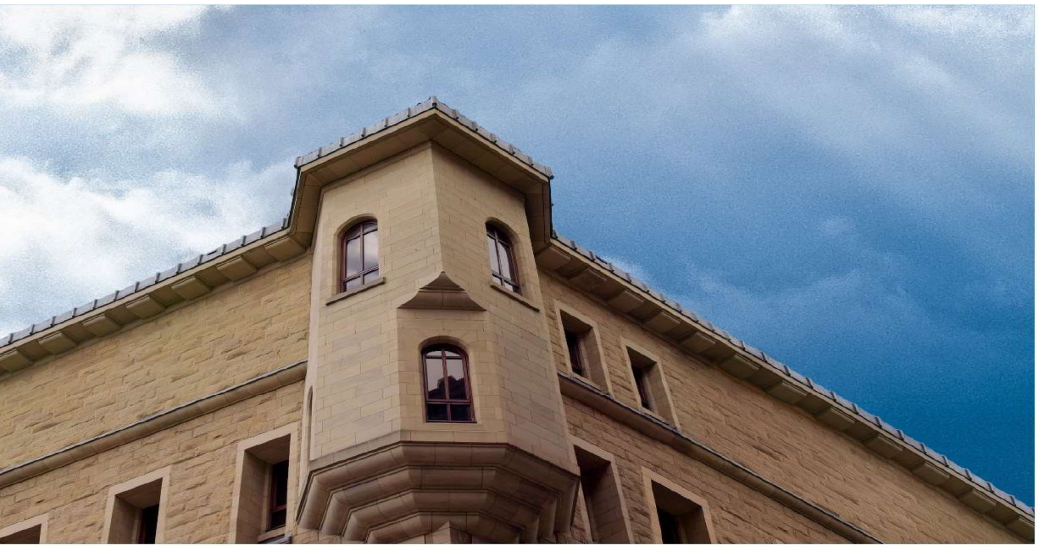

Green Building Movement in the Region

WORLD GREEN BUILDING COUNCIL

AFRICA REGIONAL NETWORK

WORLD GREEN BUILDING COUNCIL

#OurHero

ntext 1

East African countries are prone to natural and human inflicted hazards. Floods, drought, epidemics, and conflict are the most commonly reported.

There is a risk of extreme weather events increasing as result of climate change (CC).

- ✓ **More than 70% of 'natural' disasters in Kenya are related to extreme climate events.**
- ✓ **On average, CC caused 56.7 deaths and GDP losses of 0.33% per year in Kenya between 1998 and 2017.**
- ✓ **In Uganda, extreme weather events related to CC caused a loss of 16% of the total value of crops and livestock in GDP in 2011.**

People in poverty are likely to be left behind in the absence of adequate investment in disaster risk reduction (DRR) and CC adaptation.

Context 2: Current NDC Scenario Sub Saharan Africa

er current NDC scenario, the world will fall short of the Paris Clim
ctive of ensuring global warming is within 1.5^0C by 2050. Thus, Count
t raise their NDC ambitions including massive scale up of targets
ss to clean cooking solutions and technologies.

seholds across Africa, including very poor households, spend a signifi
e of their income on energy

qual access to energy reinforces disparities in health and education

ntext 3

Currently 840 million and 3 billion people lack access to electricity and clean cooking fuels and technologies respectively.

70 million people in the developing world move to urban areas each year. Consequently, cities are increasingly stretched to provide urban nfrastructure, services, and safe land including energy. One billion people already live in slums, and this is projected to double by 2030.

By 2050, Africa will be home to 1.3 billion more people than it is today more than half of the world's projected population growth of 2.4 billion people). This means a huge demand for buildings – with 80 per cent of those that will exist in 2050, yet to be built.

ness As Usual

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Energy use in buildings in Sub Saharan Africa

Majority of modern buildings in most African countries with tropical climates - **are replica of building designs from western and developed countries** with cold and temperate climates.

Modern cities are **fossil fuel driven cities**.

Very few **urban planners** take into consideration **bioclimatic elements or passive methods** in their new urban plans. New buildings are aligned along main roads, rivers and the resulting settlements are **high energy dependent**.

Rapid provision of housing on large scales that are not always environmental friendly.

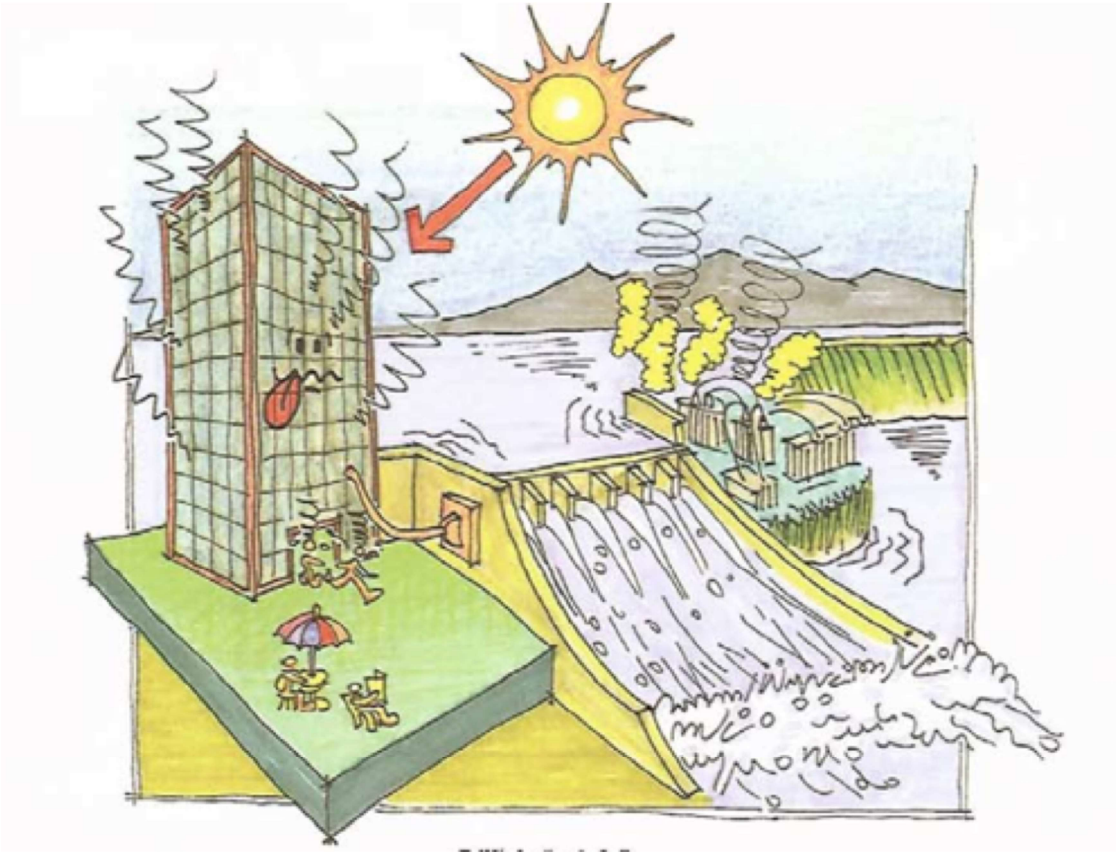
- Mass housing with poor environmental considerations:
- Poor orientation, no sun shading devices, poor ventilation and day lighting, poor use of building material;
- No green spaces and open.
- Emphasis is put on **quantity** and not **quality.**

1. Baseline data and Benchmarking on energy use in buildings

- Assess energy consumption trends in buildings.
- Conduct energy audits in residential, public and commercial buildings.
- Establish energy consumption benchmarks per categories and typologies of buildings and climatic zones.
- Identify Saving Potentials.

