

BUTTERFLY HOUSING



AFFORDABLE & SUSTAINABLE HOUSING



BUTTERFLY HOUSING INTRODUCTION

Butterfly Housing is a Netherlands based Ltd Company aiming at the production and delivery of affordable and sustainable houses in Africa. The team is multi-disciplinary and international. The design is a growth oriented model, based on thorough research into the specific African conditions and demands. It is the result of a Dutch, Nigerian, South African co-production, that will grow along with the booming economy in Africa. Butterfly Housing has local production and delivery partners throughout Africa, forming a franchise network of cooperating partners based on a benchmark of quality and performance.

Creating thriving living environments for the future of Africa is a complex and collective endeavour. In order to create growth oriented and socially sustainable neighbourhoods for our booming cities we need to work together. The Butterfly Housing model is designed to allow for local differences and as yet unknown future conditions. We believe in building together, building towards a dynamic and

future proof urban environment, constantly changing with changing demands.

The Butterfly Housing design and delivery concept combines a generic model of advanced design and construction technology with locally established and specific modes of finishing. It offers reliable building technology and fast delivery combined with a wide range of dwelling types for different households and different budgets. Last, but certainly not least: it is a *beautiful* house. It is an aspirational model for the emerging middle classes in Africa.

BRIDGING THE GAP BETWEEN DEMAND AND SUPPLY IN THE AFFORDABLE HOUSING MARKET IN AFRICA

Modular System

The product is a starter house based on a modular system and passive climate control. It consists of a building kit of steel parts that are assembled into a load bearing skeleton + a manual to finish the houses with different infill materials, such as earth blocks and insulated panels. We distinguish three systems that we keep separate in order to organise the delivery process affordably and efficiently.

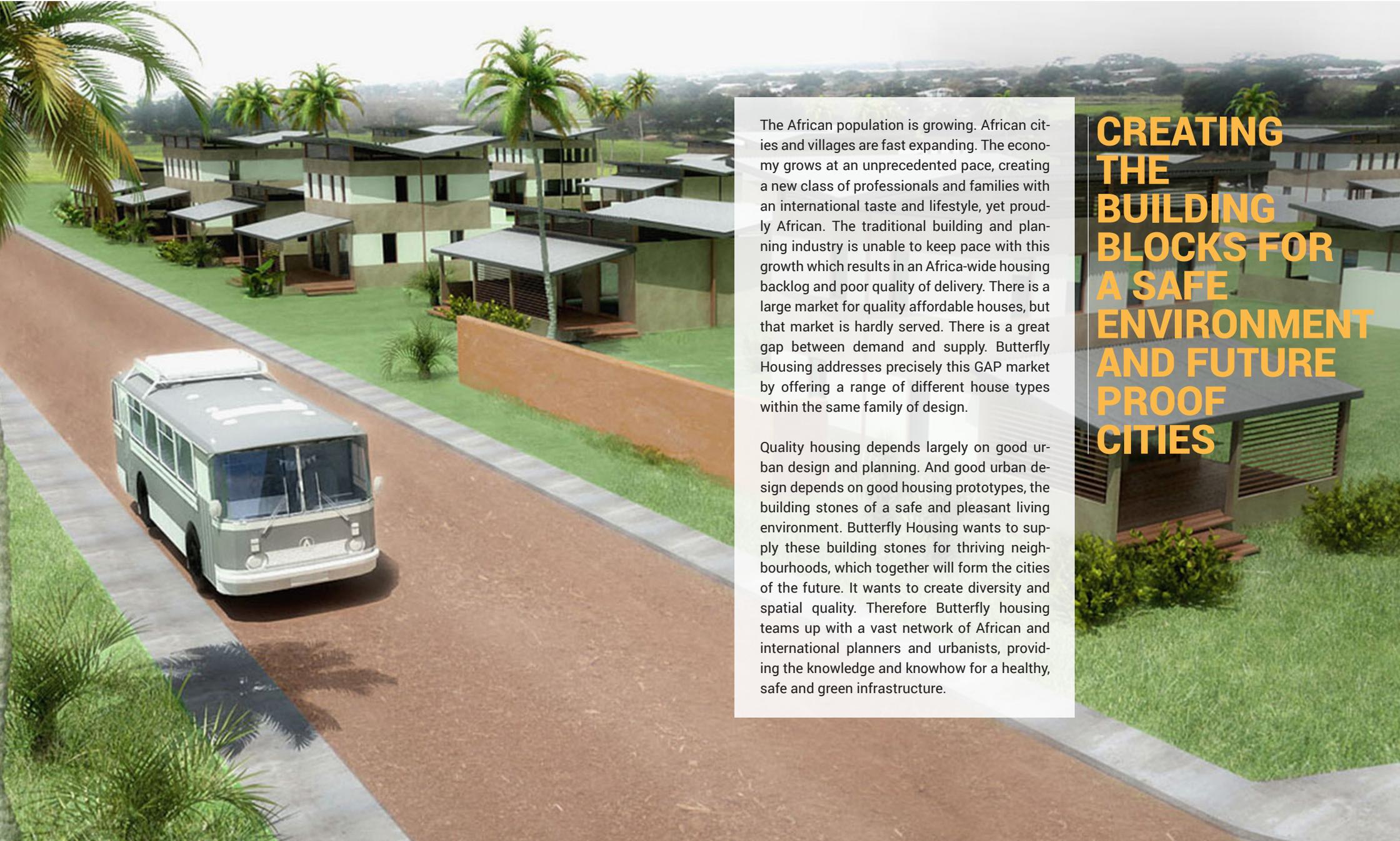
These three systems are:

