

GREENING AFFORDABLE HOUSING WITH EDGE

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The built environment is a dominant resource consumer and a prime sector within which to achieve green efficiencies. By implementing EDGE (Excellence in Design for Greater Efficiencies) in its housing projects, the Housing Impact Fund South Africa (HIFSA) is making a positive contribution towards reducing the ever-increasing demand on our limited energy and water resources.

WHICH HOUSE WOULD YOU RATHER LIVE IN?



In deciding on a new home, there are a number of factors that are typically taken into account: affordability, location, efficient and functional design, aesthetic appeal and more. In the affordable housing market in South Africa, developers have often dictated the design of a home because keeping costs down is the biggest concern, while little consideration is given to how the space would be used by the homeowner. This has often resulted in unattractive “cookie-cutter” housing units with unimaginative streetscapes. However, in a tough economic environment where new home buyers find it increasingly difficult to obtain a bond, a house needs to be appealing and aspirational to attract their interest. In this kind of market, developers are being challenged to create innovative, attractive designs to remain competitive.

With environmental sustainability high on the agenda of investors both locally and globally, Old Mutual Alternative Investments’ Impact Funds team has engaged with the International Finance Corporation (IFC) and the Green Building Council of South Africa (GBCSA) in developing a vision to



Source: Similan, Aug 2015.

implement, where possible, a new green building certification standard – EDGE – on all future housing projects for sale and rental.

Impact Funds manages funds in excess of R14 billion, as at 30 June 2016. The largest fund is HIFSA (R9.15 billion, as at 30 June 2016), which aims to address the housing shortage. Old Mutual Life Assurance Company South Africa is co-invested in HIFSA alongside the Government Employees Pension Fund (managed by the Public Investment Corporation), the Development Bank of Southern Africa and the Eskom Pension Fund. HIFSA has a dual mandate: firstly, to deliver a market-related, risk-adjusted return on investment to investors, and secondly, to create new affordable housing stock. The affordable housing market is defined by the Financial Sector Charter (FSC) as having a maximum monthly household income of R20 800 (2016).

EDGE is simultaneously, a software, a standard, and a green building certification system. The EDGE software empowers developers to choose the most cost-effective options for

building green and take their projects forward for certification. IFC has been working in partnership with the GBCSA for the last two years to tailor EDGE to the South African environment to account for South African climatic conditions, the standard of local building materials and local development costs. In November 2015, EDGE was launched in South Africa at the annual Green Building Convention, making it possible to register local projects for EDGE certification.

Impact Funds had a delegation of 10 participants at the Green Building Convention, consisting of five developers and five investment professionals, who came away enthused by the possibilities that EDGE presents. Old Mutual Alternative Investments has since developed a good working relationship with IFC’s EDGE team, having a shared view to promote green buildings in the affordable housing sector.

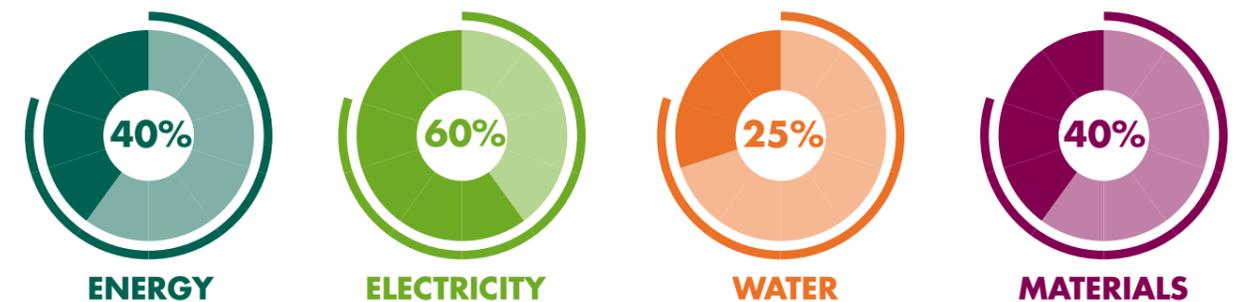
In April 2016, an IFC EDGE team from Washington travelled to South Africa and hosted two bespoke seminars in Johannesburg and Cape Town for Old Mutual Alternative Investments, alongside the GBCSA, which included housing developers,

BENEFITS OF RESOURCE EFFICIENCIES FOR SOUTH AFRICA

The ongoing energy crisis and the increasing water scarcity have driven up the costs of utilities and all indications suggest that this trend will continue. In 2015, South Africa experienced the lowest recorded rainfall since 1904, with five out of nine provinces being declared drought disaster areas. Countrywide the costs of water supply are increasing and there are water restrictions in many parts of the country.

