



AN INNOVATION OF



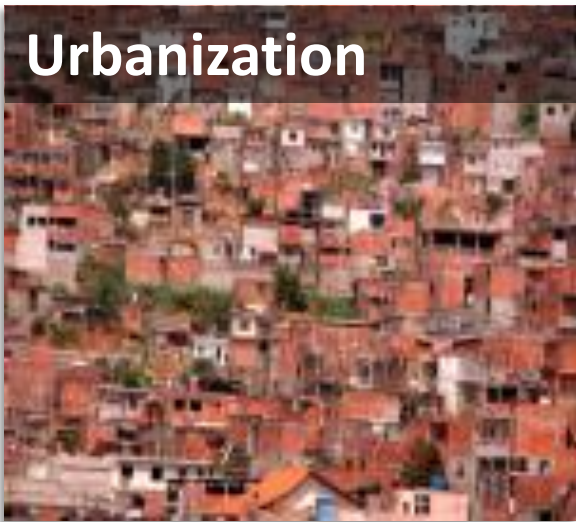
IFC

**International
Finance Corporation**
World Bank Group

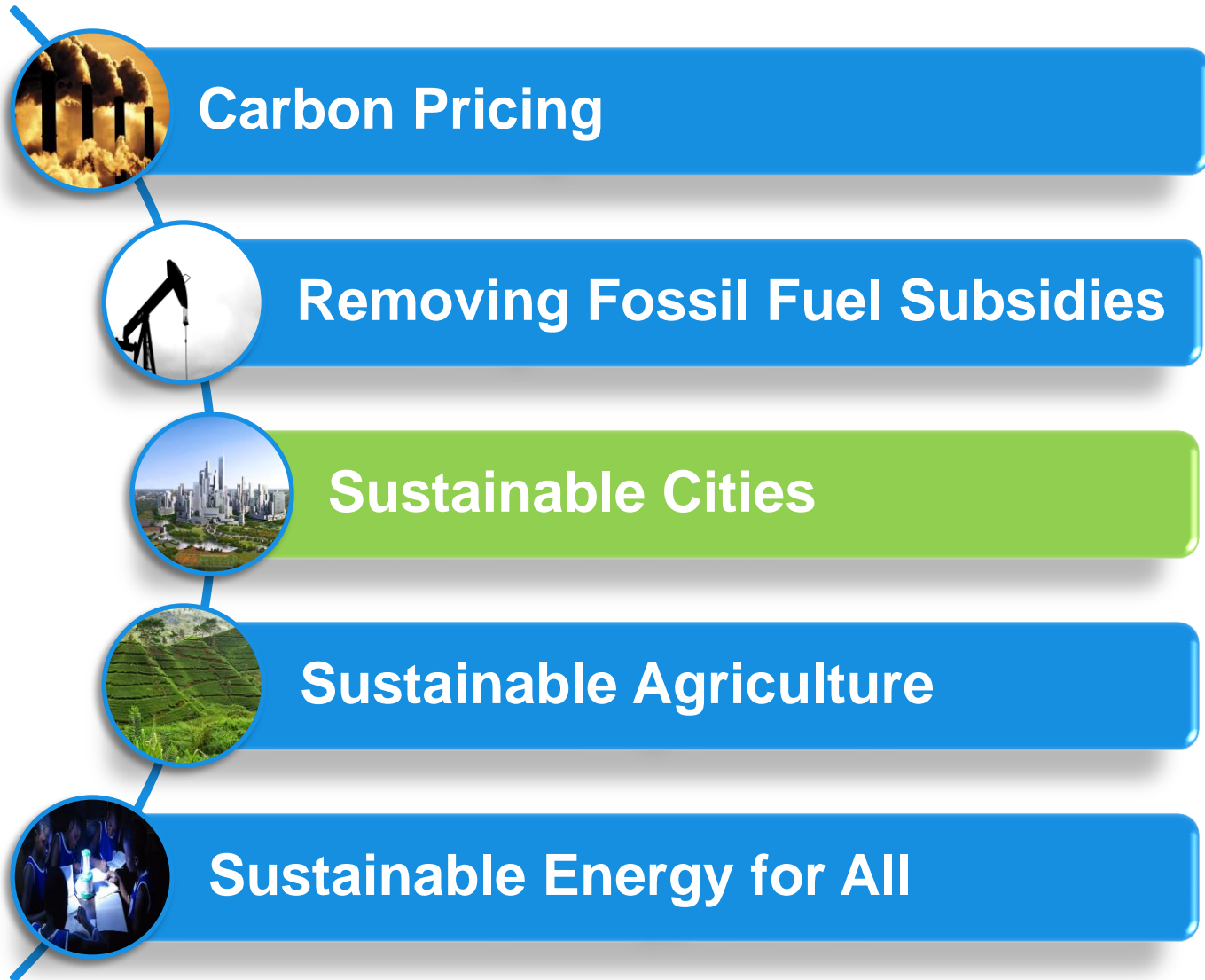


IFC's EDGE Green Buildings Market Transformation Program

Reasons for sustainable urbanization

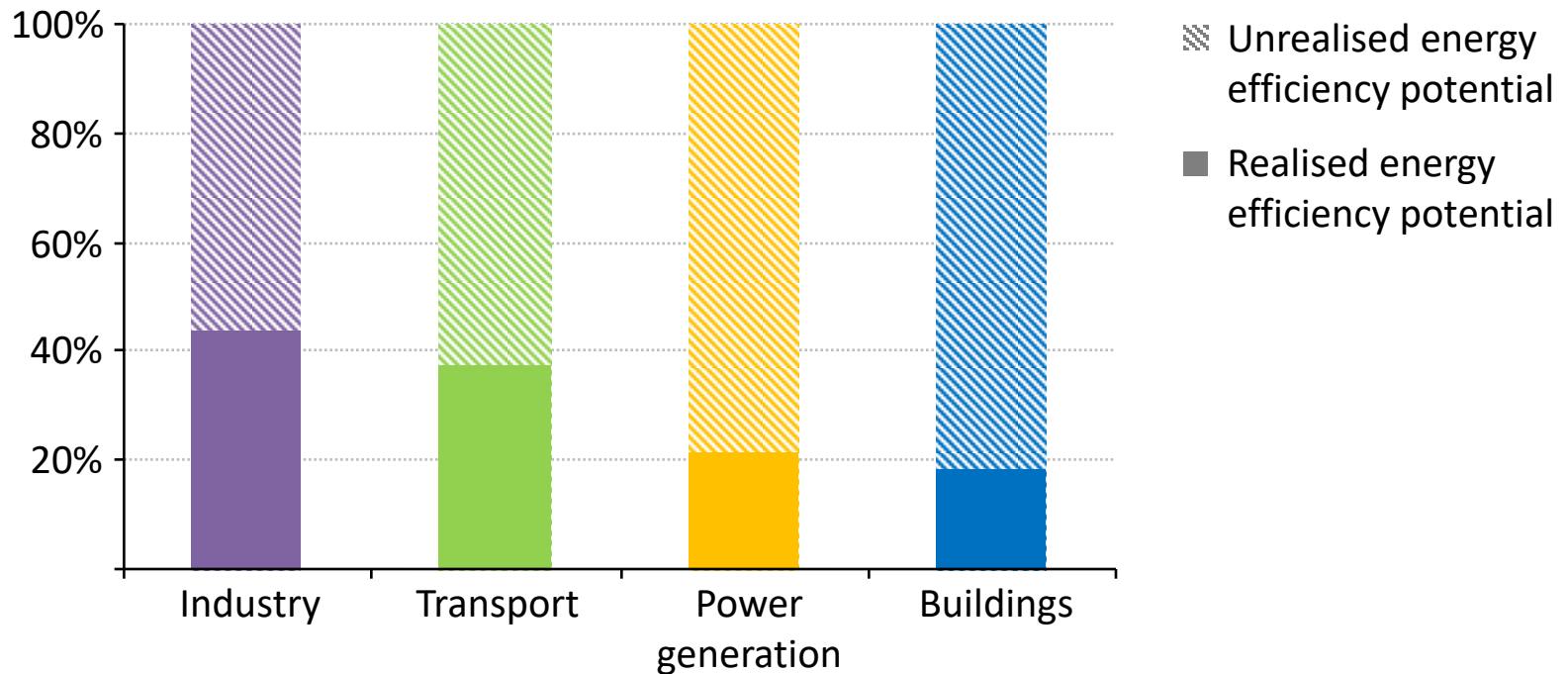


Sustainable urbanization is one of the World Bank Group's 5 climate change priorities



Buildings risk being the least exploited potential source of energy efficiency

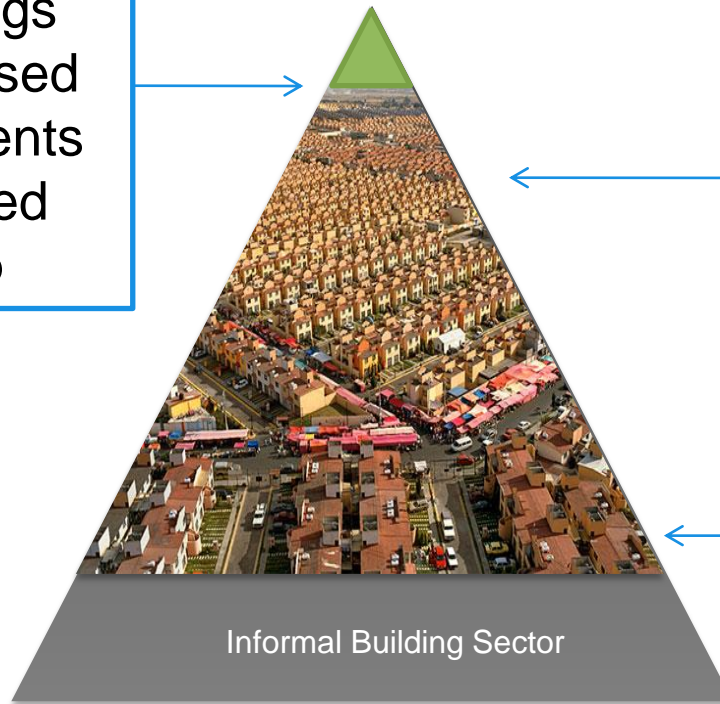
Energy efficiency potential left unused in the New Policies (4°C path) Scenario



Two-thirds of the economic potential to improve energy efficiency remains untapped in the period to 2035

Making an impact in emerging markets

Current ratings systems focused on top-tier clients have provided leadership



EDGE will democratize the green buildings market

- Limited capacity to implement regulations
- Need for 'voluntary' quasi-regulations system
- Need for simple, quick, and affordable system

There is a clear opportunity to engage much more of the market to focus on green buildings.

