UN HABITAT FOR A BETTER URBAN FUTURE

SUSTAINABLE DEVELOPMENT GOALS 17 GOALS TO TRANSFORM OUR WORLD

africacarbonforum

African Carbon Forum (ACF) 2017
Cotonou, Benin, 28-30 June 2017

Workshop on Session on urban environment: Exploring pathways to transform African cities into low emission and sustainable cities

Towards Sustainable and low-carbon African Cities

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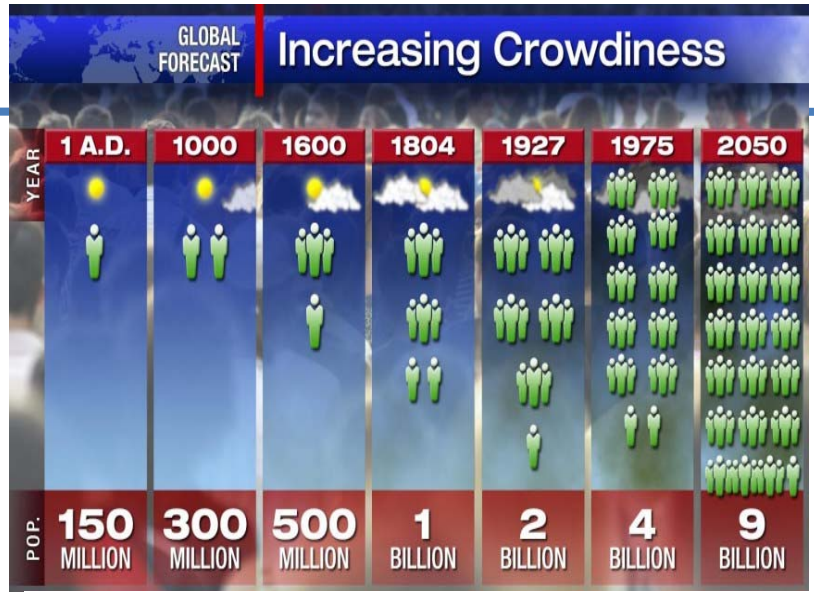
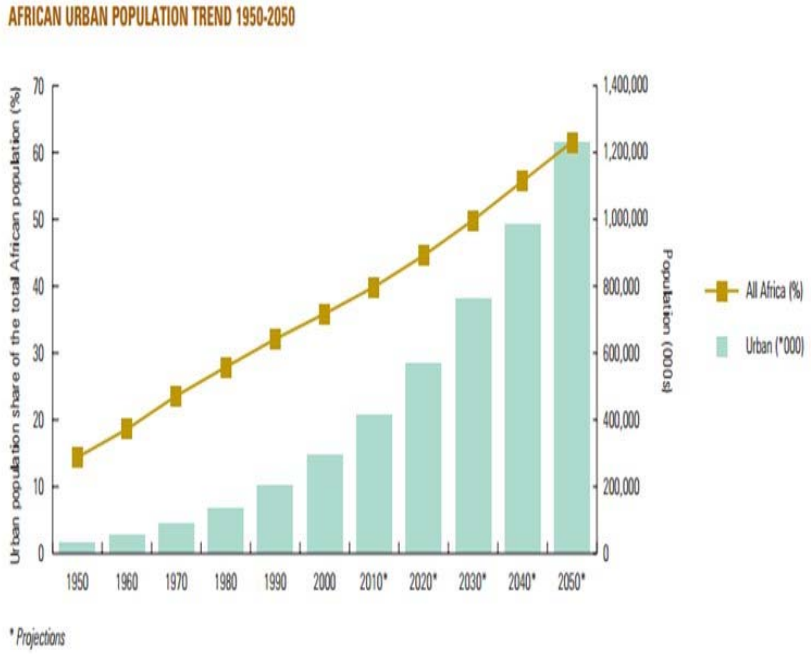
Challenges of the 21st century Cities

Challenges: World population

Population growth and rapid urbanisation:

- The current world population of 7.2 billion is projected to reach 9.6 billion by 2050.
- 1.4 billion additional urban dwellers are expected in cities in the next 20-30 years.
  - Growth is happening mainly in developing countries with more than half in Africa.
  - Population of developed countries will remain unchanged at around 1.3 billion by 2050.
  - ¾ of the world population will be living in cities in 2050.
  - African urban population is projected to reach 1.4 billon by 2050 from the current 400 million.