- 1 the skeleton or load bearing system
- 2 the skin or protective system
- 3 the organs or energy system

Comfortable and economy

- designed to bridge the GAP
- climate responsive - self cooling
- high quality - easy assembly on site
- adaptable to changing demands over time
- adjustable to local demand
- job creation





The African population is growing. African cities and villages are fast expanding. The economy grows at an unprecedented pace, creating a new class of professionals and families with an international taste and lifestyle, yet proudly African. The traditional building and planning industry is unable to keep pace with this growth which results in an Africa-wide housing backlog and poor quality of delivery. There is a large market for quality affordable houses, but that market is hardly served. There is a great gap between demand and supply. Butterfly Housing addresses precisely this GAP market by offering a range of different house types within the same family of design.

Quality housing depends largely on good urban design and planning. And good urban design depends on good housing prototypes, the building stones of a safe and pleasant living environment. Butterfly Housing wants to supply these building stones for thriving neighbourhoods, which together will form the cities of the future. It wants to create diversity and spatial quality. Therefore Butterfly housing teams up with a vast network of African and international planners and urbanists, providing the knowledge and knowhow for a healthy, safe and green infrastructure.

CREATING THE BUILDING BLOCKS FOR A SAFE ENVIRONMENT AND FUTURE PROOF CITIES

SKELETON

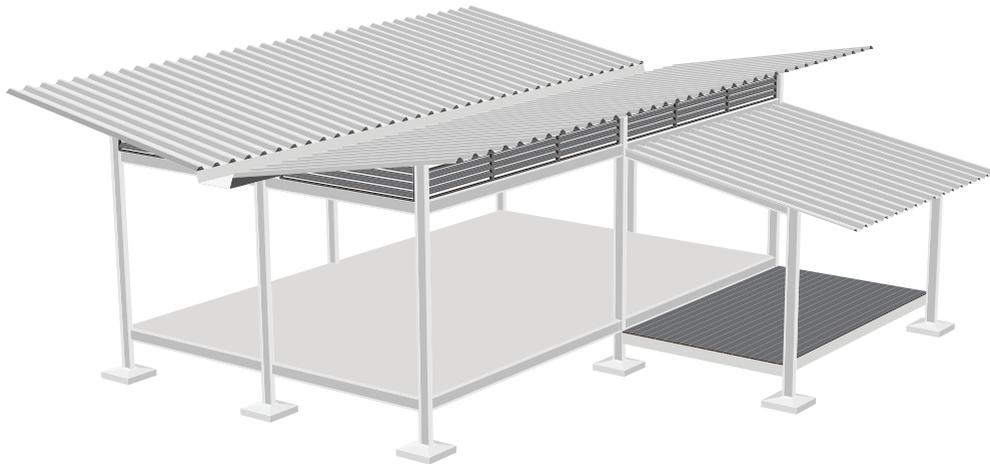
The skeleton is the load bearing system of Butterfly House. It consists of an industrially produced, thus highly reliable, steel framework and corrugated steel roof and floor. The skeleton is easy and fast to assemble. Because it stands slightly above ground the structure is independent of soil conditions, and unharmed by heavy rains and occasional flooding. The form of the roof allows for proper ventilation, creating self cooling capacity which is one of the discerning qualities of Butterfly Housing.