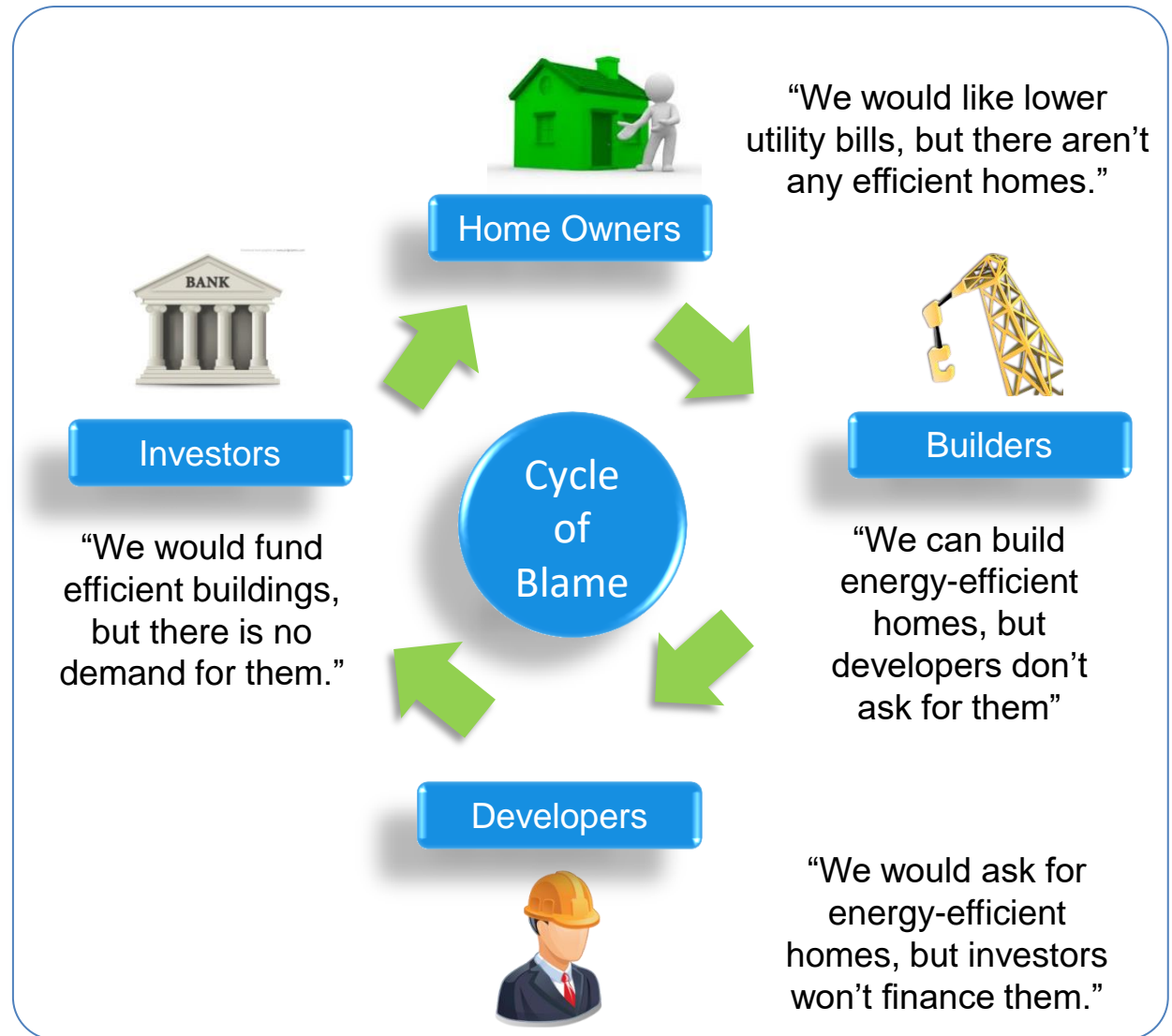
Unlocking the potential for green building requires a multi-pronged approach

Technologies and know-how are available.

Economic benefits are well documented.

But barriers remain:

- Marginally higher upfront costs
- High perceived market risk
- Weak enabling environment



IFC is combining its expertise in regulations and investment to deliver a comprehensive platform for green buildings

IFC's EDGE Green Building Market Transformation Program

- ❑ A four-pronged approach to incentivize market adoption of green building practices
- ❑ Builds on resources and pipeline of IFC investments and advisory
- ❑ Incorporates a global certification system to define and validate green buildings.



EDGE program impacts over 5-7 years

Target



20% of new construction certified as green in target markets

Impacts



5 million units with lower utility bills for homeowners



Power savings equal current consumption of Costa Rica



1 million cars off the road p.a.



Water savings equal current consumption of Trinidad



\$300 billion mobilized



- EDGE has contextual data of utility costs and climate for different cities
- EDGE uses building physics calculations to give design-specific results
- EDGE spells out the most effective technical measures
- EDGE provides an investment planning tool for building owners and developers

EDGE Homes
Excellence In Design For Greater Efficiencies
AN INNOVATION OF IFC International Finance Corporation World Bank Group

Type and Location Data (Enter Building Data)

Country: No. of bedrooms: m2
 City: No. of floors of house / flat:
 Type of Home:
 Type of Home Owner:

Use a typical house / flat
 Use more detail

Total external wall area: m2
 Total window area: m2
 Total wall area: m2

RESULTS

Operational CO2: tCO2 / year
 Embodied CO2: tCO2
 Estimated Utility Costs: \$ / month

Energy Efficiency Measures
(Select option from the list below)

- Automatic controls for all outdoor & / or corridor lights
- Low energy lightings (CTL / LED / T5 Lights)
- All rooms with windows for sufficient daylight
- Roof insulation
- Wall insulation
- Reflective roof and wall paint
- Cross ventilation
- Ceiling fans in all habitable rooms
- External solar shading
- Heave thermal mass in wall / ceiling / floors
- Low 'E' coating on glazing
- Double glazed windows
- EE refrigerator
- EE gas water heaters
- Gas condensing boiler for space heating
- Solar water heating

Actual saving:
 Total saving (inc. virtual):

Energy kWh/m2/year

Category	Reference Home	Virtual Energy for Comfort	Improved Home	Virtual Energy for Comfort
Lighting	10	10	10	10
Water Heating	15	15	15	15
Cooking	10	10	10	10
Refrigerator	10	10	10	10
Other appliances	10	10	10	10
Comfort heating	10	10	10	10
Comfort cooling	0	50	0	50
Total	65	105	65	105

Location & Climate

Country:
 City:

Enter Project Details



Design

Green Measures

Download Results

Welcome to EDGE Homes (Beta), IFC's green building tool to help you design resource-efficient housing with lower utility costs and a reduced environmental footprint. Complete as much information as you can about your project to build a solid foundation for EDGE to calculate your results. While EDGE Homes (Beta) does not save your data, you may download a PDF of your results once you have selected your green measures.