Challenges: Poverty, inadequate housing and basic services

As the population grow, so is the need for more basic urban services :

- 1/3 of the global urban population are **slum dwellers** and have **limited access to adequate housing and basic services** such as:
  - Drinking water;
  - Sanitation
  - Housing
  - Waste collection
  - Transport
  - Electricity etc.
- **Poverty is the limiting factor for development**
  - On average 60 % of the urban population live in slum and consume firewood for coking with huge environmental degradation

Challenges: Climate change, environmental degradation

Climate Change:

- Extreme weather variation;
- Coastal cities as risk;
- Recurrent flooding and extreme temperatures;

Environmental degradation

- Rapid urbanisation without planning
  - ➢ Sprawl (horizontal expansion of cities);
  - ➢ Creation of more informal settlements without service;
  - ➢ Frequent traffic congestion with huge economic loss
  - ➢ Air pollution: a major **risk** to health (3.7 million deaths/year from Ambient Air Pollution WHO)

Limited availability of public spaces

- Access to public space for all is one of the key to ensure social inclusion and building safer cities.

Opportunities

Opportunities: International commitments SDGs and NUA

A fully dedicated SDG 11 on Sustainable Cities and communities.

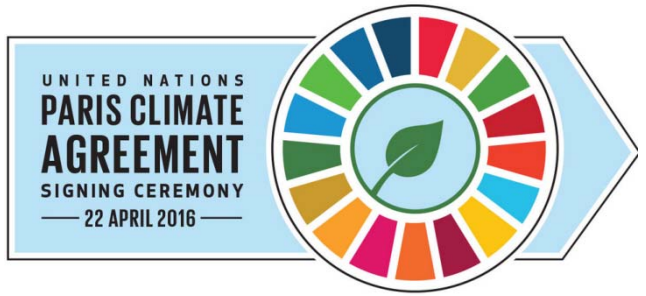
Cities that are Inclusive, Safe, Resilient, and sustainable.

The New Urban Agenda (NUA)

Right to adequate housing;

Universal access to safe and affordable drinking water and sanitation;

Equal access for all to public goods and quality services in cities.



NUA commits to the **generation and use** of **renewable and affordable energy**.
NUA notes that **reductions in renewable energy costs** give cities and human settlements an effective tool to lower energy supply costs.
NUA calls for the adoption of **building performance codes** and standards, **renewable portfolio targets**, energy efficiency labelling…to achieve **energy efficiency targets**.

Opportunities: Rapid Urbanisation

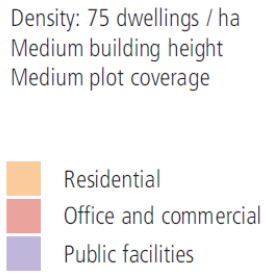
- **Transformation of rural areas into urban**:
  - Opportunity for new urban planning;
  - Opportunities for cities extension,
  - Availability of space to promote social and economic mix,
  - Planning for proper mobility and public transportation system
  - Opportunity for electric mobility
- **Economy of agglomeration**
  - Value captions
  - Less cost for services delivery
- **Energy & Resource demand management**
  - Energy efficiency in buildings, industry, transport etc. (there is a potential of 50% energy savings)
  - Green economy – green jobs.

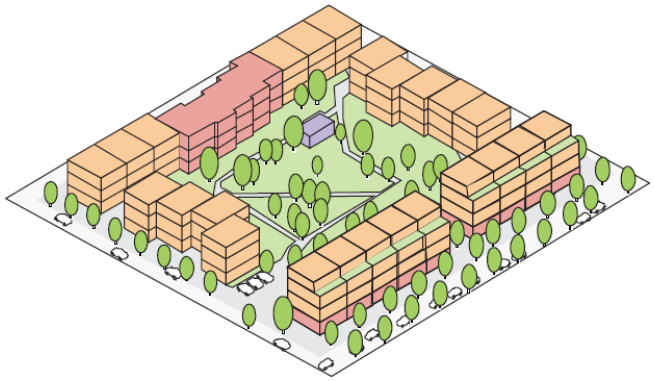
Low-Carbon City Roadmap

Decarbonisazion:
Innovations in cities development

Integrated urban planning (Decarbonizing cities)

