



SUSTAINABLE & GREEN BUILDING IN AFRICA

Uncovering the Return On Investment



August 2017

WHY ARE GREEN BUILDINGS IMPORTANT?

Demographic Trends and Urbanization

- **90 million** per year growth of emerging middle class.
- **9** billion people worldwide by 2050; poor countries will double in size.
- **70%** world's population in urban areas by 2050 (today 50%); 1 in 3 will live in urban areas in Africa & Asia.
- **93%** of the population still has no access to formal housing finance products.

These factors lead to a strong

business case

for green buildings and a

\$16 trillion market through 2030.*

Utility Consumption

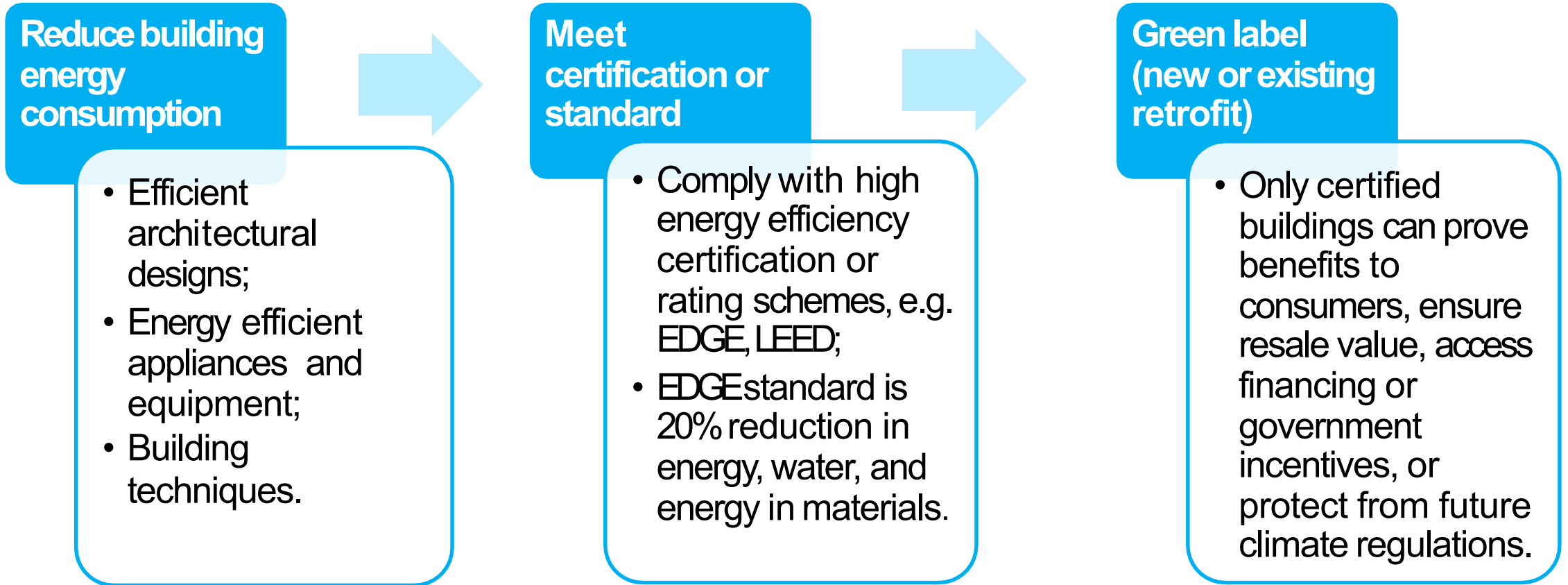
- **33%** of energy, **40%** of water consumed in buildings
- **20%** of income of low income households goes toward utilities
- **80%** of economically viable energy savings in buildings is untapped.

Climate Change

- **18%** of current GHG emissions are building-related
- **Doubling** by 2030 under a high-growth development scenario, almost entirely in the developing world.

*Source: *IFC Climate Investment Opportunity Report*

WHAT MAKES A BUILDING GREEN?



GREEN BENEFITS DEVELOPERS WHILE KEEPING COSTS LOW



Building green does not have to be costly ...

- Perception: building green costs as much as 30% extra
- Reality: Costs are in 1-3% range, with payback in less than 2 years
- Costs are minimized by incorporating green design into early planning



...and the benefits are well documented ...