Project Details

Project Owner Name	<input type="text"/>	Project Address Line 1	<input type="text"/>
Project Name	<input type="text"/>	Project Address Line 2	<input type="text"/>
House or Apartment Block Name	<input type="text"/>	Project City	<input type="text"/>
Project Owner Email	<input type="text"/>	Project Province/State	<input type="text"/>
Project Owner Phone	<input type="text"/>	Project Postal Code	<input type="text"/>
		Project Country	<input type="text"/>

Location & Climate Data

Choose context data in order for EDGE to begin to prepare the background calculations for your project.

Country	<input type="text" value="Angola"/>	▼
City	<input type="text" value="Cabinda"/>	▼
Income Category	<input type="text" value="Low Income"/>	▼



ifc.org/edge

find us





Case Study: Indonesia Codes

Code in effect as of 2013 after IFC advisory engagement; now working on national codes



Features: simple to implement, effective, easy to monitor

Case Study: South Africa

Focus on low-income housing market

MOU with South Africa Green Building Council, partnership with ESCOM, relationships with banks





Case Study: Vinte

Developer for affordable, sustainable homes, long-standing IFC client

Features: solar hot-water, water efficient fittings, low energy light bulbs and smart meters



Case Study: City Express



\$37 M in loans for new hotels; EDGE certification for 5 hotels in MX, CO

Features: smaller windows, double glazing, insulation, HVAC, lighting, concrete construction



Select Location & Climate Data



Design **Green Measures**

[Download Results](#)

Location & Climate Data

Choose context data in order for EDGE to begin to prepare the background calculations for your project.

Country	<input type="text" value="Mexico"/>
City	<input type="text" value="Mexicali"/>
Income Category	<input type="text" value="Low Income"/>
Climate Type	<input type="text" value="Humid"/>
Air Conditioning	<input type="text" value="Yes"/>
Space Heating	<input type="text" value="Yes"/>
Ceiling Fans	<input type="text" value="No"/>



Building Data

Enter building data so EDGE understands more about your project.

Type of Home	<input type="text" value="Flats/Apartments"/>
Average Unit Area (m2)	<input type="text" value="100"/> m2
No. of Bedrooms/Unit	<input type="text" value="3"/> no.
No. of Floors	<input type="text" value="10"/> no.
No. of Units	<input type="text" value="20"/> no.

Area Details

Enter area details if available, otherwise you may opt for defaults.

	Default	User Entry
Bedroom (m2)	44.0	<input type="text" value="0.0"/>
Kitchen (m2)	12.0	<input type="text" value="0.0"/>
Living/Dining (m2)	35.0	<input type="text" value="0.0"/>
Toilet (m2)	3.6	<input type="text" value="0.0"/>

Input Building Data and Area Details



Design

Green Measures

[Download Results](#)

Building Data

Enter building data so EDGE understands more about your project.

Type of Home	<input type="text" value="Flats/Apartments"/>	
Average Unit Area (m2)	<input type="text" value="100"/>	m2
No. of Bedrooms/Unit	<input type="text" value="3"/>	no.
No. of Floors	<input type="text" value="10"/>	no.
No. of Units	<input type="text" value="20"/>	no.
Occupancy (People/Unit)	<input type="text" value="4"/>	no.

Area Details

Enter area details if available, otherwise you may opt for defaults.

	Default	User Entry
Bedroom (m2)	44.0	<input type="text" value="0.0"/>
Kitchen (m2)	12.0	<input type="text" value="0.0"/>
Living/Dining (m2)	35.0	<input type="text" value="0.0"/>
Toilet (m2)	3.6	<input type="text" value="0.0"/>
Utility, Balcony, Service Shaft (m2)	5.4	
Gross Internal Area (m2)	100.0	<input type="text" value="100.0"/>
External Wall Length m/Unit	28.9	<input type="text" value="0.0"/>
% Window to Wall Ratio	30%	<input type="text" value="0"/>

Key Assumptions

If you know your fuels, select them from the dropdown menus. You may also fine-tune the costs of utilities and other key assumptions by over-riding the defaults. This will make your EDGE results more accurate. Please provide your data source should you choose to over-ride the temperature fields.

Fuel Used for Cooking	<input type="text" value="Natural Gas"/>
Fuel Used for Water Heating	<input type="text" value="Natural Gas"/>

Monthly Average

Change Key Assumptions if necessary



Design Green Measures

[Download Results](#)

Key Assumptions

If you know your fuels, select them from the dropdown menus. You may also fine-tune the costs of utilities and other key assumptions by over-riding the defaults. This will make your EDGE results more accurate. Please provide your data source should you choose to over-ride the temperature fields.

Fuel Used for Cooking

Fuel Used for Water Heating

Fuel Used for Space Heating

	Default	User Entry	
Cost of Electricity	0.08	<input type="text" value="0.0"/>	\$/kWh
Cost of Diesel Fuel	0.73	<input type="text" value="0.0"/>	\$/L
Cost of Natural Gas	0.67	<input type="text" value="0.0"/>	\$/L
Cost of Water	0.50	<input type="text" value="0.0"/>	\$/kL
Latitude	32.0	<input type="text" value="0.0"/>	Deg
CO2 Emissions g/kWh of Electricity	454	<input type="text" value="0.0"/>	g/kWh
Window to Wall Ratio	30%	<input type="text" value="0"/>	%
Roof U Value	1.4	<input type="text" value="0.0"/>	W/m2.k
Wall U Value	1.8	<input type="text" value="0.0"/>	W/m2.k
Glass U Value	5.9	<input type="text" value="0.0"/>	W/m2.k
...	...	<input type="text" value="0.0"/>	Factor

Monthly Average
Outdoor Temperature
(deg.C)

	Default	User Entry
Jan	<input type="text" value="13.60"/>	<input type="text" value="0"/>
Feb	<input type="text" value="14.30"/>	<input type="text" value="0"/>
Mar	<input type="text" value="18.90"/>	<input type="text" value="0"/>
Apr	<input type="text" value="23.10"/>	<input type="text" value="0"/>
May	<input type="text" value="26.80"/>	<input type="text" value="0"/>
Jun	<input type="text" value="31.80"/>	<input type="text" value="0"/>
Jul	<input type="text" value="33.50"/>	<input type="text" value="0"/>
Aug	<input type="text" value="33.00"/>	<input type="text" value="0"/>
Sep	<input type="text" value="31.50"/>	<input type="text" value="0"/>
Oct	<input type="text" value="22.90"/>	<input type="text" value="0"/>

Green Measures page shows base and improved case



Design **Green Measures**

[Download Results](#)

RESULTS

Watch your results improve as you select among the various efficiency measures.

