down payment ($) | 3,000 | 3,030 |
| Loan amount | 12,000 | 12,120 |
| Interest rate | 18% | **17.5%** |
| Term (years) | 10 | 10 |
| Monthly mortgage | 216 | 214 |
| Monthly utility savings | - | -15 |
| Monthly cost of ownership | 216 | 199 |
| Change in resident's monthly cost of ownership | - | **-8%** |
| Change in bank's monthly income | - | **-0.8%** |

**Some banks are choosing to lower the interest rate to fulfill their green pledge, to pass on their own lowered cost of capital, or to try to gain market share**

Preferential Rate

Lower utility bills

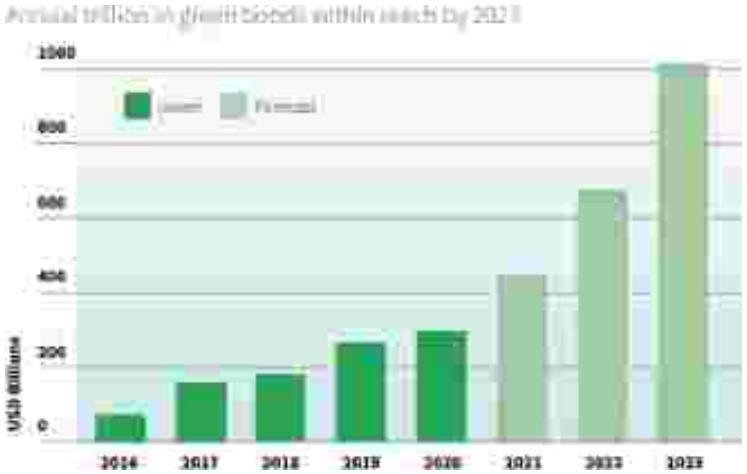
Lower cost of ownership

Preferential loan rate offset by lower default rates and other factors

# 1 ACCESS TO INTERNATIONAL GREEN FINANCE FOR BETTER FINANCING TERMS

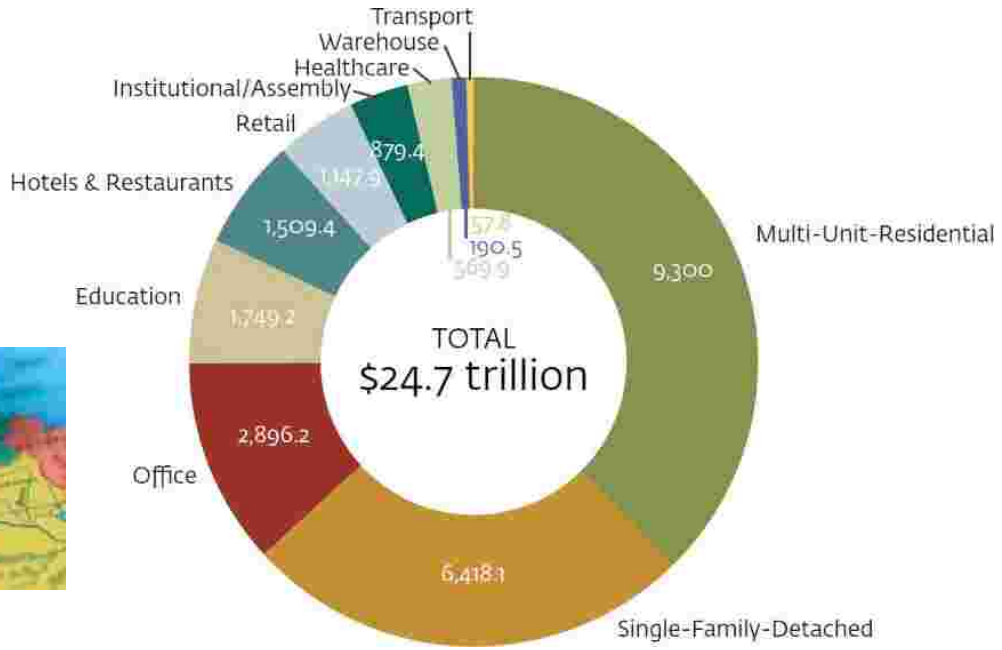
**Investor Demand**

- 1,100 investors with climate pledges
- 10,000 cities with green programs
- $9 trillion in assets committed to net zero