Eastgate: Sustainable building in Harare.

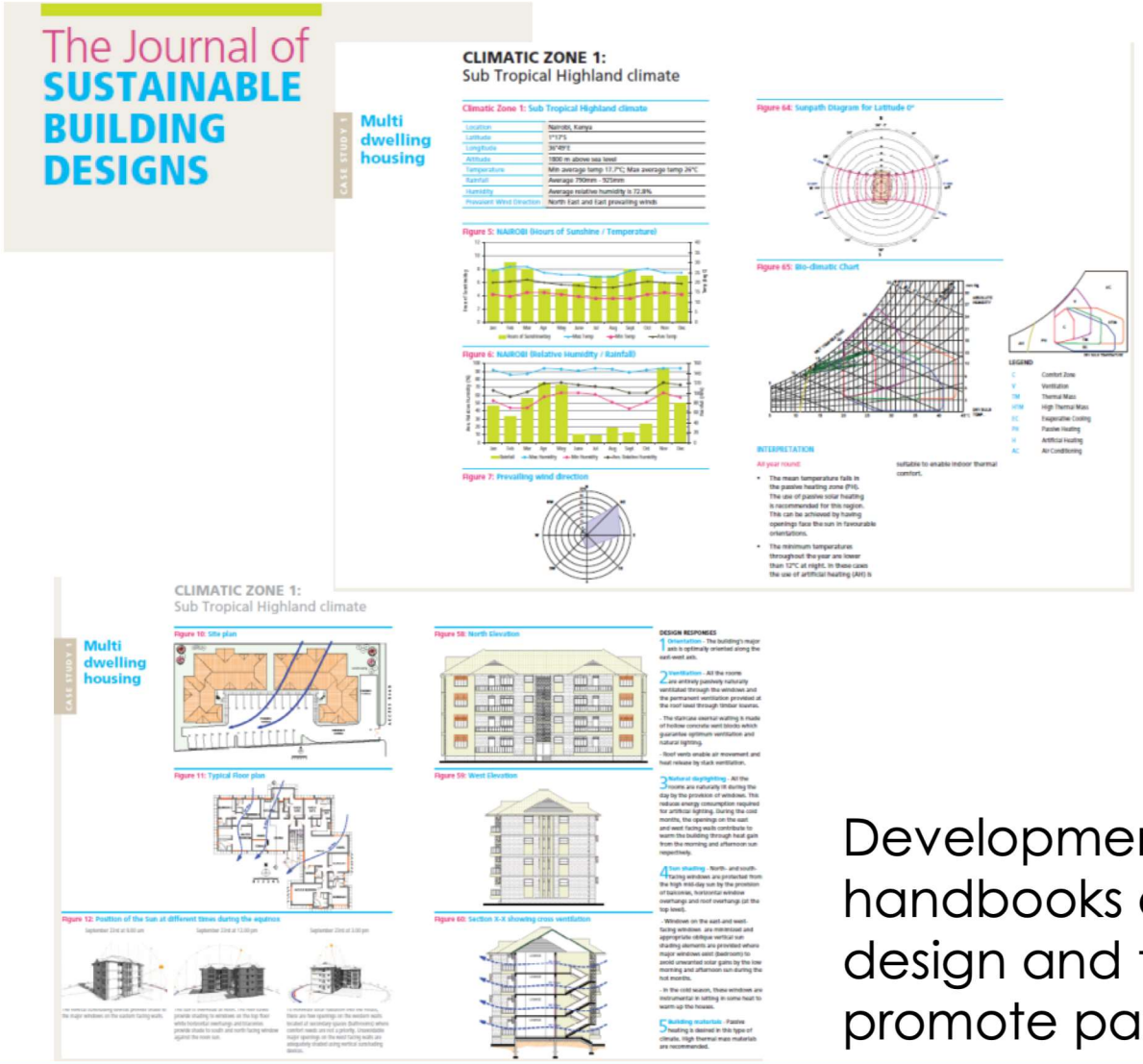
Energy use in buildings in Sub Saharan Africa

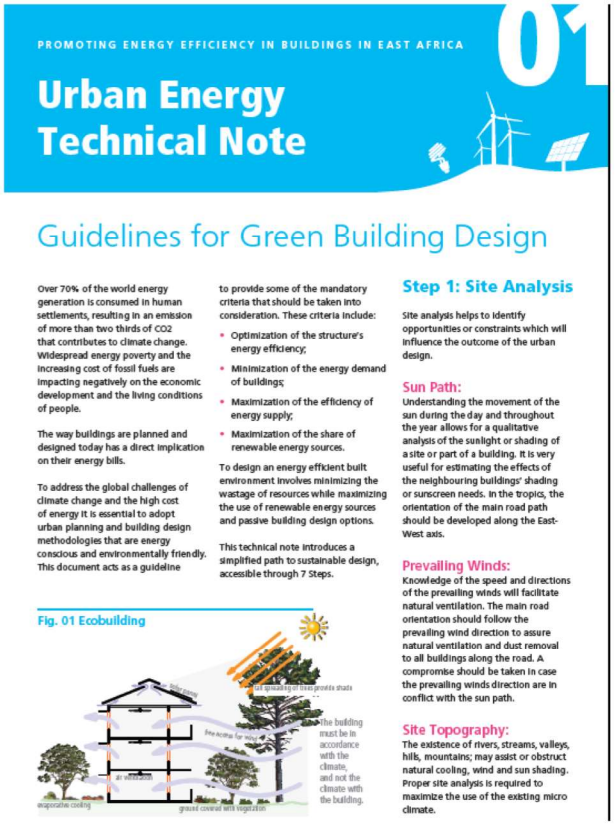


Energy used in buildings in Africa is estimated at **56% of the total national electricity** consumption.