The Butterfly Housing Company will provide a manual for assembling the steel skeleton and will use preferred contractors to do the job.



THE LOAD BEARING SYSTEM

Once we have built one of these houses as a show house for our Gap housing development, I assure you: Butterfly House will fly! - Solomon Sididzha, real estate agent in Sasolburg (Free state) South Africa.



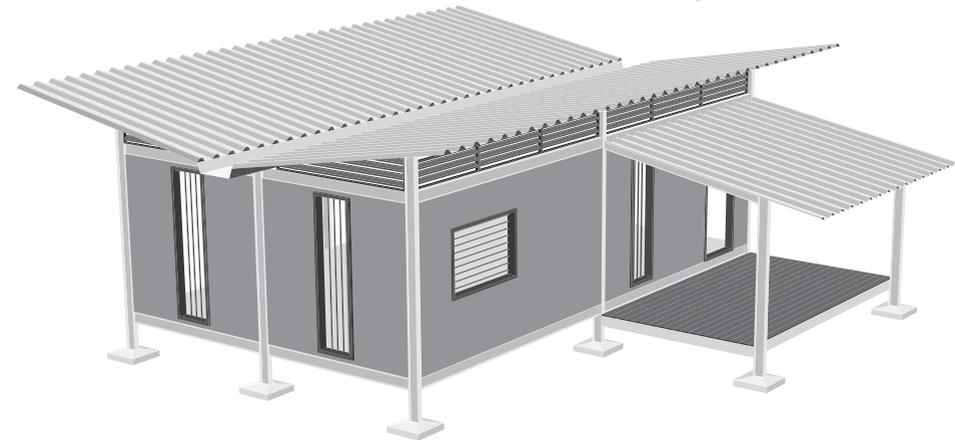
Butterfly Housing is a great model to bridge the GAP for low income families who want a decent house. We need to convince municipalities to have pilot projects of 10 to 20 houses to get it jump started. - Jonathan Sendzull, developer and real estate consultant in Johannesburg and Cape Town.

The skin is the protective system of the house. It envelops the interior and protects the inhabitants from the climate, insects and intruders. It includes strong insulating walls made of stone (compact earth blocks for example) or strong insulated fibre cement. Windows are steel or wood window frames, depending on local availability. The windows can be fitted out with burglar bars or burglar proof glass. The ventilation grille is fitted out with a specific anti-malarial mosquito mesh.



SKIN

The skin is locally produced and can be removed and altered easily without changing the structure of the house. That way the house is adaptable to changing needs without large costs.



THE PROTECTIVE SYSTEM A HOUSE THAT PROTECTS THE FAMILY WELL

ORGANS

The organs define the health of a house. Every house has its energy system for breathing, heating and cooling, as well as waste disposal and water provision for drinking and cleaning. These “organs” are mostly technical and easily replaced when necessary. This system is managed by plumbers and electricians. A Butterfly House is standard fitted out with prefabricated bathrooms and kitchens and with state of the art PV solar lighting. Hot water can be