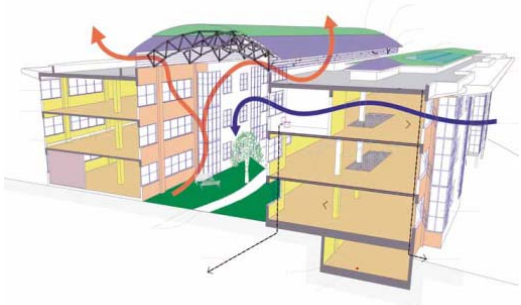
- 1- Adequate space for **streets and public space** in an efficient street network (**50% of spaces for streets, open spaces and gardens**)
- 2- **Mixed land use** combining (economic and residential activities)
- 3- **Social mix** (integration of affordable houses and services)
- 4- **Adequate density** and compact patterns (an average of 150p/ha)
- 5- **Connectivity** (linking different cities spaces)

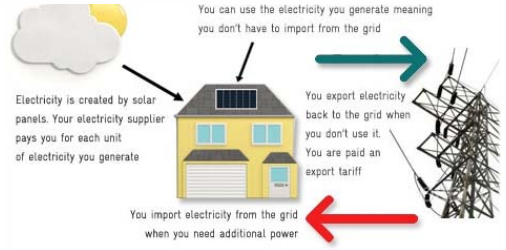




Sustainable building design: (Decarbonizing buildings)

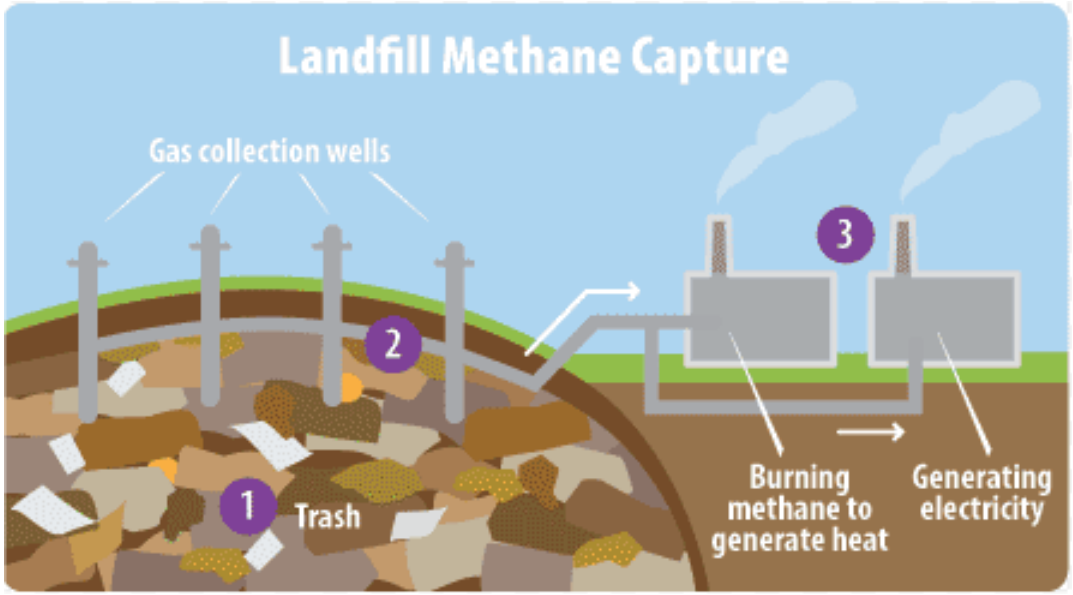
- Promote building designs that are suitable to the **local context** and embrace **environmentally sound principles** including passive building methods.
- Valorise **local building materials** and avoid importation of materials from other regions unless necessary;
- Minimise the use of artificial and mechanical means to provide indoor comfort ;
- Make use of **onside natural resources** including renewable energies;
- Adopt resources efficiency measures;
- Promote building performance certification;
- All new buildings should be sustainable and green!