Over 70% of energy is consumed in cities alone and in some cases, more than 50% of the national energy is used in the capital city alone.

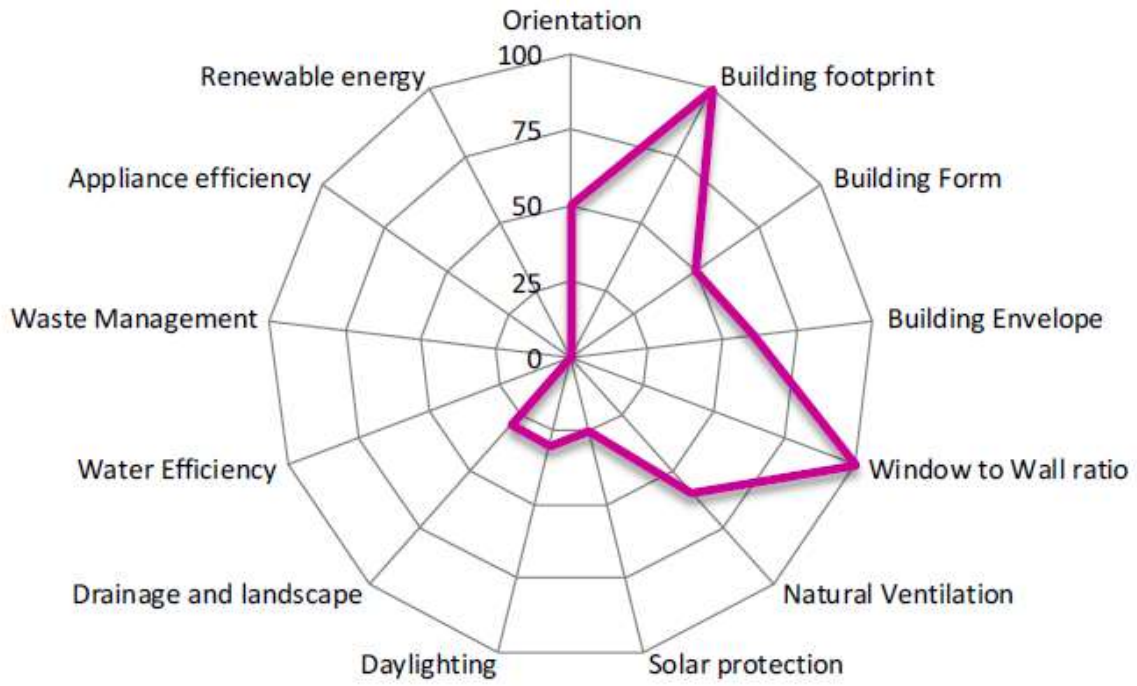
3. Education: Awareness creation and capacity building in EEB





Development of tools such as handbooks on sustainable building design and technical notes to promote passive building measures.

A radar table to assess the sustainable performance of the building.

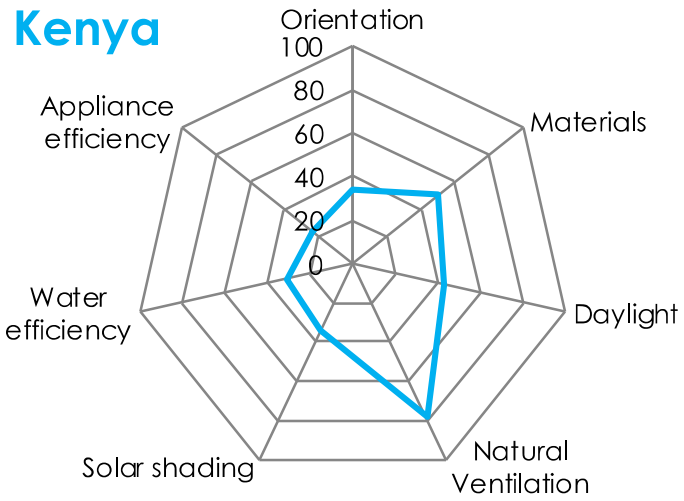


KEY:

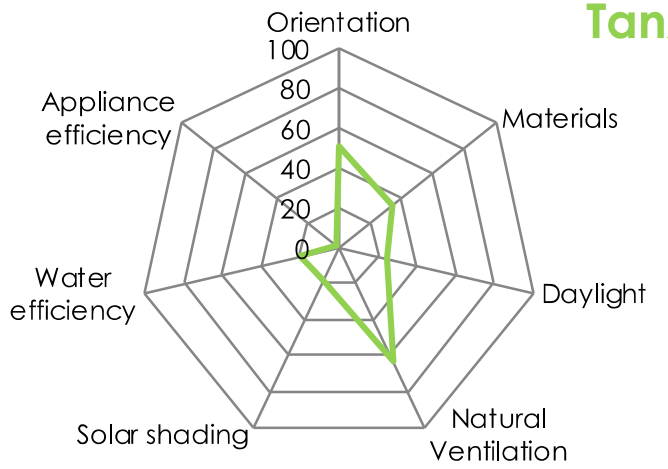
0	– 25	Sustainable design measure not considered
25	– 50	Sustainable design considered but not effective
50	– 75	Sustainable design measure considered and effective
75	– 100	Sustainable design measure considered and combined with secondary function / innovative

