



International Housing Solutions



ESMAP Knowledge Exchange Forum
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IHS

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- IHS is....
 - Housing in Emerging Markets
 - Why Isn't It Already Green
 - Catalyzing a Market
 - Case Study
 - Other Ways to Do This
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IHS Is.....

- 30 people, mainly Joburg, affordable housing specialists
- SAWHF 1
 - R 1.9 Billion of equity for affordable housing
 - 35 projects, 26,000 units
 - 9,000 sold to date, 5,000 rented
- IHS Residential Partners 1
 - \$86 million targeted at middle market. 2,200 units
- IHS Fund II
 - \$180m raised for SA and SSA, first deals closing now

IHS is....

A key partner of the DFI and Impact Investing community



Housing in Emerging Markets



Emerging markets are in the midst of a construction boom

- China will have 250 million people move to new and growing cities
- India will double its buildings stock by 2030
- South Africa is expected to add 100,000 new homes each year

Housing in Emerging Markets

	LSM	2005	2013	Compound Annual Growth Rate	Average Household Income Per month
1	2'317'000	526'171	-17%		R1,418
2	3'745'000	1'352'085	-12%		R2,058
3	3'979'000	2'191'998	-7%		R2,422
4	4'582'000	4'357'096	-1%		R3,160
5	4'132'000	6'299'379	5%		R4,242
6	4'451'000	8'874'086	9%		R6,518
7	2'174'000	4'473'970	9%		R10,930
8	1'609'000	3'203'922	9%		R15,197
9	1'972'000	3'656'862	8%		R22,092
10	1'695'000	2'279'748	4%		R36,796

- Urbanisation (3.9m in SA over 10 years)
- Shrinking household size
- Major backlog
- Aspiration growing with incomes
- Affordability is key

IHS

Housing in Emerging Markets



We have a window of opportunity to shape our built environment.

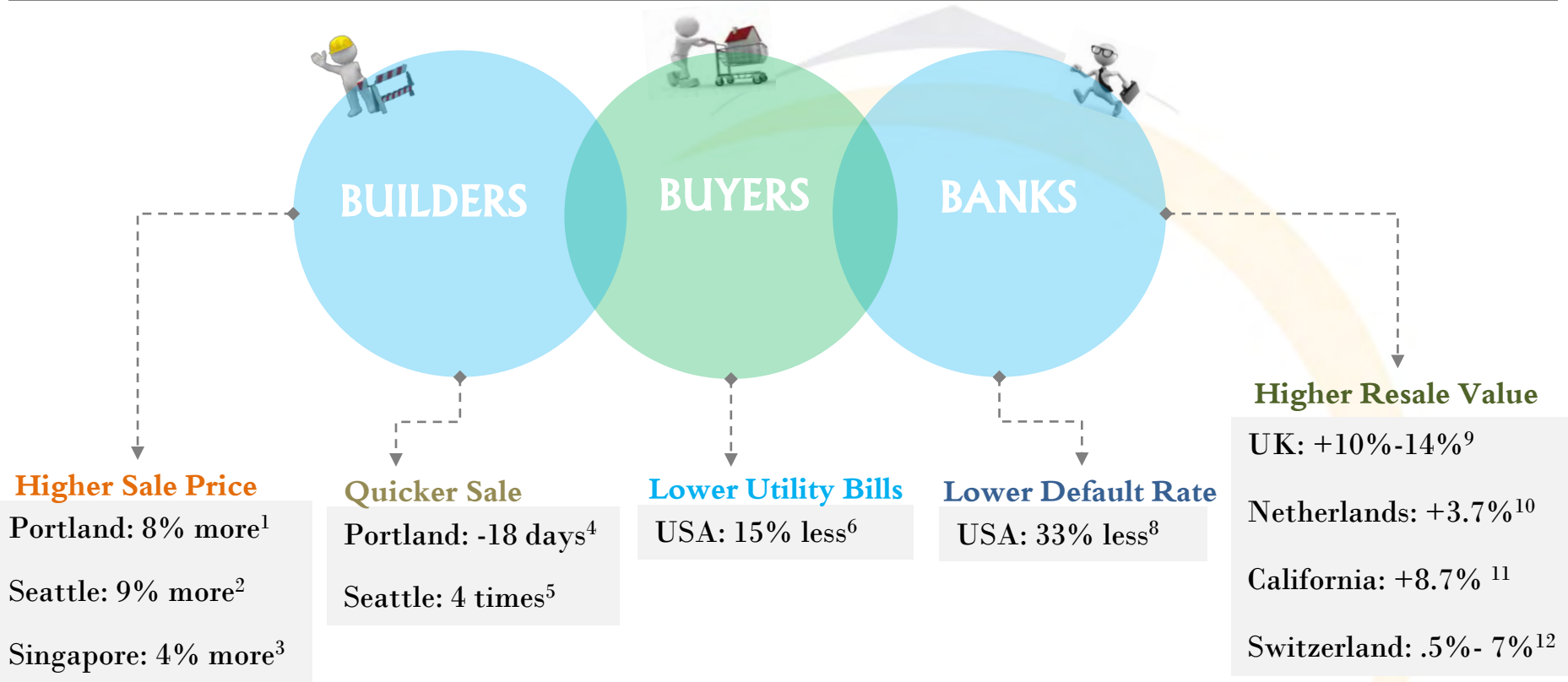
Greening construction offers a chance to lock in energy and water savings at a low cost and to secure emission cuts for decades to come

Why Isn't Affordable Housing Green?

