

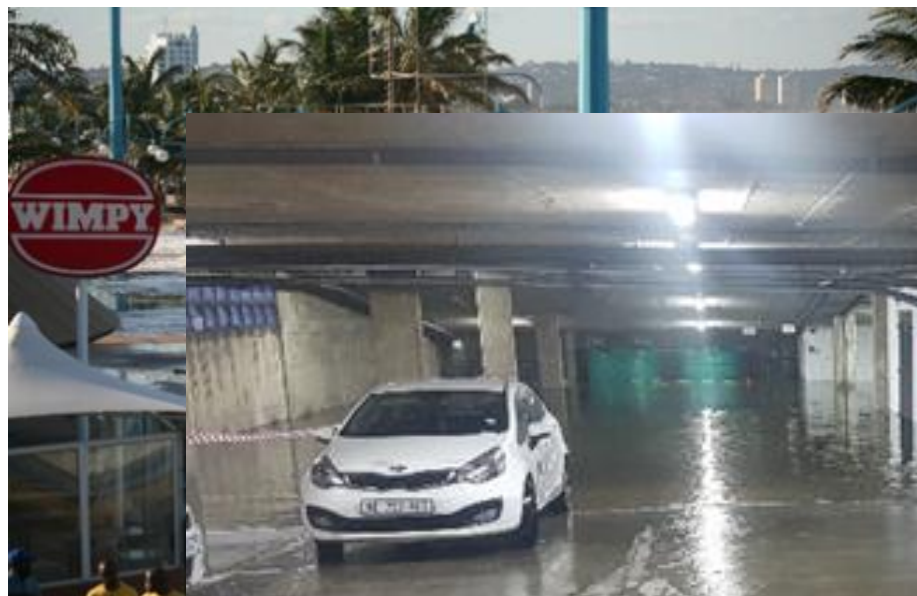


**By 2030 eThekweni will be Africa's  
most caring and liveable city**

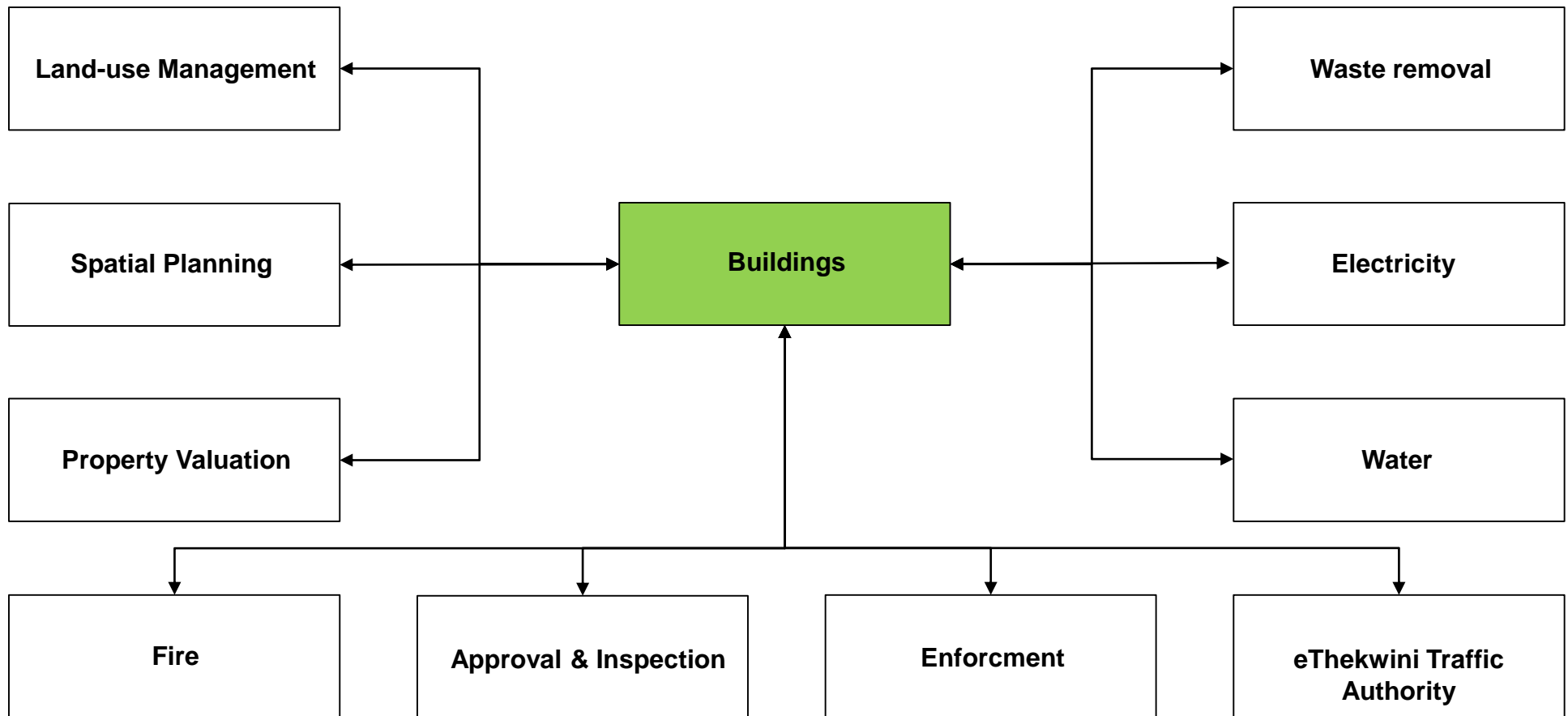


# C40 Cities Climate Leadership Group (C40) South Africa New Buildings Programme

September 2018



# Building related functions

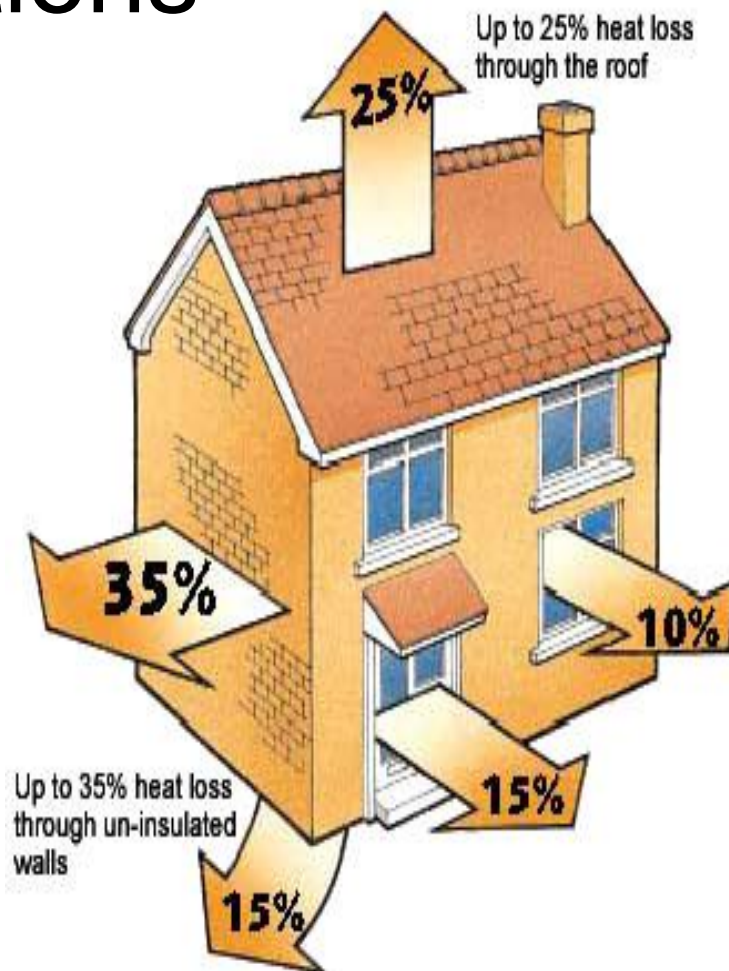


# Energy Efficiency: National Building Regulations

ENERGY EFFICIENCY IN BUILDINGS is achieved by compliance with solutions provided in SANS 10400 XA or otherwise described as: "DEEMED TO SATISFY" requirements.

For:

- Orientation of building;
- Shading of windows and north face;
- Roof and ceiling insulation;
- Wall performance prescribed;
- Floor insulation; where underfloor heating is installed
- Electrical lighting regulated.
- Heating of water. Use of alternatives to electric resistance heating for water such as solar collectors and heat pumps.