Final Energy Use	<input type="text" value="1,184"/> kWh/Month	Operational CO2 Savings	<input type="text" value="-"/> tCO2/Year	Base Case Utility Costs	<input type="text" value="113.5"/> \$/Month
Final Water Use	<input type="text" value="24.5"/> m3/Month	Embodied Energy Savings	<input type="text" value="-"/> MJ	Utility Costs Reduction	<input type="text" value="0.0"/> \$/Month

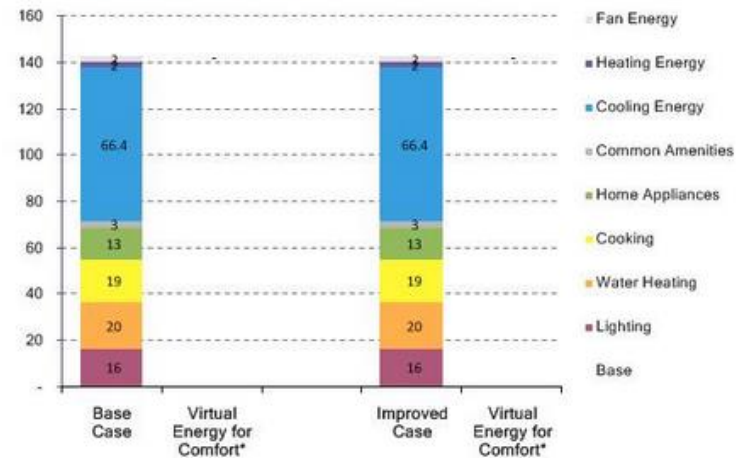
Energy Efficiency Measures

Select energy efficiency measures and watch your savings grow towards the 20% EDGE standard. Edit the default values if needed.

		Default
HME01	<input checked="" type="checkbox"/> Reflective Paint/Tiles for Roof	% Solar Reflectivity <input type="text" value="70"/>
HME02	<input checked="" type="checkbox"/> Reflective Paint for External Walls	% Solar Reflectivity <input type="text" value="70"/>
HME03	<input type="checkbox"/> External Shading Devices	
HME04	<input type="checkbox"/> Insulation of Roof Surface	U Value [W/m2 K] <input type="text" value="0.48"/>
HME05	<input type="checkbox"/> Insulation of External Walls	U Value [W/m2 K] <input type="text" value="0.44"/>
HME06	<input checked="" type="checkbox"/> Low-E Coated Solar Control Glass	U Value [W/m2 K] <input type="text" value="5.7"/>
		SHGC <input type="text" value="0.33"/>
HME07	<input checked="" type="checkbox"/> Higher Thermal Performance Glass	U Value [W/m2 K] <input type="text" value="1.95"/>
		SHGC <input type="text" value="0.28"/>
HME08	<input type="checkbox"/> Cross Ventilation	
HME09	<input type="checkbox"/> Ceiling Fans in all Habitable Rooms	
HME10	<input type="checkbox"/> High Efficiency Cooling System	COP <input type="text" value="6.5"/>
HME11	<input type="checkbox"/> High Efficiency Boiler for Space Heating	% Eff. <input type="text" value="90"/>
HME12	<input type="checkbox"/> High Efficiency Boiler for Hot Water	% Eff. <input type="text" value="85"/>

0.00% ENERGY SAVINGS

ENERGY kWh/m2/Year



Mouse-overs provide additional guidance



Design

Green Measures

Download Results

RESULTS

Watch your results improve as you select among the various efficiency measures.

Final Energy Use kWh/Month

Operational CO2 Savings tCO2/Year

Base Case Utility Costs \$/Month

Final Water Use m3/Month

Embodied Energy Savings MJ

Utility Costs Reduction \$/Month

Energy Efficiency Measures

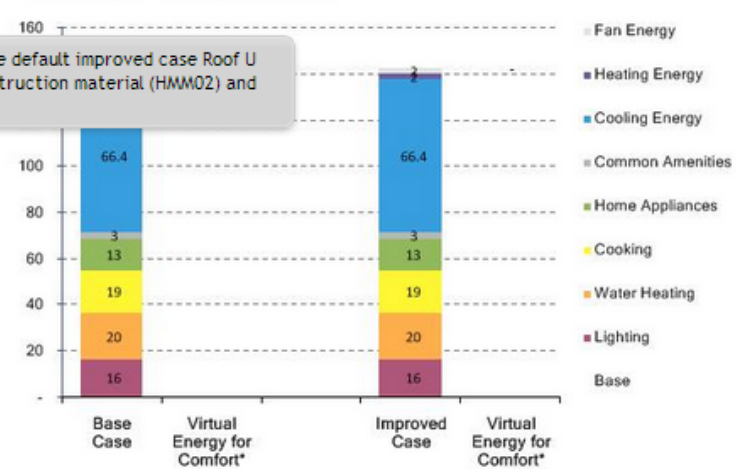
Select energy efficiency measures and watch your savings grow towards the 20% EDGE standard. Edit the default values if needed.