- About 1% of households in SA have solar hot water
- Penetration is lowest amongst low-income households
- Key obstacle 1: it costs more
- Key obstacle 2: people aren't aware of the benefits

Why Isn't Affordable Housing Green?

Creating a green value chain





Once there is a simple, quick, and affordable rating system, all parties can recognize and capture the value of superior building performance

Catalysing a Market

- IFC and KfW investing with IHS to create supply and demand in green housing.
- Commitment to 5,060 homes.
- IFC and KfW take the downside risk.
- They benefit disproportionately if homes are sold for more.
- Use of one clear standard.
- Commitment to measuring the benefits.
- Commitment to public awareness.

A Clear Standard





RESULTS

Final Energy Use	367 kWh/Month
Final Water Use	21 m3/Month

Operational CO₂ Savings

0.2 tCO ₂ /year

Embodied CO₂ Savings

- tCO ₂

Base case utility costs

55.6 \$/month

Utility costs reduction

13.1 \$/month

Energy Efficiency Measures

Select option from the list below

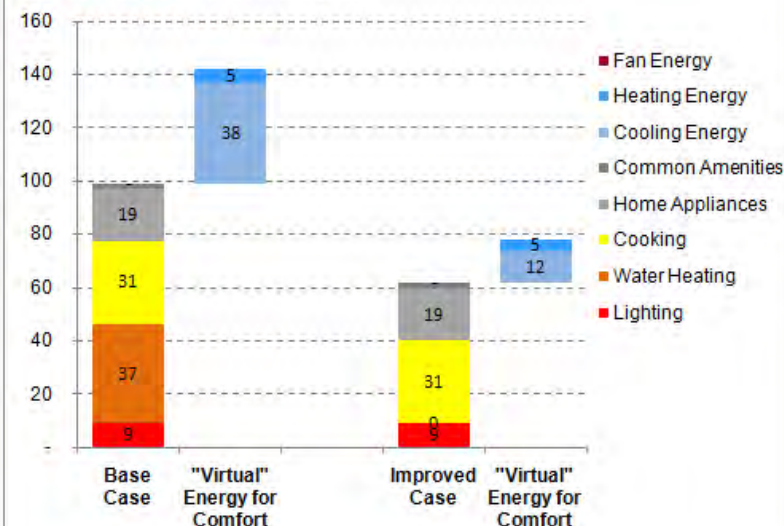
- ☐ Reflective Paint/Tiles for Roof
- ☐ Reflective Paint for External Wall
- ☒ External Shading devices with HSA or VSA of 70 degrees.
- ☐ Insulation for Roof - Exposed to sun
- ☐ Insulation for External Wall - Exposed to sun
- ☒ Single Low-E, Solar Control glass
- ☐ Double Low-E, Solar Control glass
- ☒ Design Cross ventilation
- ☐ Install Ceiling Fans in all habitable rooms
- ☐ Install VRV/VRF for Space Heating & Cooling
- ☒ Solar collectors for domestic hot water heating
- ☐ High efficient Gas Condensing boiler for Space Heating
- ☐ Energy Efficient Gas Heaters for Hot water required for domestic use
- ☐ Low energy [CFL/LED/T5] Light Fixtures for all living spaces
- ☐ Low energy [CFL/LED/T5] Light Fixtures for Corridors & Outdoor Common area
- ☐ Automatic Controls for all Corridor & Outdoor lighting
- ☐ Photovoltaics to meet X% [choose from list below] of annual electricity use

10% of annual electricity

0.00 kWp

44.9% ENERGY SAVING **Meets EDGE energy standard**

ENERGY kWh/m²/year

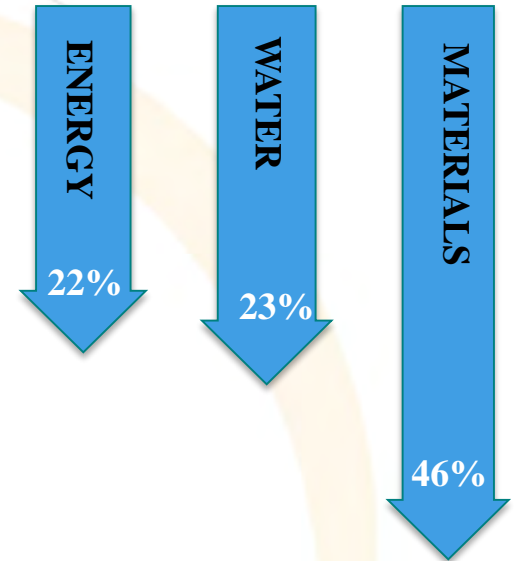


EDGE has data of utility costs and climate for different cities. It spells out the most cost-effective options for achieving benefits.

A Case Study



- solar hot-water
- water efficient fittings
- low energy lights
- increased level of insulation
- low E windows
- low embodied energy materials
- smart prepaid meters



Other Ways To Do This

- Key element is risk. Someone needs to take the risk that the house can't be sold for more, at the beginning.
- The private sector won't do that, and the public sector doesn't have the money.
- But municipalities can play that role without spending money – eg by fast-tracking approvals for housing projects that have green design certification.
- Banks can do that, because utility savings increase debt service capability in rental housing.
- Again, the standard, the measurement, the publicity are all key.