Audit findings: Current situation

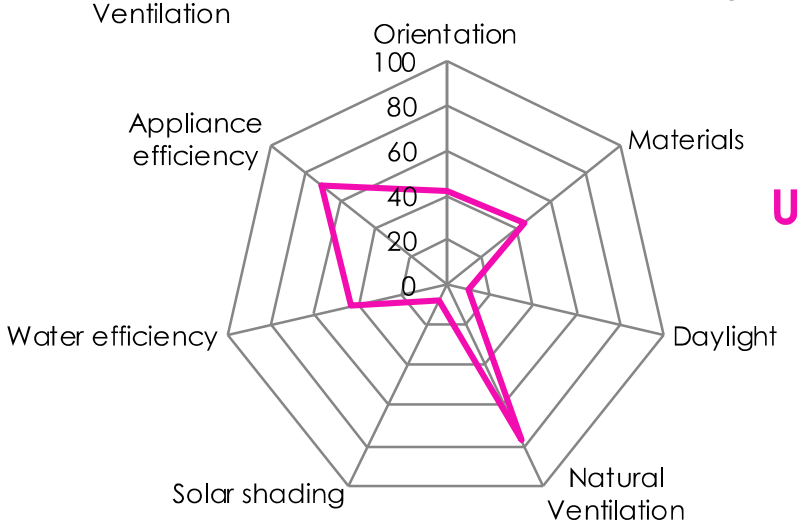
Kenya



Tanzania



Uganda



Sample size:
1,086 Buildings

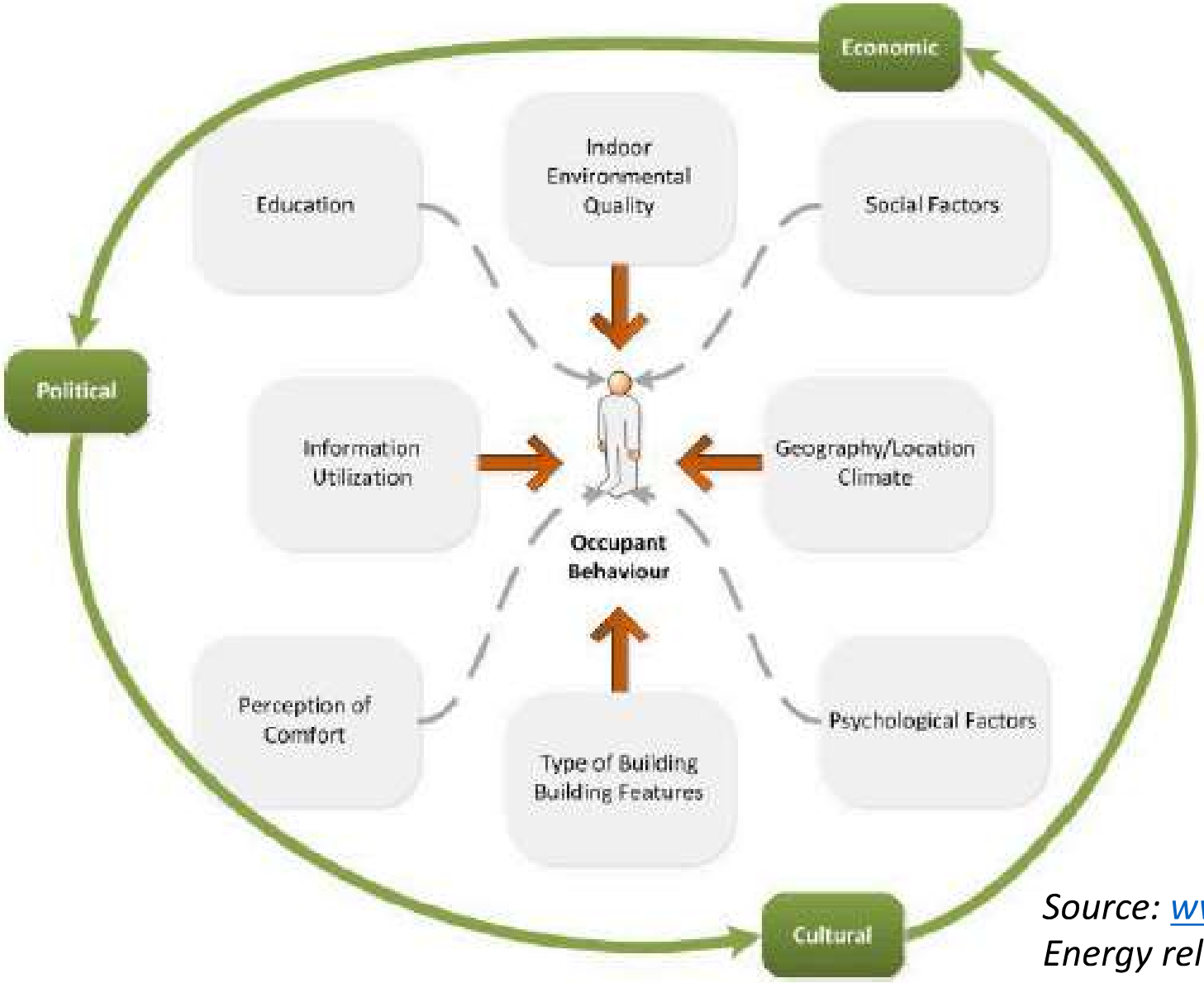


Figure 1. Influential factors on occupant behaviour.

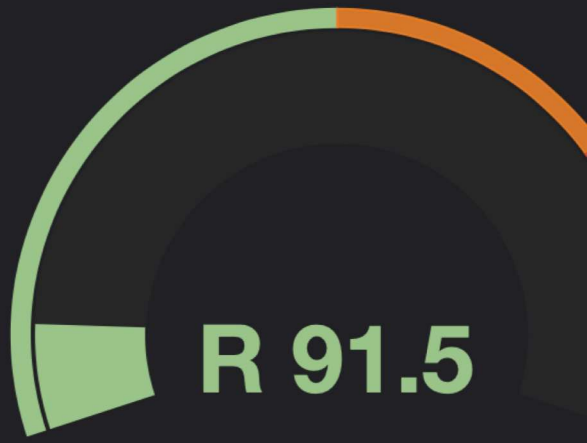
Source: www.mdpi.com; Energy related occupant behavior and implications in Energy Use; A Chronological Review