- Increase building marketability and asset value
- Green attracts tenants for higher rents and sales prices
- Building occupants are looking for lowered operating costs
- Risk mitigation vis-a-vis increased focus on climate regulation

...which can lead to rapid market demand



- In South Africa over next 3 years:
 - 40% of new commercial construction (e.g. office, retail, hotel) expected to be green
 - 31% of new low-rise residential (1-3 floors) expected to be green
- 60% of surveyed developers globally expect green projects by 2018

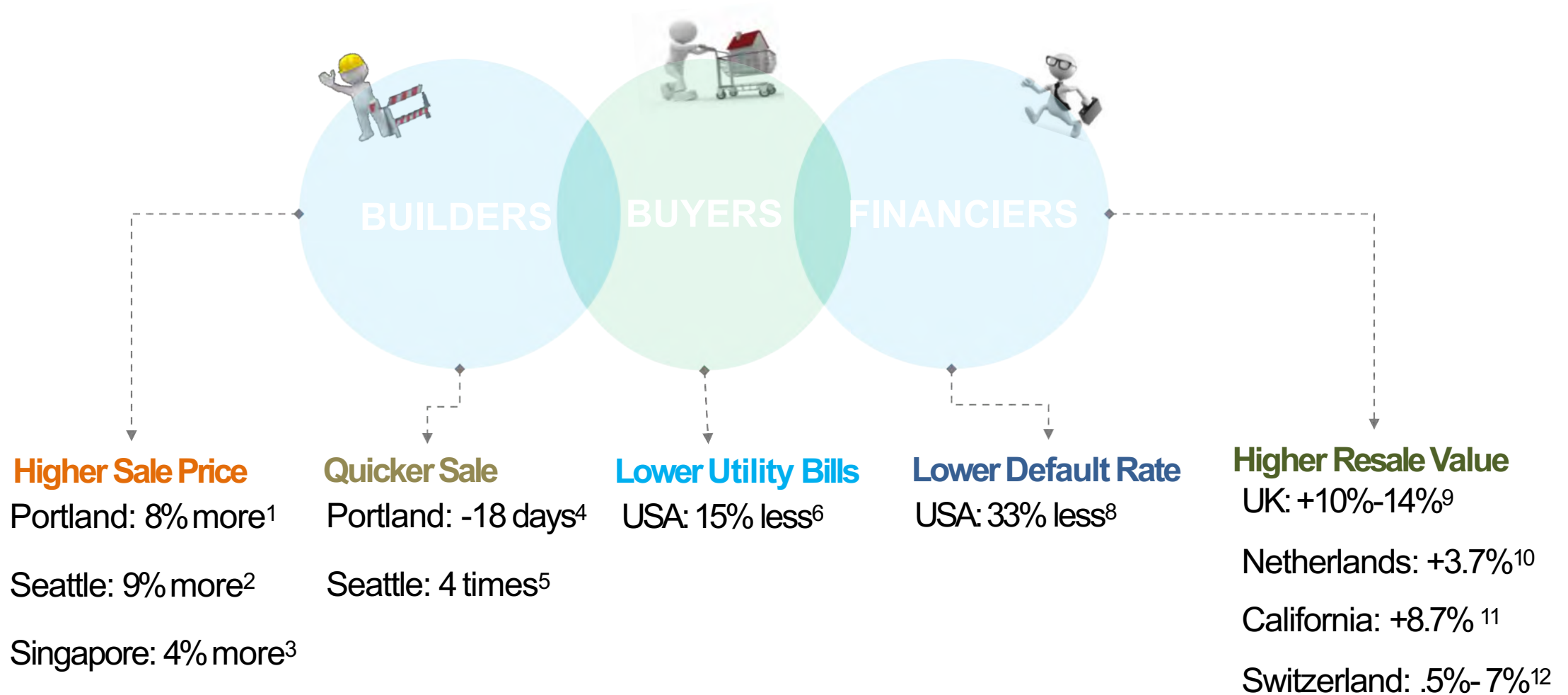
INVESTORS EARN HIGHER RETURN AND VALUE FROM GREEN COMMERCIAL BUILDINGS (US FINDINGS, 2015)



[Avis Devine and Nils Kok, 2015](#)

consolidated economic effects into a building valuation model shows that up to 10% higher value can be achieved from certified green buildings

BUSINESS CASE FOR GREEN BUILDINGS



Energy efficient buildings already demonstrate commercial value in developed markets.
Energy efficiency certificates can demonstrate the same business case in developing countries.

