

The Impact of Green Sustainability on Buildings and Homes



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BY WANJIKU KIMANI

Eco. Green. Environmentally friendly. These are all words we hear and try to digest but often do not understand their meaning. It's even harder when you relate it to your home or workplace, but what is all the fuss really about? Well, to put it simply, the earth is dying due to our misuse of resources and with extensive pollution, it is time we start thinking differently about the houses we want to build, and the structures we are currently living in. Nairobi was founded around 1900, at a time when climate change was not an issue, compared to currently when almost all industries are being pushed to decrease their carbon footprint. The United Nations recently set a requirement that all buildings be net-zero carbon by 2050 – a lofty

goal with only one per cent of buildings worldwide currently meeting this target.

What is Net-Zero Carbon?

With high levels of man-made greenhouse emissions, there is a need to remove them (artificially or naturally), to put the climate system back in balance. Ratified by many European countries under the Paris Agreement, net-zero means all greenhouse emissions have to be absorbed back into the atmosphere. First World countries have a greater task of reducing their emissions drastically. Kenya is making headway when it comes to achieving the Net Zero goal with the Kenya Green Building Society in conjunction with the World Green Building Council (WorldGBC), rolling out the Advancing Net Zero project in 2016. They have 4 major goals, namely to measure and disclose carbon emission levels, reduce energy demand and wastage, use renewable energy sources to meet demand and to include other areas such as zero water and zero wastage over time.

Why Build Green?

One of the ways to achieve the goal of net-zero carbon emissions is to create energy-efficient homes and buildings. With more and more high-rise apartment buildings gaining popularity for home-owners in Kenya, contractors, and builders must understand the need for buildings with a low carbon footprint.

Economic benefits

By using the green option, developers can take advantage of the Kenyan government tax exemption on interest from green bonds which are fixed income securities that help to raise capital for sustainable projects. With the first green bond issued in Kenya by Acorn Holdings valued at over USD40 million, it is only the fifth bond issued in Africa in 2019, part of a total of 17 bonds valued at over USD400 million. In addition, the costs saved on utility bills will translate to the tenants and households as well as increasing the value of the building by 7 per cent in comparison to traditional buildings.

Environmental benefits

With the Green Star Certification, such as that earned by Dunhill Towers in Nairobi, it has been shown that organisations can save up to 40 per cent on energy usage as well as up to 30 per cent in potable water per year. This is a key benefit as it translates to a reduction of negative impacts on the environment – the ultimate goals of green buildings. Energy is also saved by the use of renewable energy and fuel switching techniques and the construction industry has the greatest potential to significantly reduce greenhouse gas emissions.

How to build zero carbon buildings

Although it may seem complicated and a daunting task, building green has become easier and the long-term benefits outweigh the initial problems. For developers and residents alike, the cost-saving mechanisms achieved by building green eventually result in savings as well as having a positive environmental impact. Some tips to build green include:

Create your own energy

It is essential to create enough energy to meet the requirements for the household or the workplace. This is most simply achieved by the use of solar energy for daily usage, and the excess can be sold back on to the power grid. By using solar thermal panels for hot water, and photovoltaic panels to generate power, homes can be fully self-sufficient. With the East African region receiving sun-

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PHOTO SUGGESTION: Building green

light most days of the year, this seems to be a fairly inexpensive method to save energy, and the investment will pay for itself over a few years.

Save on existing energy usage

This can be achieved by changing all lightbulbs to LED compact fluorescents which can save as much as two-thirds on energy costs, and decreasing carbon emissions by the same amount. Another suggestion is decreasing plug loads. Many appliances keep running even when turned off meaning TVs and computers which are even turned off, can still use as much electricity as a refrigerator. The solution is to use a power strip or extension cable which cuts off all power when switched off.

Use locally sourced building materials

This is one of the easiest ways to save energy as well as contribute to the local environment and community. It is advised to use natural, recycled or reclaimed materials. By also decreasing the distance goods have to be transported means builders also save on petrol decreasing pollution.

Invest in energy saving appliances

As with all investments, the initial spending can seem expensive but will translate in savings over time. This is especially true for appliances such as refrigerators, washing machines, and microwaves. When furnishing a home or office space, it is advisable to purchase those with the Energy Star (Nyota Msema Kweli), which provides a guide to the energy usage and operating cost of the equipment.

Lastly

Although many first world countries are actively involved in decreasing their greenhouse gas emissions and achieving Net-Zero Carbon, African nations are also making a concerted effort to make a difference in the war against climate change. With support from government, business and the building industry, the 2050 vision for a zero-carbon environment is achievable.

Wanjiku Kimani is a Digital Marketing specialist based in Nairobi. Email: wkimani1989@gmail.com