

NHC Place, the first green building in Tanzania

NHC Place is a project of Tanzania Green Building Council. This is the first green building in Tanzania with zero incremental cost.

SINGAPORE, SINGAPORE ,
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/EINPresswire.com/ -- Iconic Head
Quarters : Build Green with zero
incremental cost.

This project is located to Dar Es Salaam in Tanzania for NHC. This building (10 storeys and 13,810 m2) costs USD 18 million. Aqres Africa Architects, Interior Designers and GreenA Consultants have worked on this project.

The misconception of high green premiums might put some off when considering for green building. While many believe in the idea of sustainability and reducing the environmental impact, cost may sometimes be of hindrance. This case study will explore how the Icon HQ managed to work towards making green building more accessible by eliminating costs.

Green Value Engineering :

Initial designs for the Icon HQ were re-

evaluated and altered to devise an approach that incorporates all elements of Green Building where possible. All cost and trade offs was established with consultants and clients. Any overprovision was adjusted and make way for improvement in other required areas.

Integrating into the existing environment :

- Site selection

By choosing a land that is already established for development, natural land is preserved as roads and utilities are already in place. Accessibility is another criteria that developers or building owners should take into heavy consideration. Employees or building occupants should be encouraged to take public transportation.



- Orientation of the building

Building design was pre conceived at the point of intervention hence orientation cannot be altered or enhanced by building elements. External Thermal transfer value was computed to enhance the possible damage on the facade. Reflective glass SC 0.24, U value 4.44 with EETV : 45.26w/m² with WWR 0.46 was ultimately provided. There are intermitted shadings though planter boxes overhangs to assist in glare mitigation.

Energy System : -22% savings

Re computation of head load exercise was carried out wand operating load was studied. Re selection of units was done.

- System : LG VRF 3 / R:R410A / eff 0.8 kwRT
- Installed Cooling capacity : 275 RT, Operating : 219 RT
- Cooling load 114 w/m²
- Energy Efficiency Index 105 kwh/m²/yr

All fluorescent tubes are T5 with HF ballast, LPD of 10 w/m² for offices, overall lighting energy savings of 36%. Occupancy sensors are installed in office areas.

Staircase / toilets are naturally ventilated.

Lift are equipped with VVVF and sleep mode. Co2 emission reduction per year 141.1 tons Energy + Water Savings USD 66,000 p/yr

Water savings :

Estimated water savings per year 17,000 m³/yr.

The building is fitted with a water sub meter per floor to monitor.

Making use of clean energy :

- Solar panels
- More and more people are switching to solar technology to support their energy sources.
- Photovoltaic of 5.76 KWP are installed to service all staircases.

No of Panels Installed : 24

Solar Panel Wattage 240 wp

Installed capacity 5.76 kWp

Annual Capacity Produced 6,912 kw/yr (0,66% replacement)

Waste : refuse chute is provided for recyclable waste.

IAQ : low VOC paint.

Sustainable landscaping : native Landscaping - Draught tolerant plants.

Often times, these draught tolerant plants are native plants which have evolved and are adapted to local weather. Some of these plants hold in moisture while others minimize water, utilities will simultaneously be lowered and room created for water conservation.

Care and maintenance : The plants on site are trained to use less water and are only watered to be kept healthy; taking advantage of their draught tolerant characteristics. This also ensures good

upkeep, discourages weeds, snails and overgrowing.

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