		Default
HME01	<input type="checkbox"/> Reflective P	
HME02	<input type="checkbox"/> Reflective P	
HME03	<input type="checkbox"/> External Shading Devices	
HME04	<input type="checkbox"/> Insulation of Roof Surface	U Value [W/m2 K] <input type="text" value="0.48"/>
HME05	<input type="checkbox"/> Insulation of External Walls	U Value [W/m2 K] <input type="text" value="0.44"/>
HME06	<input checked="" type="checkbox"/> Low-E Coated Solar Control Glass	U Value [W/m2 K] <input type="text" value="5.7"/> SHGC <input type="text" value="0.33"/>
HME07	<input checked="" type="checkbox"/> Higher Thermal Performance Glass	U Value [W/m2 K] <input type="text" value="1.95"/> SHGC <input type="text" value="0.28"/>
HME08	<input type="checkbox"/> Cross Ventilation	
HME09	<input type="checkbox"/> Ceiling Fans in all Habitable Rooms	
HME10	<input type="checkbox"/> High Efficiency Cooling System	COP <input type="text" value="6.5"/>
HME11	<input type="checkbox"/> High Efficiency Boiler for Space Heating	% Eff. <input type="text" value="90"/>
HME12	<input type="checkbox"/> High Efficiency Boiler for Hot Water	% Eff. <input type="text" value="85"/>

The base case Roof U Value can be found under Key Assumptions; the default improved case Roof U Value is calculated through a combination of the selected Roof Construction material (HMM02) and selected Insulation (HMM07)

0.00% ENERGY SAVINGS

ENERGY kWh/m2/Year



Improved case results change when measures are ticked



Design

Green Measures

Download Results

RESULTS

Watch your results improve as you select among the various efficiency measures.

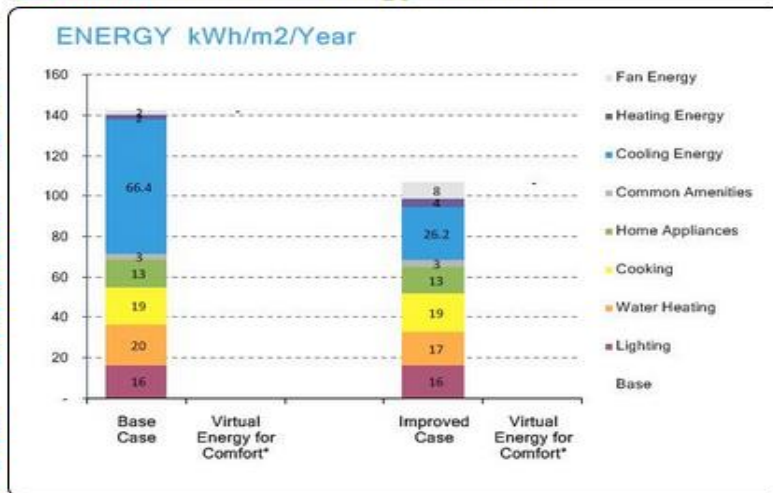
Final Energy Use kWh/Month
 Final Water Use m3/Month
 Operational CO2 Savings tCO2/Year
 Embodied Energy Savings MJ
 Base Case Utility Costs \$/Month
 Utility Costs Reduction \$/Month

Energy Efficiency Measures

Select energy efficiency measures and watch your savings grow towards the 20% EDGE standard. Edit the default values if needed.

Measure ID	Measure Name	Parameter	Default Value
HME01	<input type="checkbox"/> Reflective Paint/Tiles for Roof	% Solar Reflectivity	<input type="text" value="70"/>
HME02	<input type="checkbox"/> Reflective Paint for External Walls	% Solar Reflectivity	<input type="text" value="70"/>
HME03	<input checked="" type="checkbox"/> External Shading Devices	U Value [W/m2 K]	<input type="text" value="0.48"/>
HME04	<input type="checkbox"/> Insulation of Roof Surface	U Value [W/m2 K]	<input type="text" value="0.44"/>
HME05	<input type="checkbox"/> Insulation of External Walls	U Value [W/m2 K]	<input type="text" value="5.7"/>
HME06	<input checked="" type="checkbox"/> Low-E Coated Solar Control Glass	SHGC	<input type="text" value="0.33"/>
HME07	<input type="checkbox"/> Higher Thermal Performance Glass	U Value [W/m2 K]	<input type="text" value="1.95"/>
		SHGC	<input type="text" value="0.28"/>
HME08	<input type="checkbox"/> Cross Ventilation		
HME09	<input checked="" type="checkbox"/> Ceiling Fans in all Habitable Rooms	COP	<input type="text" value="6.5"/>
HME10	<input type="checkbox"/> High Efficiency Cooling System	% Eff.	<input type="text" value="90"/>
HME11	<input type="checkbox"/> High Efficiency Boiler for Space Heating	% Eff.	<input type="text" value="85"/>
HME12	<input checked="" type="checkbox"/> High Efficiency Boiler for Hot Water	% Hot Water	<input type="text" value="10"/>
HME13	<input type="checkbox"/> Low Energy Light Bulbs - Internal Spaces		
HME14	<input checked="" type="checkbox"/> Low Energy Light Bulbs - External Spaces		
HME15	<input type="checkbox"/> Lighting Controls for Corridors & Outdoors		
HME16	<input checked="" type="checkbox"/> Solar Hot Water Collectors		

24.80% Meets EDGE Energy Standard



*Virtual energy is the amount of energy that will be required based on the assumption that the home or flat will eventually install air conditioning or heating.

Water Efficiency Measures are connected to Energy Efficiency



Design

Green Measures

[Download Results](#)

RESULTS

Watch your results improve as you select among the various efficiency measures.

Final Energy Use	<input type="text" value="889"/> kWh/Month	Operational CO2 Savings	<input type="text" value="1.6"/> tCO2/Year	Base Case Utility Costs	<input type="text" value="113.5"/> \$/Month
Final Water Use	<input type="text" value="17.7"/> m3/Month	Embodied Energy Savings	<input type="text" value="-"/> MJ	Utility Costs Reduction	<input type="text" value="27.2"/> \$/Month

Water Efficiency Measures

Select water efficiency measures and watch your savings grow towards the 20% EDGE standard. Edit the default values if needed. Note that certain water efficiency measures may impact your energy efficiency results.