MONTHLY ENERGY - COST SO FAR

MONTHLY ENERGY - STATUS

GOOD

MONTHLY ENERGY - COST SO FAR



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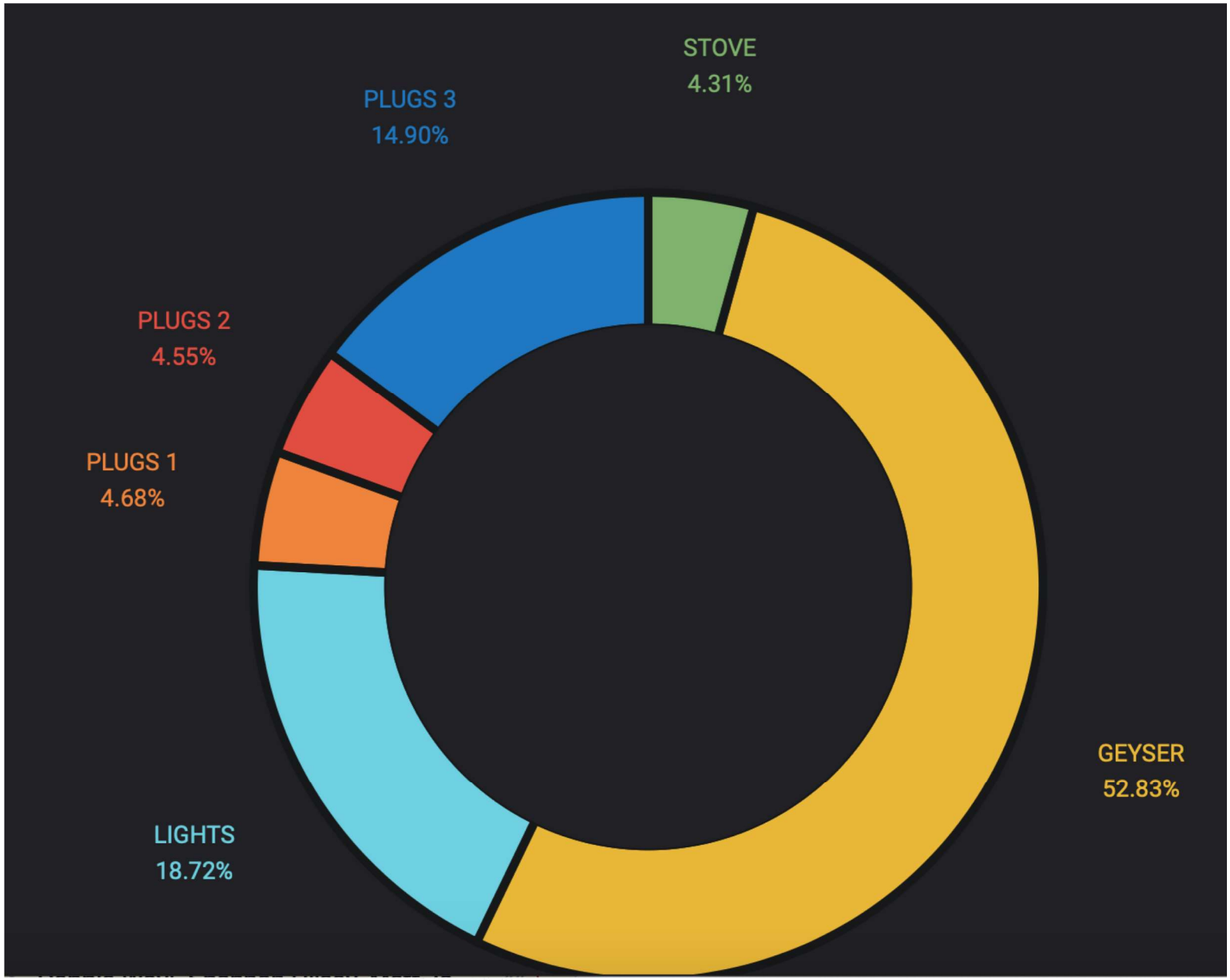
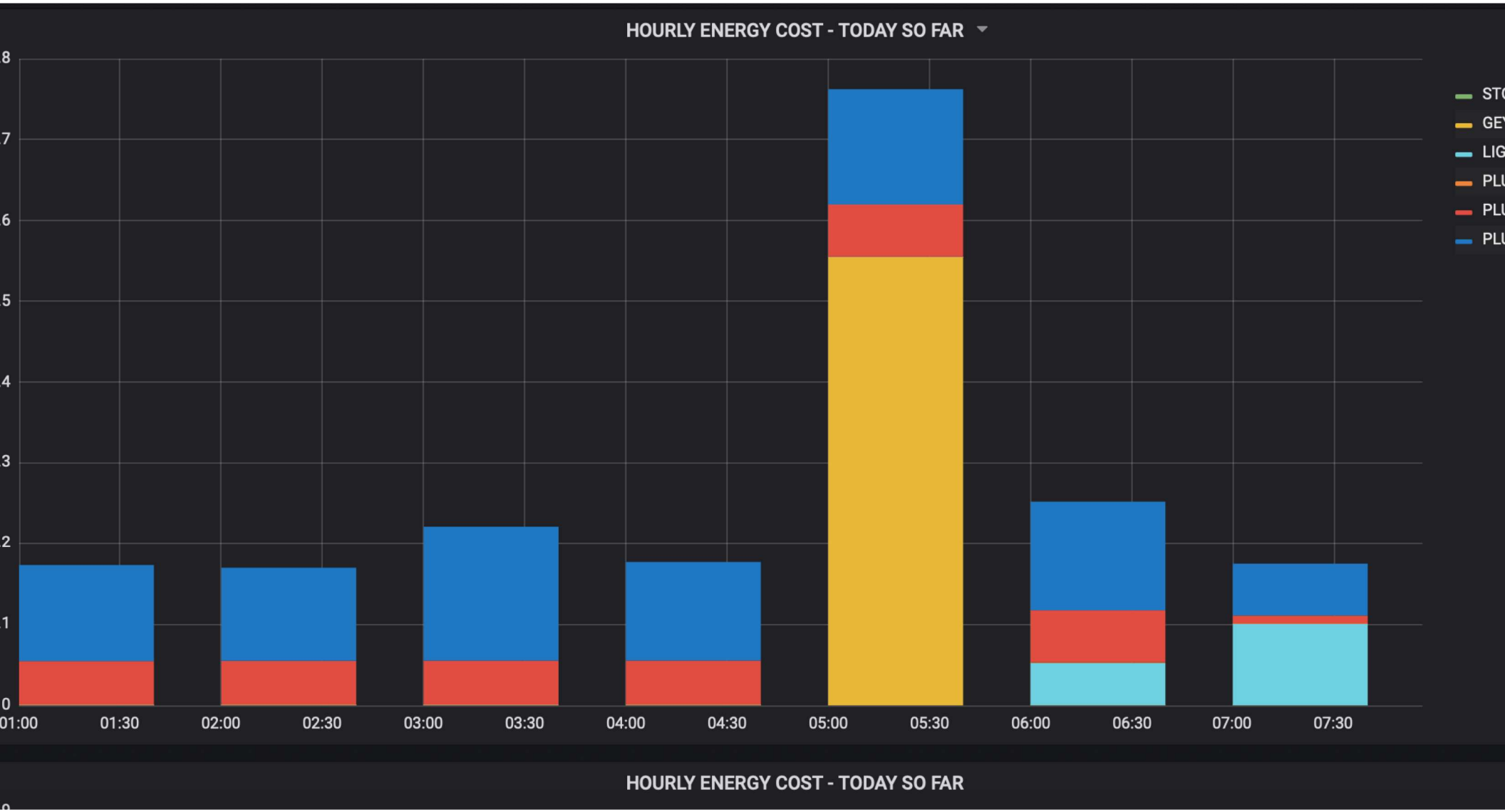
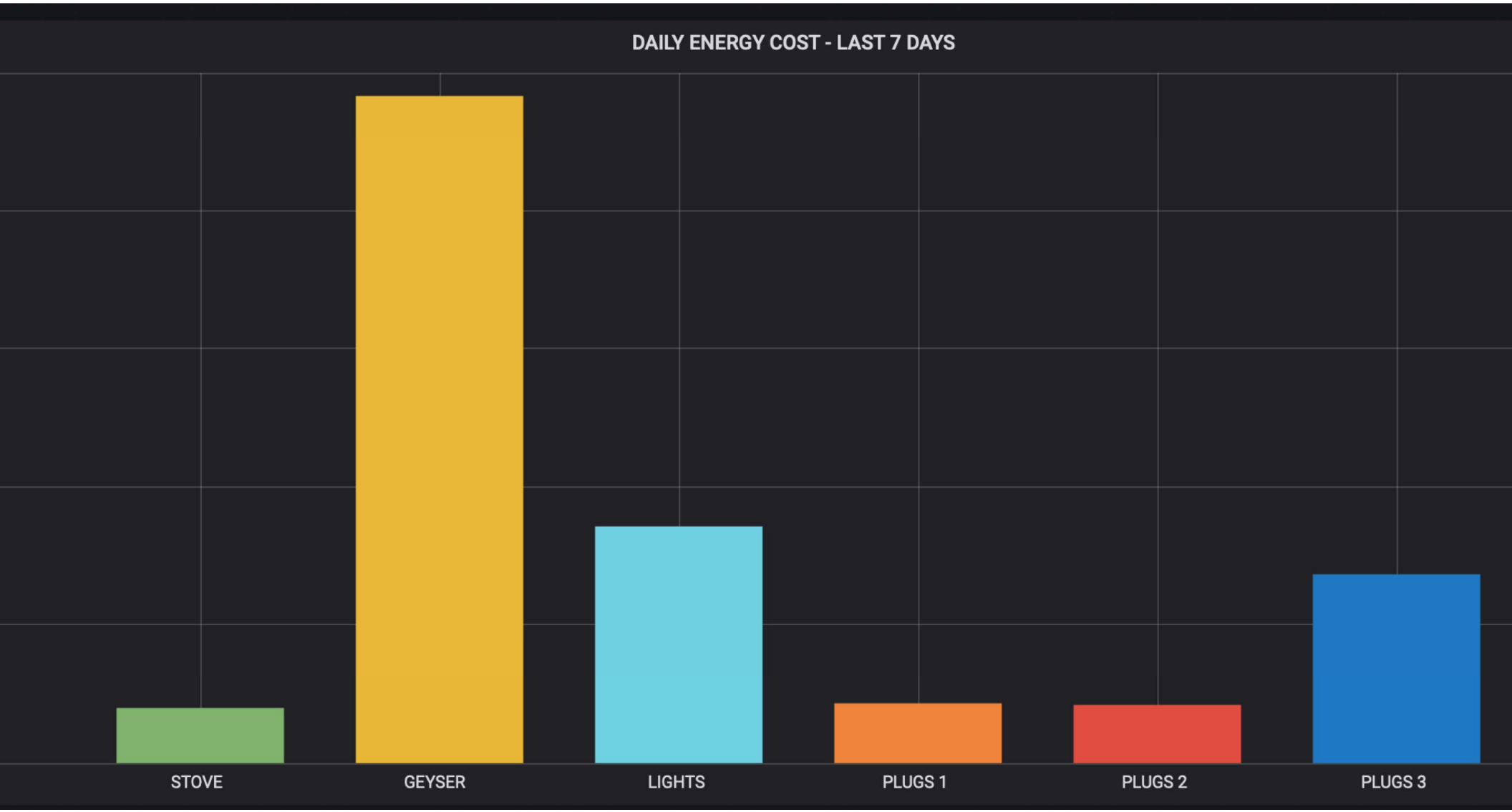