IFC'S EDGE OFFERS A PROGRAMMATIC SOLUTION



Developers use EDGE to differentiate



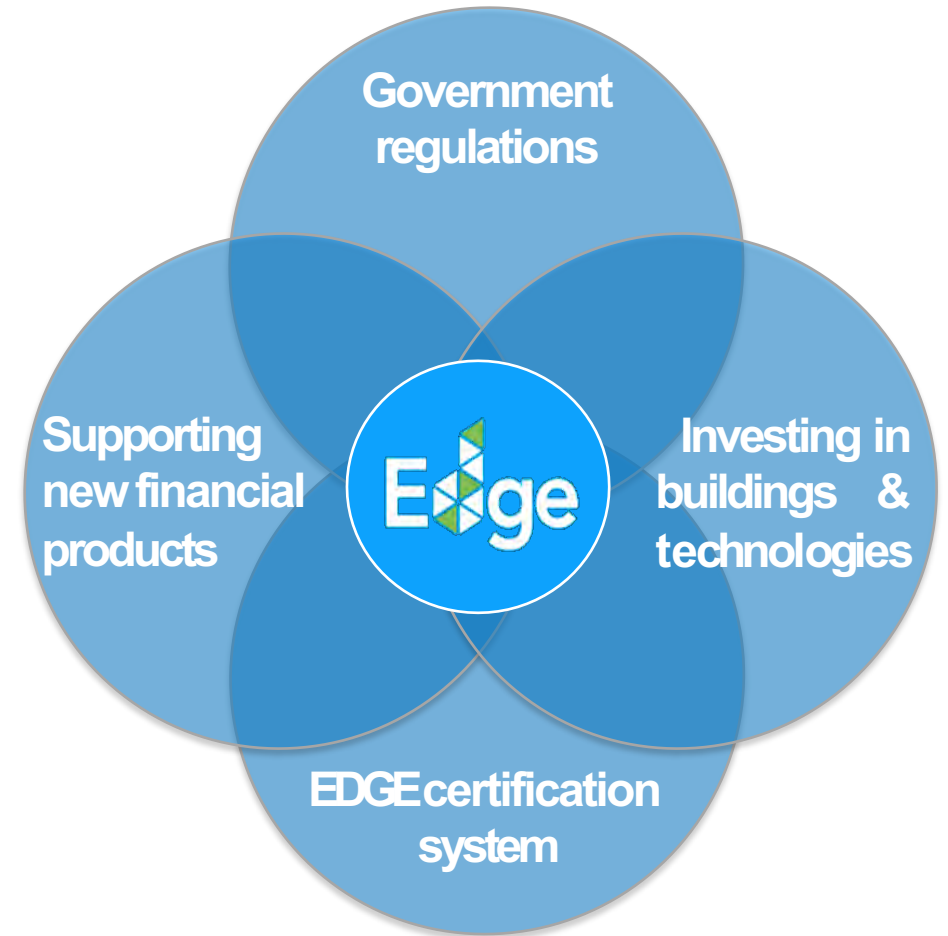
Banks target Green Building market with new products



Owners recognize operating benefits



Governments offer incentives and enable alignment of Energy Efficiency codes



A four-pronged approach to incentivize market adoption of green building practices

EDGE offers a dynamic effort to transform the market by drawing together government, developers, banks, professionals, and occupants.