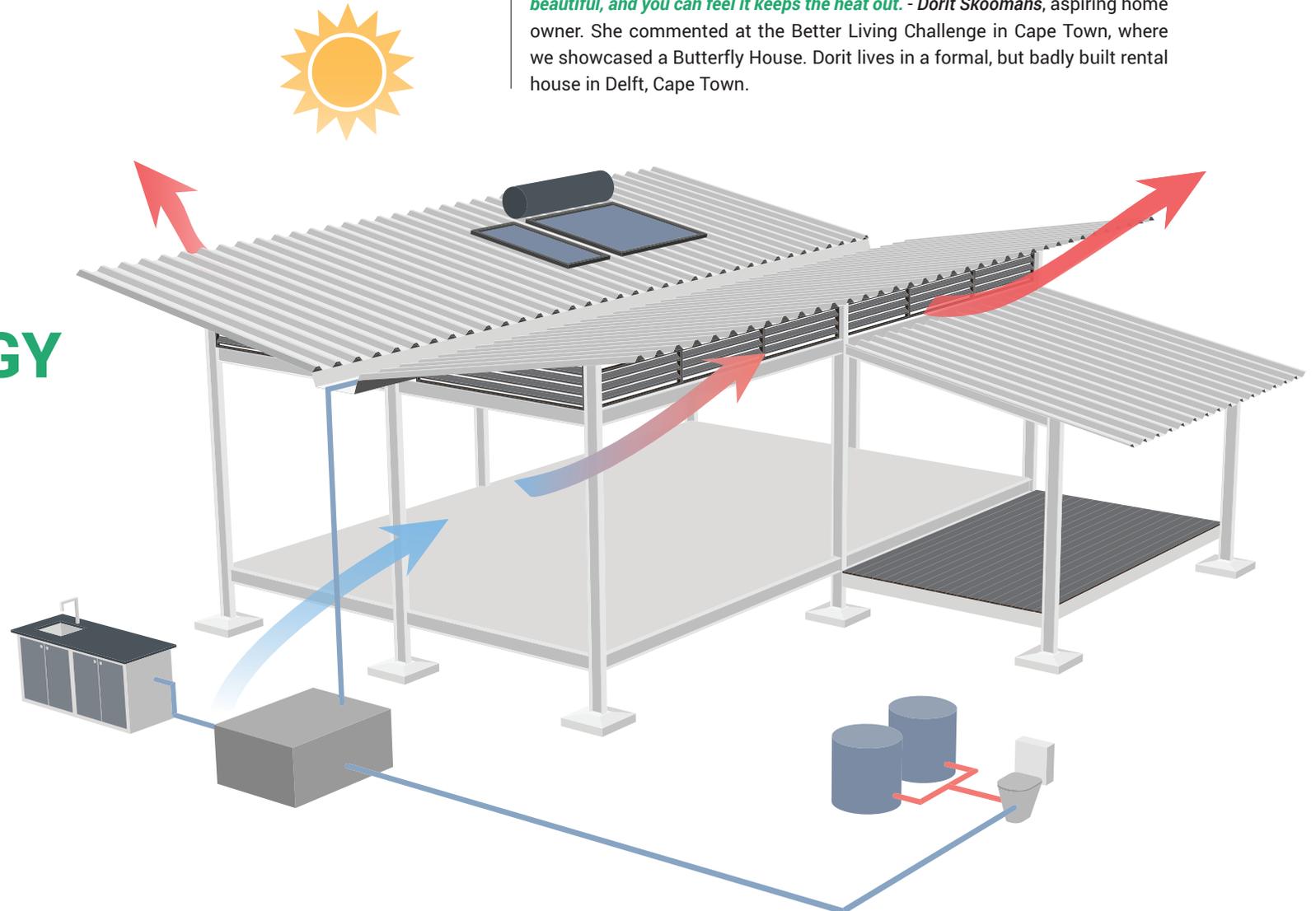
The Butterfly House does not have a need for electrical air conditioning, because of its self cooling capacity through the butterfly roof and special ventilation device. In short: it is a healthy house.

BUTTERFLY HOUSE IS A HEALTHY HOUSE

This is exactly what I need for myself and my family. It's not only practical but also beautiful, and you can feel it keeps the heat out. - Dorit Skoomans, aspiring home owner. She commented at the Better Living Challenge in Cape Town, where we showcased a Butterfly House. Dorit lives in a formal, but badly built rental house in Delft, Cape Town.

THE ENERGY SYSTEM

generated with an additional solar boiler. Waste water management depends on local standards of sewage, but could be managed individually or in small groups of houses with the sustainable waste management technology that Butterfly Housing can provide through its partners.



**BUTTERFLY HOUSING
CREATES SAFE AND
SUSTAINABLE
NEIGHBOURHOODS**

**IT'S A GROWTH
APPROACH TO
HOUSING**



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