**Green Investment Opportunity**




- Opportunity for growth: $423 billion green market out of $5 trillion investments in 2017

*Further resources:*

- *Global Climate Action*
- *Green Buildings – A Financial and Policy Blueprint for Emerging Markets*

# 2 MINIMIZED INCREMENTAL COST THROUGH EARLY PLANNING

**PERCEPTION:** ***Very high incremental costs, 20-30% additional***

**REALITY:** ***Less than 1% of total costs***

| | |
|---|---|
| **IHS South Africa** | ▪ Less than **1%** of total costs |
| **VINTE Mexico** | ▪ About **1%** of total costs |
| **CIPUTRA Indonesia** | ▪ **4.7%** of total costs |
| **CAPITAL HOUSE Vietnam** | ▪ **1%** of total costs |

*Further resource: Green Buildings – A Financial and Policy Blueprint for Emerging Markets*

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# 3 FASTER SALES THROUGH MARKET DIFFERENTIATION

## Marketing Differentiation

EDGE marketing toolkit with templates for:

- model apartment showcase
- press coverage
- social media campaign, etc.

## Government Incentives

- Lower down payment requirements for green homes.
- Case study of Indonesia: 5% lower loan-to-value ratio.

**QUICKER SALES CYCLE**

**FASTER LOAN REPAYMENT**

**LOWERED COST OF FINANCING**

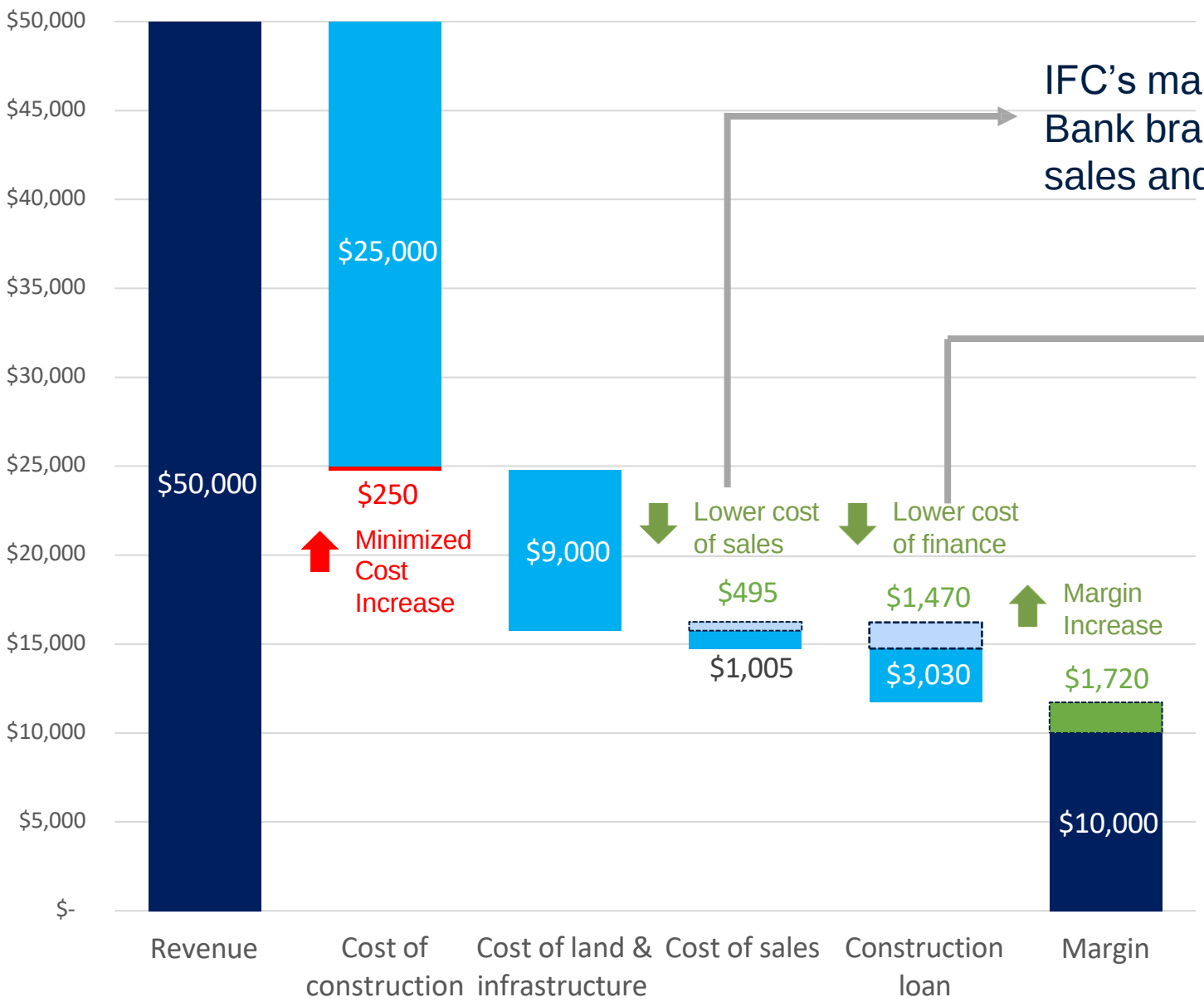
*Further resource: EDGE Marketing Toolkit*