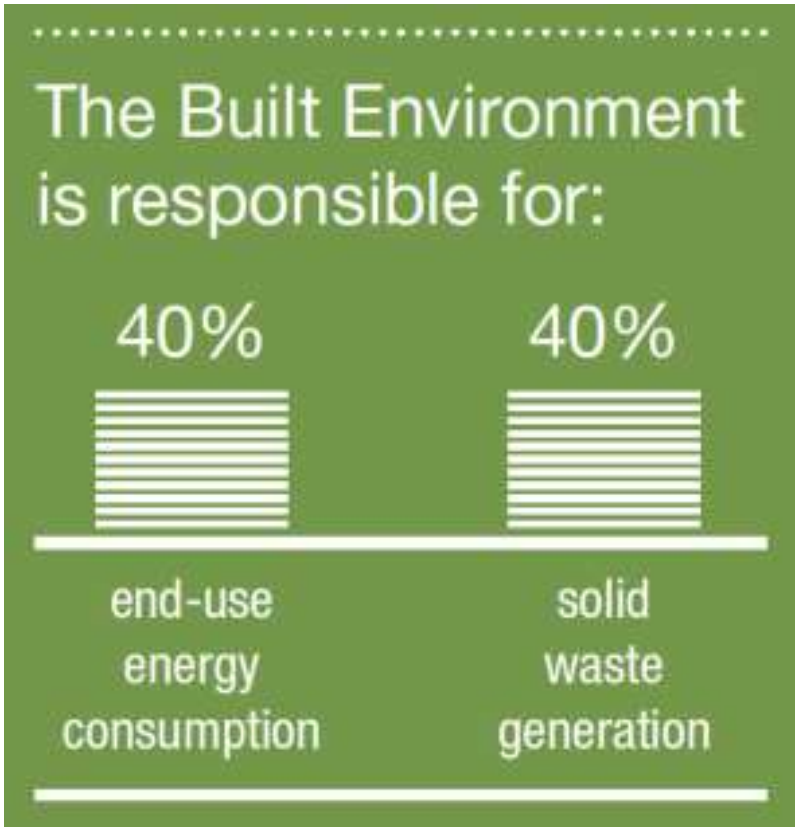


HOURLY ENERGY COST - TODAY SO FAR

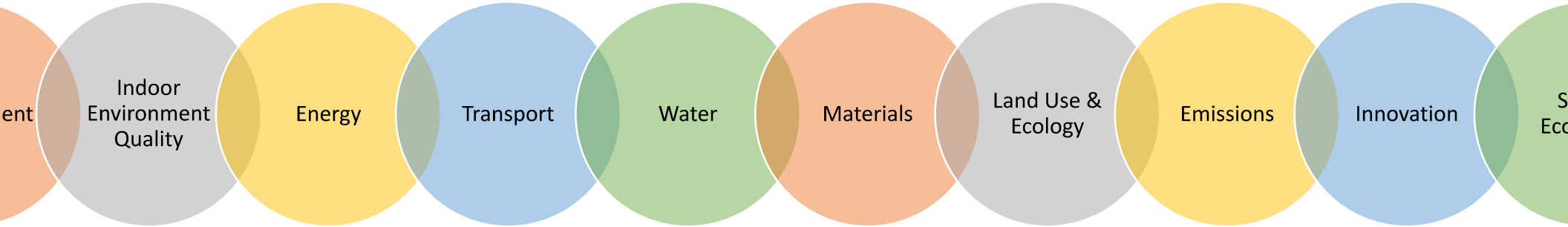


Building responsibly is imperative

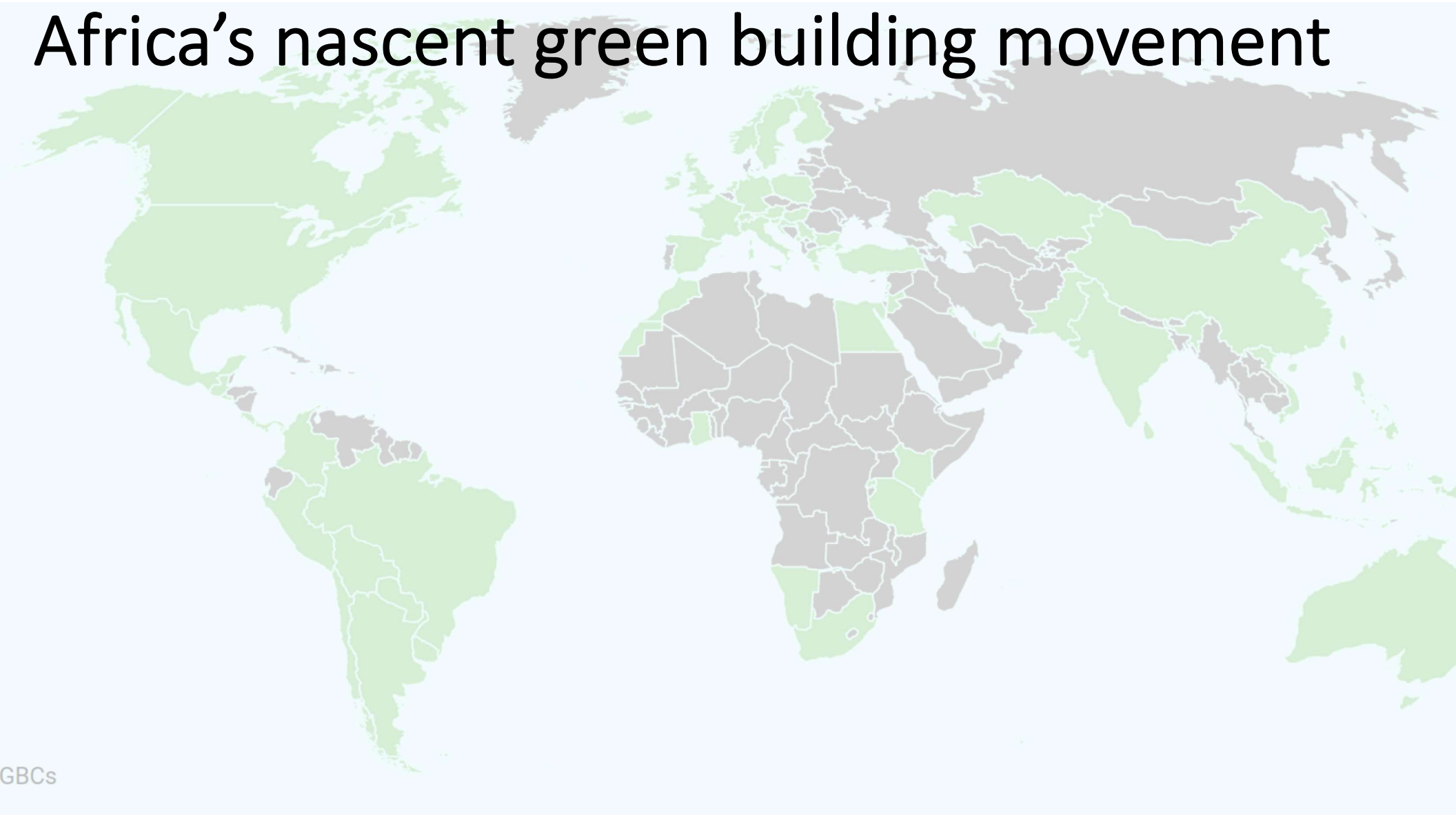
- By 2050, urban areas in sub-Saharan Africa will be home to 800 million more people than in 2014, according to New Climate Economy, and these will all live, work and study in buildings.
- Future growth in Africa presents a tremendous opportunity to reinvent the way we build – to benefit the economy, society and enable humanity and nature to thrive together.



..to achieve an efficient & resilient green built environment



Africa’s nascent green building movement



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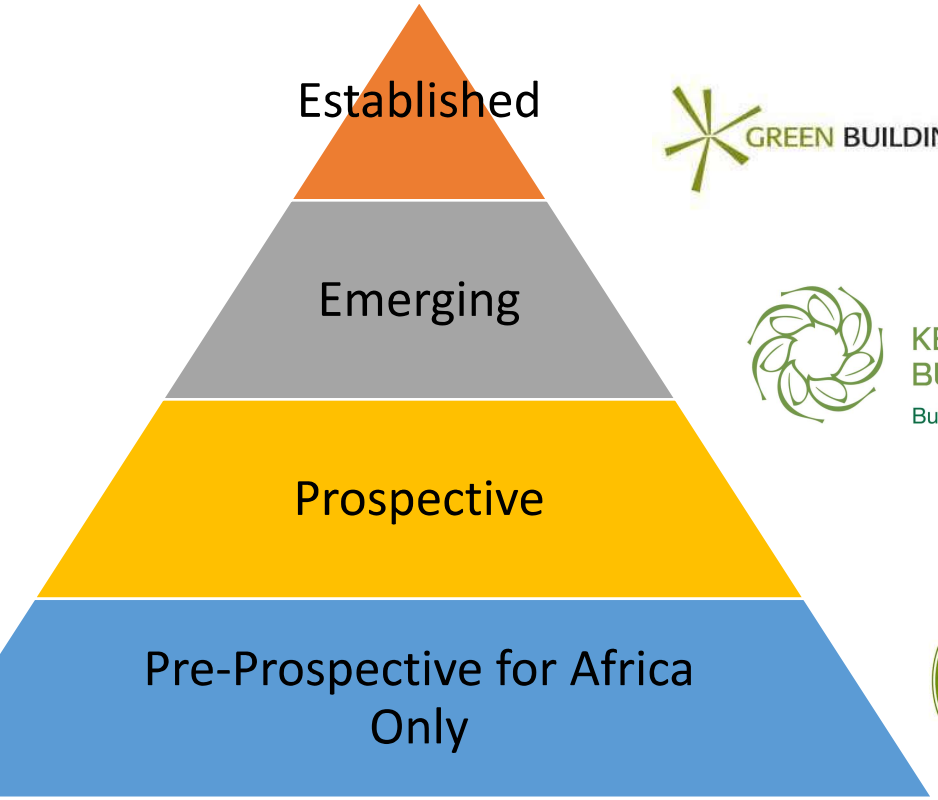
There are currently 7 WGBC registered green building councils in sub-Saharan Africa