South Africa is in the top 20 countries in the world with unacceptably high levels of CO₂ emissions and is also facing an impending waste crisis as landfill space becomes increasingly limited. Therefore, conservation of natural resources to ensure sustainable solutions to these resource challenges becomes much more of a business imperative. Cruickshanks argues that “building greener homes is an opportunity to use resources more efficiently and to address climate change, while creating healthier and more productive environments to live in”.

Global consumption of resources by buildings



Source: UNEP SBC1 2011

investment professionals and senior management, to discuss implementation strategies for new housing projects. These EDGE seminars were well received and there was particular enthusiasm from housing developers about the potential cost savings and green branding opportunities presented by EDGE.

According to Grahame Cruickshanks, EDGE Executive from the GBCSA, their purpose is to inspire a built environment in which people and the planet thrive. “As a platinum founding member, Old Mutual has played an important and a consistent role in supporting the GBCSA from the very beginning. The majority of the work and support for the Council has been through Old Mutual Property and it is very exciting to see that this relationship is now extending into Old Mutual Alternative Investments.”

While the current Green Star Rating system, developed by the GBCSA, is a holistic green building standard, it was designed more for commercial buildings and therefore could be quite costly, time-consuming and inappropriate for affordable housing projects. EDGE is much easier to implement for free-standing residential houses or blocks of apartments.

The GBCSA has set a seven-year target to certify 20% of the homes brought to market with the EDGE certification system by 2022. For a project to meet the EDGE certification criteria, it needs to meet its 20/20/20 protocol, which is 20% increased efficiency in three measures: energy, water and embodied energy in the building materials (in South Africa this is relative to the SANS 10400-XA building standard). This green standard can be achieved through typical green

features, such as ceiling insulation, energy-efficient lighting, low flow taps and shower heads, dual flush toilets, solar water heating and heat pumps.

"EDGE proves in a measurable way that simple, practical solutions are all that is needed in South Africa in order to build better residences for low-income families," says Prashant Kapoor, IFC's Principal Green Building Specialist and the inventor of EDGE. "Old Mutual Alternative Investments and its clients are demonstrating to the rest of the world the competitive value of resource-efficient homes."

PILOT EDGE PROJECT

HIFSA is in the process of registering its first project for EDGE certification, Fourleaf Estate in Port Elizabeth, to pilot the certification process. Thereafter it will endeavour to roll this out in future housing developments for both sale and rental. Initial indications on the pilot project showed that the developer, Similan, had already designed for most of the green efficiencies, with 20% less energy usage and 20% less embodied energy in the building materials. Slight modifications in the design were needed to achieve 20% less water usage, with the introduction of low flow taps and shower heads. These modifications did not increase the building costs.

When choosing a development partner for the first EDGE pilot, HIFSA considered Similan an ideal candidate because of their innovative and attractive designs within the affordable price bracket, as well as their attention to designing cohesive communities within a housing development. Harold Spies, CEO of Similan, says "the term 'affordable housing' can often be viewed in a negative light by potential home buyers and could be associated with cheap, thoughtless design, built to accommodate the 'masses' with little regard for the families who will occupy them." His company prefers to refer to "affordable luxury" and their vision is to create, living, growing, thriving communities. The Similan team is strongly opposed to the notion that quality is associated only with expensive design. Their experience is that an additional 1% to 3% increase in cost can deliver a house that is of 20% to 50% better quality.

The pilot EDGE project in Port Elizabeth has 323 single-storey housing units with 127 units for rental and 196 for sale within a gated estate. Pieter du Toit, Similan's Development Manager for Fourleaf, says: "It is imperative that we integrate green efficiencies in our design, especially for our market segment, where the subsequent cost savings for less heating and cooling, and the water and electricity savings will have a direct effect on our customers' cash flow over the longer term

and incrementally reduce the pressure on an already struggling national infrastructure."

These green efficiencies are likely to translate into operational efficiencies, which are a selling point for prospective buyers and rental tenants looking to reduce their electricity and water bills, especially in an environment of water and electricity shortages and where increases in electricity and water costs could escalate substantially. According to Nedbank, projects implementing green efficiencies using the EDGE standards could cost between R20 000 and R30 000 more per housing unit, which would represent around 3% – 5% or less of the total building cost of an affordable housing unit. Minimum savings of between R200 and R300 on the running costs are required to justify the additional expense, which appears to be achievable (Nedbank, July 2015).

While many HIFSA developers may already be implementing green initiatives for water and energy saving, these have not been measured or certified. By obtaining EDGE certification, these developers could benefit from being able to market their houses as "green homes" for either the sales or rental market. In an increasingly competitive market, a home with reduced utility costs could be a significant incentive for new homeowners or tenants.

The world is moving towards greater awareness and action on conservation and sustainability issues. South Africa is well placed to play a leadership role in affordable housing, a crucial sector in both developing and developed economies. EDGE seems to offer an effective and a productive framework for a fruitful collaboration between Government, the finance sector and industry that will better serve the community and meet its long-term housing needs.