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# FASTER SALES LEAD TO LOWERED COST OF CAPITAL




IFC's marketing channels and World Bank brand affiliation can help boost sales and reduce marketing costs.

With faster sales, developers can repay their construction loan more quickly, and save on their cost of finance.

## CASE STUDIES:

CapitalHouse
KIẾN TẠO CUỘC SỐNG XANH

CASAS KREA
CREANDO TU FUTURO

**Indicative Numbers Only**

# 4 SAVINGS ON UTILITY BILLS FOR RESIDENTS AND RENTERS

| Unit Type | Units | Unit Size (m2) | Rental Range | Sale Price Range |
|---|---|---|---|---|
| 2 Bed 1 Bath | 188 | 54 | $405 - $420 pm | $39 200 - $40 400 |

| Project Summary | |
|---|---|
| Total Development Cost | $6.4 million (Incl. VAT) |
| EDGE Design Certified | November 2015 |
| EDGE Post-Construction Certified | August 2017 |




*Further resource: [Housing Finance International Journal]*

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# 5 LOWERED DEFAULT RATES FOR GREEN MORTGAGES

## INVESTOR-LED INCENTIVES FOR GREEN BUILDINGS

### BANCO PICHINCHA

- 0.1% lower interest rate
- 50% of certification costs covered
- Training

### BANCO PROMERICA

- 0.5% lower interest rate
- Extended grace period and tenor
- Training

### REALL

- Preferential finance
- Training, auditing, certification

### PROCREDIT

- 0.5% lower interest rate
- Technical assistance
- Extended tenor
- Training

### ASIA GREEN REAL ESTATE

- In-house technical assistance

### INTERNATIONAL HOUSING SOLUTIONS

- Training and technical assistance

### IFC - MAGC

- Preferential finance
- Training, auditing, certification

### GLOBAL CLIMATE PARTNERTSHIP FUND

- Technical assistance
- Auditing

*Further resource: [EDGE website for Banks]*

PREFERENTIAL FINANCING

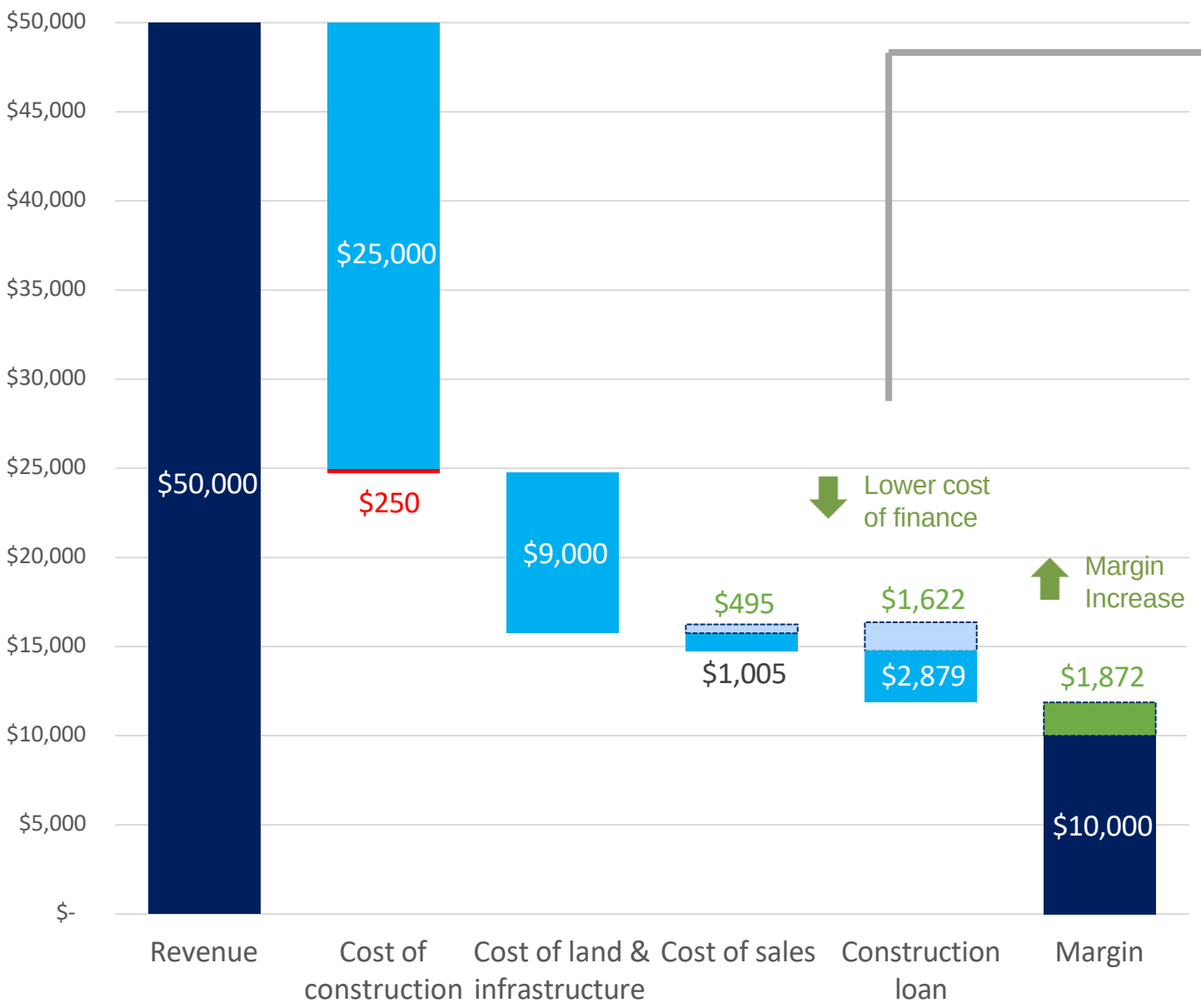
TECHNICAL TRAINING

TECHNICAL ASSISTANCE

SUBSIDIZED AUDITING

SUBSIDIZED CERTIFICATION

# INVESTORS ARE LOWERING INTEREST RATES FOR GREEN




Investors are lowering interest rates for green projects, in order to fulfill their green pledges, to pass on their lowered cost of capital, or to try to gain market share.