- HMW01 Low-Flow Showerheads
- HMW02 Low-Flow Taps for Kitchen Sinks
- HMW03 Low-Flow Taps for Washbasins
- HMW04 Dual Flush for Water Closets
- HMW05 Single Flush for Water Closets
- HMW06 Rainwater Harvesting System
- HMW07 Recycled Grey Water for Flushing
- HMW08 Recycled Black Water for Flushing

Default

Lt./min

Lt./min

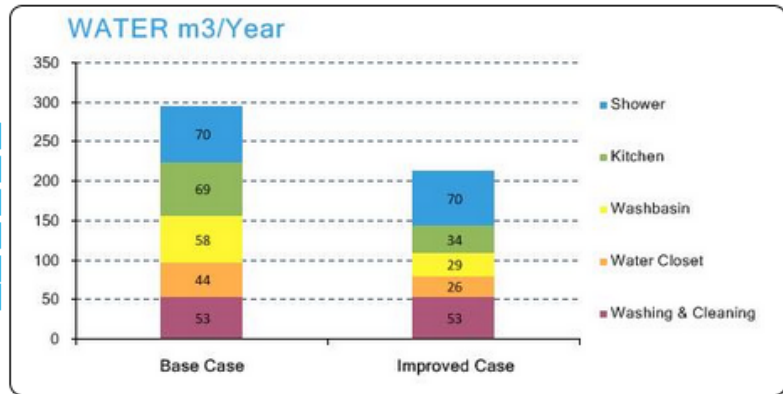
Lt./min

1st - Lt./flush


2nd - Lt./flush

Lt./flush

27.8% Meets EDGE Water Standard



Materials section measures embodied energy of materials



Excellence In Design
For Greater Efficiencies

Edge
Homes Beta

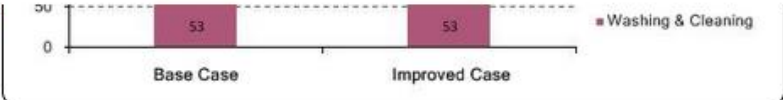
AN INNOVATION OF

IFC International
Finance Corporation
World Bank Group

Design
Green Measures
Download Results

RESULTS Watch your results improve as you select among the various efficiency measures.

Final Energy Use <input type="text" value="972"/> kWh/Month	Operational CO2 Savings <input type="text" value="1.2"/> tCO2/Year	Base Case Utility Costs <input type="text" value="113.5"/> \$/Month
Final Water Use <input type="text" value="17.7"/> m3/Month	Embodied Energy Savings <input type="text" value="1,673.2"/> MJ	Utility Costs Reduction <input type="text" value="20.3"/> \$/Month

<p>HMM05 <input checked="" type="checkbox"/> Single Flush for Water Closets</p> <p>HMM06 <input checked="" type="checkbox"/> Rainwater Harvesting System</p> <p>HMM07 <input type="checkbox"/> Recycled Grey Water for Flushing</p> <p>HMM08 <input type="checkbox"/> Recycled Black Water for Flushing</p>	<p>LL/FLUSH <input type="text" value="0"/></p>	 <table border="1" style="width: 100%; border-collapse: collapse;"> <caption>Washing & Cleaning Energy Savings</caption> <thead> <tr> <th>Case</th> <th>Energy Savings (MJ)</th> </tr> </thead> <tbody> <tr> <td>Base Case</td> <td>53</td> </tr> <tr> <td>Improved Case</td> <td>53</td> </tr> </tbody> </table>	Case	Energy Savings (MJ)	Base Case	53	Improved Case	53
Case	Energy Savings (MJ)							
Base Case	53							
Improved Case	53							

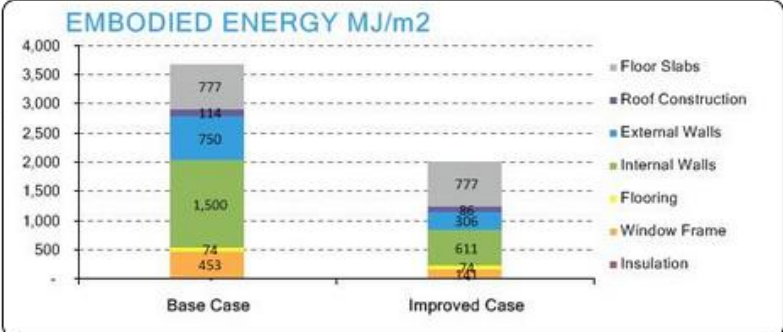
Materials Efficiency Measures

Select materials efficiency measures and watch your savings grow towards the 20% EDGE standard. Note that certain materials efficiency measures may impact your energy efficiency results. Thicknesses of materials as specified are a minimum requirement for EDGE.

HMM01 Floor Slabs	In-Situ Reinforced Concrete Slab
HMM02 Roof Construction	180mm Concrete Filler Slab
HMM03 External Walls	Precast Concrete Panels
HMM04 Internal Walls	Precast Concrete Panels
HMM05 Flooring	Ceramic Tile
HMM06 Window Frames	uPVC
HMM07 Insulation	Glass Wool

45.6% Meets EDGE Materials Standard

EMBODIED ENERGY MJ/m2



Component	Base Case (MJ/m2)	Improved Case (MJ/m2)
Floor Slabs	777	777
Roof Construction	114	86
External Walls	750	306
Internal Walls	1,500	611
Flooring	74	74
Window Frame	453	0
Insulation	0	0
Total	3,777	1,777

Excellence In Design
For Greater Efficiencies

Edge

AN INNOVATION OF

IFC International
Finance Corporation
World Bank Group

22

Downloadable pdf produces a results report



Project Details	
Project Owner Name:	Project Address Line 1:
Project Name:	Project Address Line 2:
House or Apartment Block Name:	Project City:
Project Owner Email:	Project Province/State:
Project Owner Phone:	Project Postal Code:
	Project Country:

Location & Climate Data	
Country:	Mexico
City:	Mexicali
Income Category:	Low Income
Climate Type:	Humid
Air Conditioning:	Yes
Space Heating:	Yes
Ceiling Fans:	No