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Showing Interest
Botswana
Cameroon
Democratic Republic of Cong
Ivory Coast
Libya
Nigeria
Senegal
Sudan
Tunisia
Uganda
Ethiopia

GHANA GREEN BUILDING COUNCIL GHGBC

gbcm™

GREEN BUILDING COUNCIL NAMIBIA

RwGBO
Rwanda Green Building Organization

www.worldgbc.org

Typical GBC: About Kenya Green Building Society

Who

Independent

Non-profit

Non-political

Member-based organization

"Emerging" status member of the World Green Building Council

What

Lead the transformation of the built environment in Kenya toward environmentally sustainable buildings

Build a green economy value chain

How

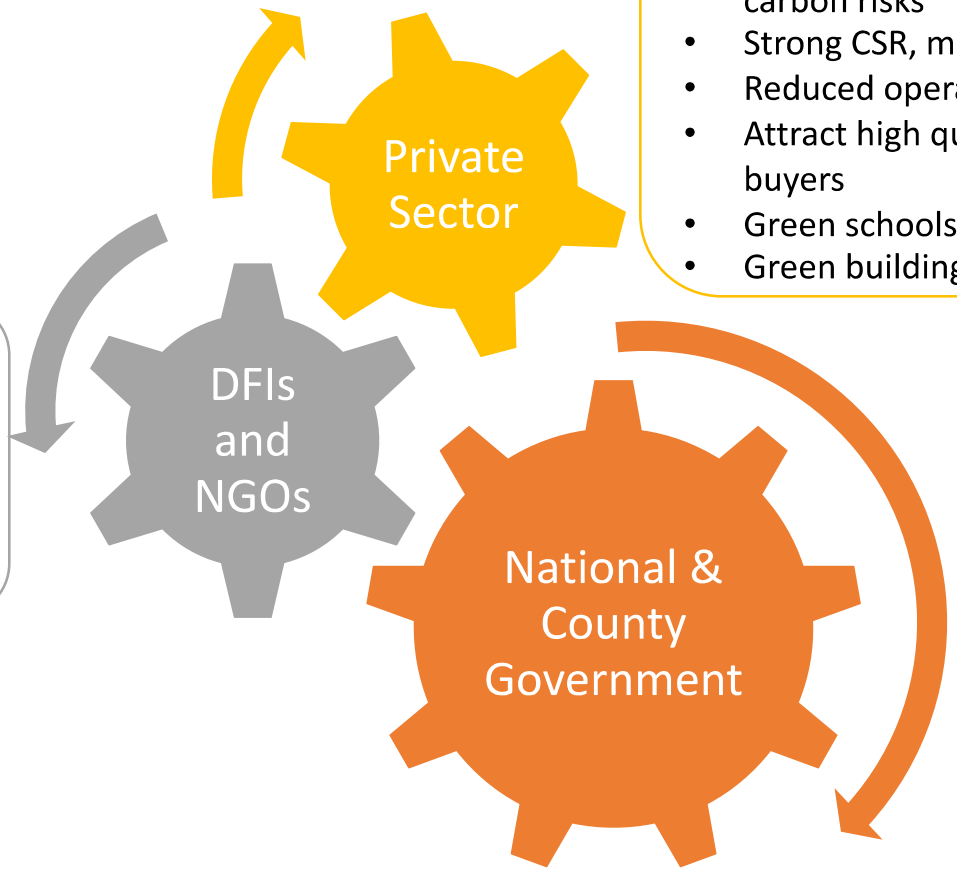
Advocacy

Education

Certification of green buildings

Our Theory of Change

- Corporate & individual engagement
- Assets of high quality and value
- Long-term resiliency to mitigate carbon risks
- Strong CSR, market recognition
- Reduced operating costs, good ROI
- Attract high quality tenants & buyers
- Green schools initiative
- Green buildings for everyone



- Collaborate with complementary organisations
- Unlock green finance
- Capacity building within public and private sector
- Boost a circular green economy

- Achieve Paris Agreemer commitments for GHG emissions
- Advocate for built envir solutions to achieve nat climate change agenda national and county lev
- Align Kenya's Medium T Plan 3 and Green Econo Strategy Implementatio
- Benchmark & track gree building data

ng Net Zero

ng Net Zero is WorldGBC's roject which aims to hat all buildings are "net rbon by 2050.

Zero Carbon Buildings nent challenges companies, ates and regions to reach Net Zero g emissions in their portfolios by d to advocate for all buildings to ero in operation by 2050.

Better Places for People

Better Places for People aims to create a world of green buildings which support healthy, happy and productive lives.

Cities and the Building Efficiency Accelerator

The Building Efficiency Acceler (BEA) is a public-private collab that speeds the development a implementation of building eff policies and practices in cities a the world. Led by the World Resources Institute, in support UN Sustainable Energy for All (SE4ALL) initiative.

Global Projects

Green Materials make Green Buildings

On 23rd September 2019, the Secretary-General United Nations hosted the Climate Action Summ New York with the objective of boosting ambitio rapidly accelerate action to implement the Paris Agreement. The S-G aimed to demonstrate a lea collective national political ambition and massive emission movements in the real economy by:

- **1. Raising national ambition:** Countries are as present concrete, realistic plans, compatible w latest Special Report on Global Warming of 1.5 the Intergovernmental Panel on Climate Chan enhance their Nationally Determined Contribu by 2020, reduce greenhouse gas emissions by cent over the next decade, and to net zero by

ompting transformative changes needed to support the implementation of these plans in the are y transition; infrastructure, cities and local action; industry transition; resilience and adaptation; e-based solutions; climate finance and carbon pricing.

nerating political momentum through enhanced social and political drivers as well as youth and pu gement.

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SUSTAINABLE DEVELOPMENT GOALS

#homegreenhome

WORLD GREEN BUILDING WEEK
24 – 30 SEPT 2018

ORLD GREEN
UILDING WEEK
4 – 30 SEPT 2018

Sustainability Imperative for the Big 4 Agenda

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KGBS' effort is focused on demand/supply transparency for financing of global SDGs…

he new 2015 Sustainable evelopment Goals (SDGs) and aris Climate Agreement have nade it more clear than ever nat the **finance sector now has vital role to play in driving ustainable development**. This ncreasing role opens doors to ew opportunities for finance nstitutions, governments and ther sustainability players in usiness and in catalyzing nange.

AFRICA GREEN BUILDING SUMMIT

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AFRICA GREEN BUILDING SUMMIT

Join us in Ghana for the Africa Green Building Summit in 2020

THANK YOU FOR YOUR ATTENTION

ELIZABETH WANGECI CHEGE

CHAIRPERSON- KENYA GREEN BUILDING SOCIETY

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