## CASE STUDIES:

NEDBANK

Balwin PROPERTIES

absa

ProCredit Bank

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# 6 GOVERNMENT-LED INCENTIVES FOR GREEN BUILDINGS




## ARGENTINA

- Exclusion of VAT (10%)

## BRAZIL: SALVADOR

- Points based system for discount on property taxes

## COLOMBIA

- Exclusion of VAT (19%) and income tax deduction for technical solutions

## GHANA: TAKORADI

- 30% reduction in permit fees

## INDIA: PUNE

- 3-7% extra floor ratio for 30-50% efficiency improvement

## INDONESIA

- 5% lower loan to value ratio

## KENYA

- Tax exemption for green bonds
- Free land for social housing

## PERU: SEVERAL MUNICIPALITIES

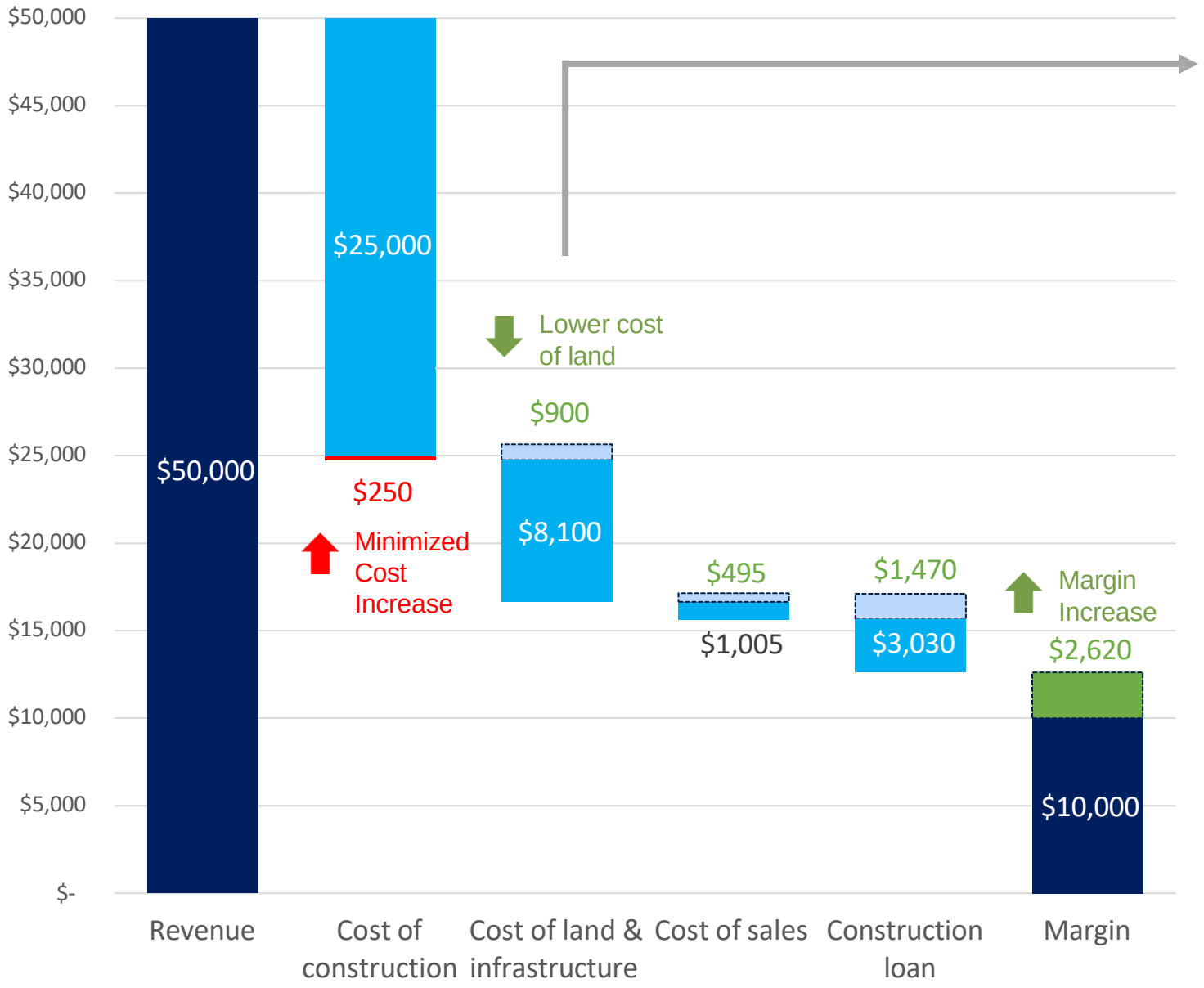
- Height bonus or extra floor ratio

*Further resource: [EDGE website for Governments]*

**FISCAL INCENTIVE**

**NON-FISCAL INCENTIVE**

# GOVERNMENT INCENTIVES BRING DOWN COSTS




Governments can provide incentives, including non-fiscal ones such as bonus density, in order to bring down the cost of construction.