THE SOLUTION IS EDGE: A SOFTWARE, A STANDARD, AND A GREEN BUILDING CERTIFICATION SYSTEM FOR EMERGING MARKETS

STEP 1

FREE SELF EVALUATION
IN 20 MINUTES



STEP 2

CONFIRM CHOICE OF GREEN
OPTIONS TO REDUCE WATER
ENERGY AND EMBEDDED
ENERGY IN MATERIALS



STEP 3

CERTIFY EDGE
STANDARD IS MET



EDGE IS THE ONLY TOOL THAT GIVES PAYBACK PERIOD FOR GREEN OPTIONS



www.edgebuildings.com

English ▾

Super Admin ▾

Homes

Hotels

Retail

Offices

Hospitals

Base Case Utility Cost **102,432** \$/Month

Incremental Cost **915,675** \$

Utility Costs Reduction **40,040** \$/Month

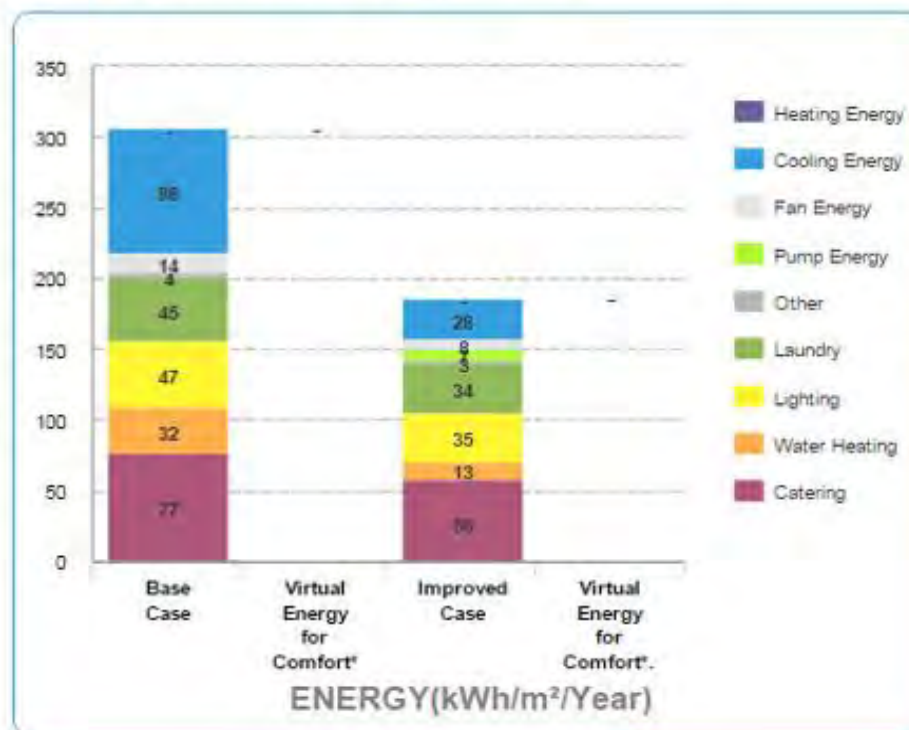
Payback in Years **1.9** Yrs.

Energy Efficiency Measures

Select options from the list below

- Reduced Window to Wall Ratio - WWR of 40%
- External Shading Devices - Annual Average Shading Factor (AASF) of 0.58
- Insulation of Roof Surface - U Value of 0.45
- Insulation of External Walls - U Value of 0.45
- Low-E Coated Glass - U Value of 3 W/m² K and SHGC of 0.45
- Higher Thermal Performance Glass - U Value of 1.95 W/m² K and SHGC of 0.28
- Natural Ventilation - Corridors
- Natural Ventilation - Guest Rooms with Auto Controls
- Variable Refrigerant Volume (VRV) Cooling System - COP of 3.45
- Air Conditioning with Air Cooled Screw Chiller - COP of 3.2
- Air Conditioning with Water Cooled Chiller - COP of 5.39

39.3% Meets EDGE Energy Standard



EDGE STREAMLINES GREEN BUILDING CERTIFICATION



SIMPLE: just 3 parameters: water; energy; and embedded energy in materials



BUSINESS-FOCUSED: software instantly estimates costs and paybacks



LOW EFFORT, LOW COST, ONE STOP SHOP: “30 minute” decision-making; minimal additional capex when EDGE guides design; no need for consultants; fees < 10%

AND REDUCES THE TRANSACTION COSTS OF A GREEN INVESTOR:

STREAMLINED ELIGIBILITY: EDGE is calibrated to local conditions



SIMPLIFIED COMPLIANCE: A loan officer just reviews the EDGE certificate, without additional paperwork



HIGH IMPACT, EASY REPORTING: results download from software; site visit certifies “as built” compliance



IFC'S GREEN BUILDING ACHIEVEMENTS

US\$3 billion +

Dollars Invested by IFC alone using EDGE software. FY13-17.

1 million m2+

Square meters of area already certified across 100 projects

100 projects,

50 clients,

20,000

unique users

- EDGE software: in 5 languages; 125 countries.
- EDGEcertifiers are now the largest green building network in the world
- EDGE used by Green Bond Principles, commercial banks (India, Turkey, South Africa, Costa Rica, Oman, Philippines)
- Member: UN Global Alliance for Buildings and Construction; Building Efficiency Accelerator