Building Data		Area Details	
Type of Home:	Flats/Apartments	Default	
Average Unit Area (m ²):	100 m ²	Bedroom (m ²):	44.0
No. of Bedrooms/Unit:	3 no.	Kitchen (m ²):	12.0
No. of Floors:	10 no.	Living/Dining (m ²):	35.0
No. of Units:	20 no.	Toilet (m ²):	3.6
Occupancy (People/Unit):	4 no.	Utility, Balcony, Service Shaft (m ²):	5.4
		Gross Internal Area (m ²):	100.0
		External Wall Length m/Unit:	28.9
		Window to Wall Ratio:	30%

Key Assumptions			
Fuel Used for Cooking:	Natural Gas		
Fuel Used for Water Heating:	Natural Gas		
Fuel Used for Space Heating:	Natural Gas		
		Default	User Entry
Cost of Electricity:	0.08	0.0	\$/kWh
Cost of Diesel Fuel:	0.73	0.0	\$/L
Cost of Natural Gas:	0.67	0.0	\$/L
Cost of Water:	0.50	0.0	\$/L
Latitude:	32.0	0.0	Deg
CO ₂ Emissions g/kWh of Electricity:	454	0.0	g/kWh
Window to Wall Ratio:	30%	0	%
Roof U Value:	1.4	0.0	W/m ² .k
Wall U Value:	1.8	0.0	W/m ² .k
Glass U Value:	5.9	0.0	W/m ² .k
Glass SHGC:	0.8	0.0	Factor
AC System Efficiency:	2.90	0.0	COP
		Default	Month
		Jan:	13.60
		Feb:	14.30
		Mar:	18.90
		Apr:	23.10
		May:	26.80
		Jun:	31.80
		Jul:	33.50
		Aug:	33.00
		Sep:	31.50
		Oct:	22.90
		Nov:	17.70
		Dec:	12.80

RESULTS

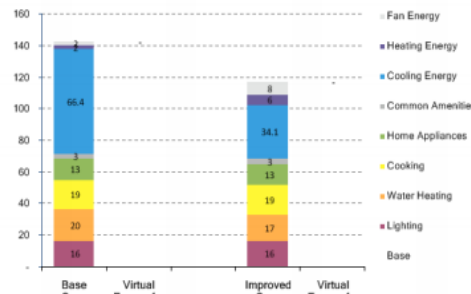
Final Energy Use:	972 kWh/Month	Operational CO ₂ Savings:	1.2 tCO ₂ /Year	Base Case Utility Costs:	11
Final Water Use:	17.7 m ³ /Month	Embodied Energy Savings:	1,673.2 MJ	Utility Costs Reduction:	20

Energy Efficiency Measures

HME01 Reflective Paint/Tiles for Roof	:	Solar Reflectivity	70 %
HME02 Reflective Paint for External Walls	:	Solar Reflectivity	70 %
HME03 External Shading Devices	:	Yes	
HME04 Insulation of Roof Surface	:	U Value [W/m ² K]	0.48
HME05 Insulation of External Walls	:	U Value [W/m ² K]	0.44
HME06 Low-E Coated Solar Control Glass	:	U Value [W/m ² K]	5.7
		SHGC	0.33
HME07 Higher Thermal Performance Glass	:	U Value [W/m ² K]	1.55
		SHGC	0.28
HME08 Cross Ventilation Orientations	:		
HME09 Ceiling Fans in all Habitable Rooms	:	Yes	
HME10 High Efficiency Cooling System	:	COP	6.5
HME11 High Efficiency Space-Heating Gas Boiler	:	% Eff.	90 %
HME12 High Efficiency Hot Water Gas Boiler	:	Yes	% Eff. 85 %
HME13 Low Energy Light Bulbs - Internal Spaces	:		
HME14 Low Energy Light Bulbs - External Spaces	:	Yes	
HME15 Lighting Controls for Corridors & Outdoors	:		
HME16 Solar Hot Water Collectors	:	Yes	% Hot Water 10 %
		Collector Area (m ² /Unit)	0.08
HME17 Solar Photovoltaics	:	% of Annual Electricity Use	100%
		Capacity kWp/Unit	-

17.96% ENERGY SAVINGS

ENERGY kWh/m²/Year



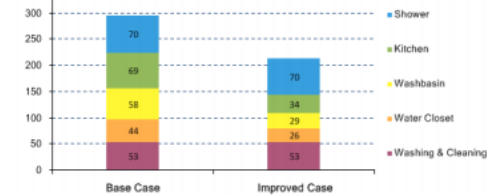
*Virtual energy is the amount of energy that will be required based on the assumption that the home or flat will eventually install air conditioning or fan cooling.

Water Efficiency Measures

HMM01 Low-Flow Showerheads	:	LL/min	8
HMM02 Low-Flow Taps for Kitchen Sinks	:	Yes	LL/min 4
HMM03 Low-Flow Taps for Washbasins	:	Yes	LL/min 4
HMM04 Dual Flush for Water Closets	:	Yes	1st - LL/flush 6 2nd - LL/flush 3
HMM05 Single Flush for Water Closets	:	Yes	LL/flush 6
HMM06 Rainwater Harvesting System	:	Yes	
HMM07 Recycled Grey Water for Flushing	:		
HMM08 Recycled Black Water for Flushing	:		

27.8% Meets EDGE Water Standard

WATER m³/Year



Materials Efficiency Measures

HMM01 Floor Slabs	:	In-Situ Reinforced Concrete Slab
HMM02 Roof Construction	:	180mm Concrete Filler Slab
HMM03 External Walls	:	Precast Concrete Panels
HMM03 Internal Walls	:	Precast Concrete Panels
HMM04 Flooring	:	Ceramic Tile
HMM05 Window Frame	:	uPVC
HMM06 Insulation	:	Glass Wool

45.6% Meets EDGE Materials Standard

EMBODIED ENERGY MJ/m²