## CASE STUDIES:





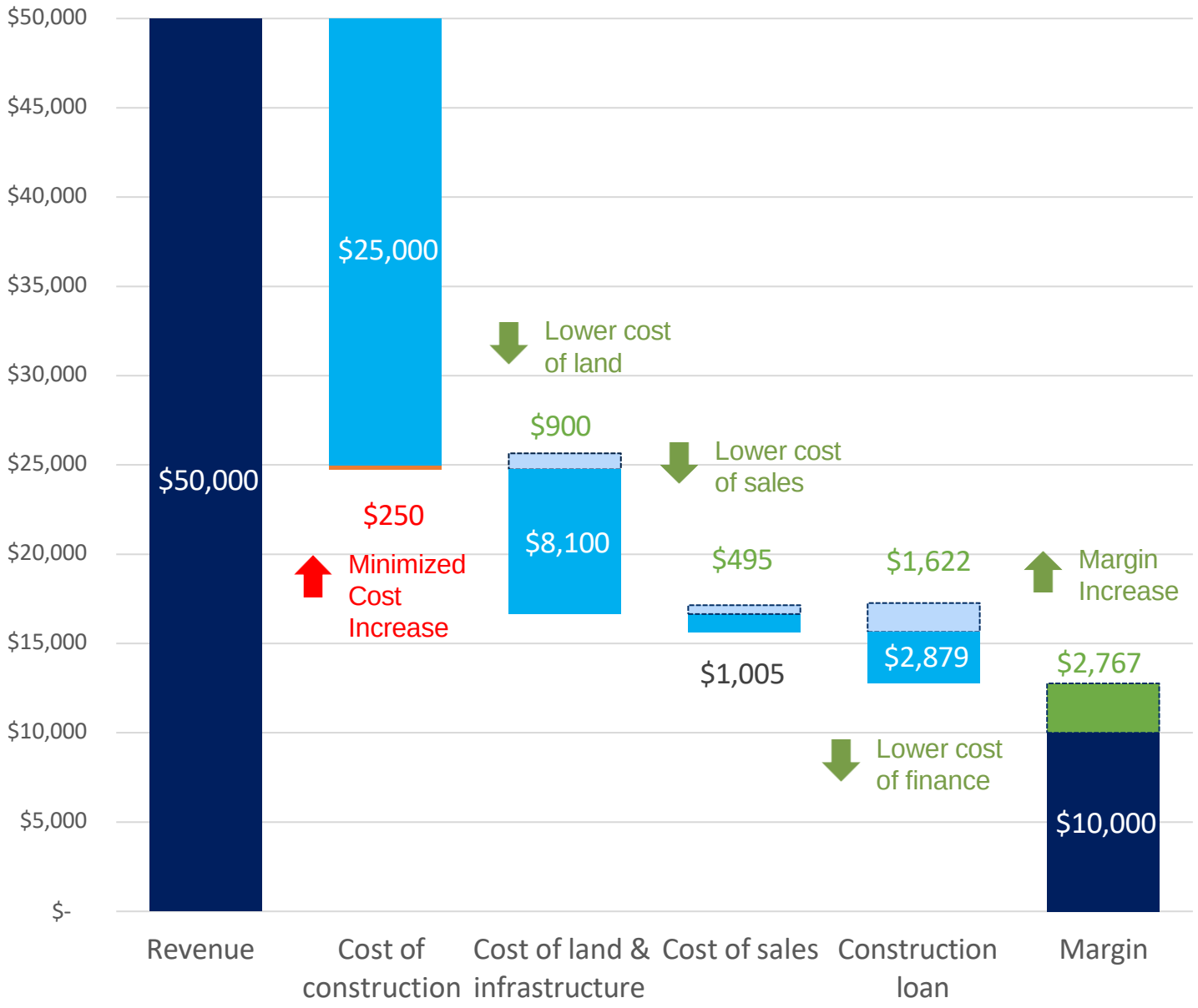


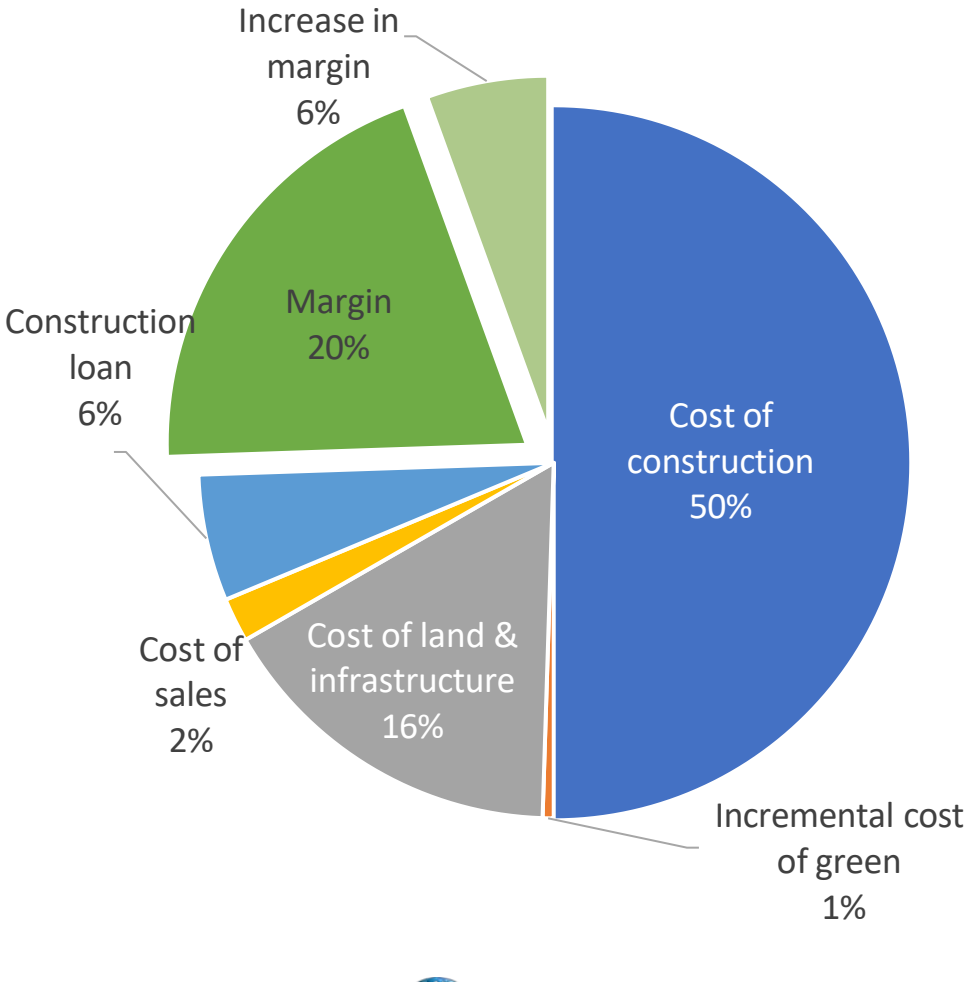

MINISTRY OF LANDS, PUBLICWORKS, HOUSING AND URBAN DEVELOPMENT

State Department for Housing and Urban Development

**Indicative Numbers Only**

# INVESTING IN GREEN HOMES BRINGS MULTIPLE RETURNS




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# IFC HAS FREE TOOLS TO HELP PROJECTS

## GREEN BUILDINGS

Excellence In Design For Greater Efficiencies
Edge

https://edgebuildings.com/

## RESILIENCE

Building Resilience Index

https://www.resilienceindex.org/homepage

## GREEN CITIES

Apex
Advanced Practices for Environmental Excellence in Cities

https://www.apexcities.com/

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