Integrated municipal solid waste management system

- Waste is a resource and should be handled such as to recover values.
- Waste Management
- Waste to Energy & fuel (production of biogas) (Transforming municipal waste into energy)
- Landfill methane capture to generate electricity.
- Production of compost from waste.



Municipal water management

- Adequate Water Supply and Management;
- Smart meters & management;
- Leakage identification, prevention and maintenance;
- Water conservation and recycling
- Rain water harvesting and storm water reuse;
- Water recycle and treatment;
- Proper sanitation.

Smart water management

Paradigm shift in public transport system

Reduce or **avoid** the need for travel by designing **compact cities** and promote **mix land use**.

Promote **modal shift from energy intensive** mode (cars) to **walking**, **cycling** and **public transport.**

Improve **energy efficiency** of vehicles and their technologies (embrace **eco friendly vehicles**).

Create pedestrian friendly pathways for non-motorised transport (e.g. walking and cycling); non-vehicle streets / Zones;

Innovative use of **open spaces**;

Energy efficient street lighting (LED)

Ensuring **safety of citizens** especially children, women and elderly

Dar es Salaam BRT

Cities as energy *prosumer* producer and consumer of energy: Energy transition

75 % of energy are consumed in urban areas. Cities are endowed with huge renewable energy potentials: solar, wind, biomass, hydro etc. Cities should produce at least 10 % of their energy needs from solar energy.

Ngong Hill Wind farm near Nairobi 24 MW

Solar farm near Kigali 6 MW

Need for Innovative and adequate financial investment

Allocation of sufficient financial resources for the provision of essential basic services to drive economic growth; to ensure social inclusion and equality, safety, sustainability and most importantly to improve people life.

- There is a need to strengthening the capacity of local governments in financial management and investment.
- Innovative policies are also needed such as real decentralisation of decision taking at local level.

Smart City and the power of the social media in community participation and accountability

Integration of ICT in public service delivery.

- Promotion of e-governance;
- Using ICT to increase taxes recovery , service delivery, e-payment;
- The social media: a tool for community participation

"A smart sustainable city is an innovative city that uses ICTs and other means to **improve the quality of life**, efficiency of urban operation and services, and **competitiveness**, while ensuring that it meets the needs of present and future generations with respect to economic, social and environmental aspects."

International Telecommunication Union (ITU)'s.

THANK YOU FOR YOUR ATTENTION

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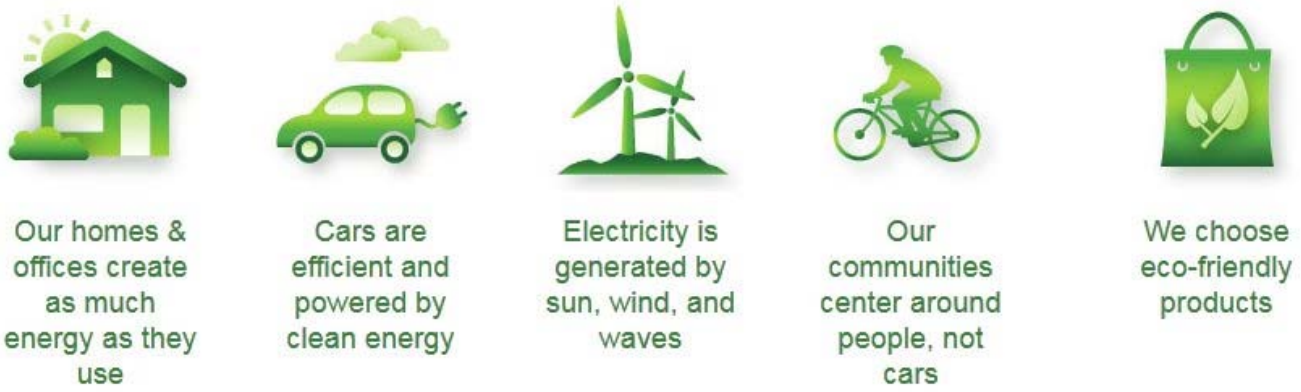

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