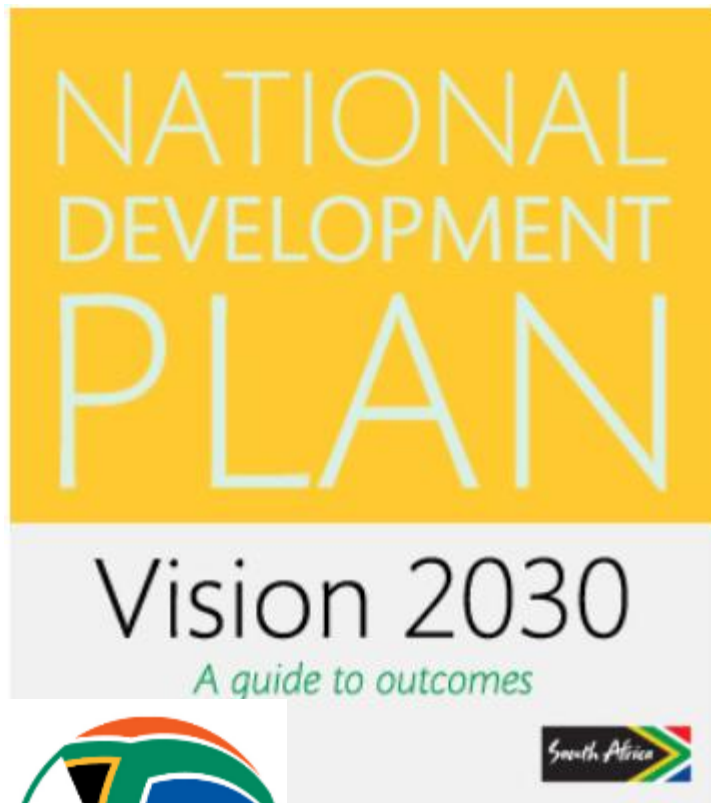


# More Stringent NBRs in 2018

All possible measures are to be taken to ensure that buildings use of energy is minimal, cooling, heating and lighting systems are to use methods and products that conserve or eliminate energy use.

- New Energy Map;
- User Friendly;
- Performance Improvements;
  - a) Walling from double brick to cavity walling
  - b) Insulation of exposed flooring
- Shading by Latitude;
- Sub-occupancies;
- Max Energy Usage decreased (kWh/m<sup>2</sup>/a).

# National Development Plan

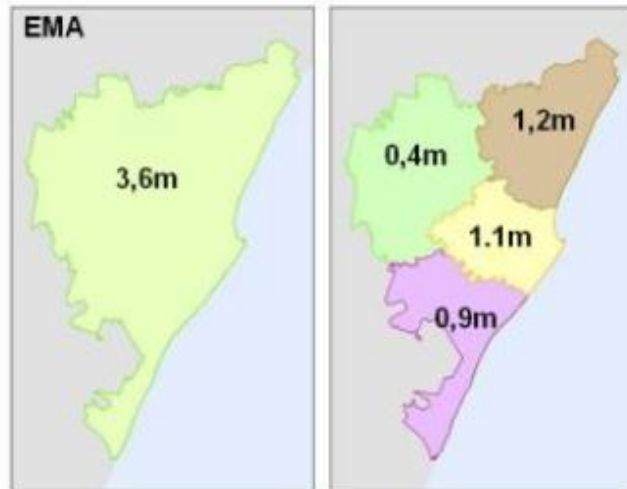


The NDP envisages that, by 2030, South Africa will have made headway in transitioning to a climate change resilient, low-carbon and just society (Chapter Five of the NDP).

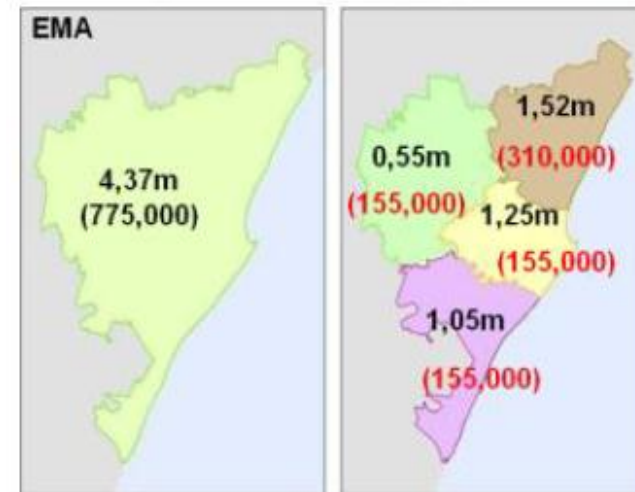
Aims to promote carbon zero building standards by 2030.

# New Buildings Programme: Making eThekweni a Liveable City

2010 Population (millions)



2030 Projected Population (millions)



Source: Royal Haskoning DV, 2013

As cities age and grow they will need to invest in renewing and expanding infrastructure, and working to enhance the quality of life of citizens.

**Establishing low carbon buildings that are *resilient to extreme weather events* will have economical, social and environmental benefits.**

# The Paris Agreement: International Agreement to Take Action on Climate Change

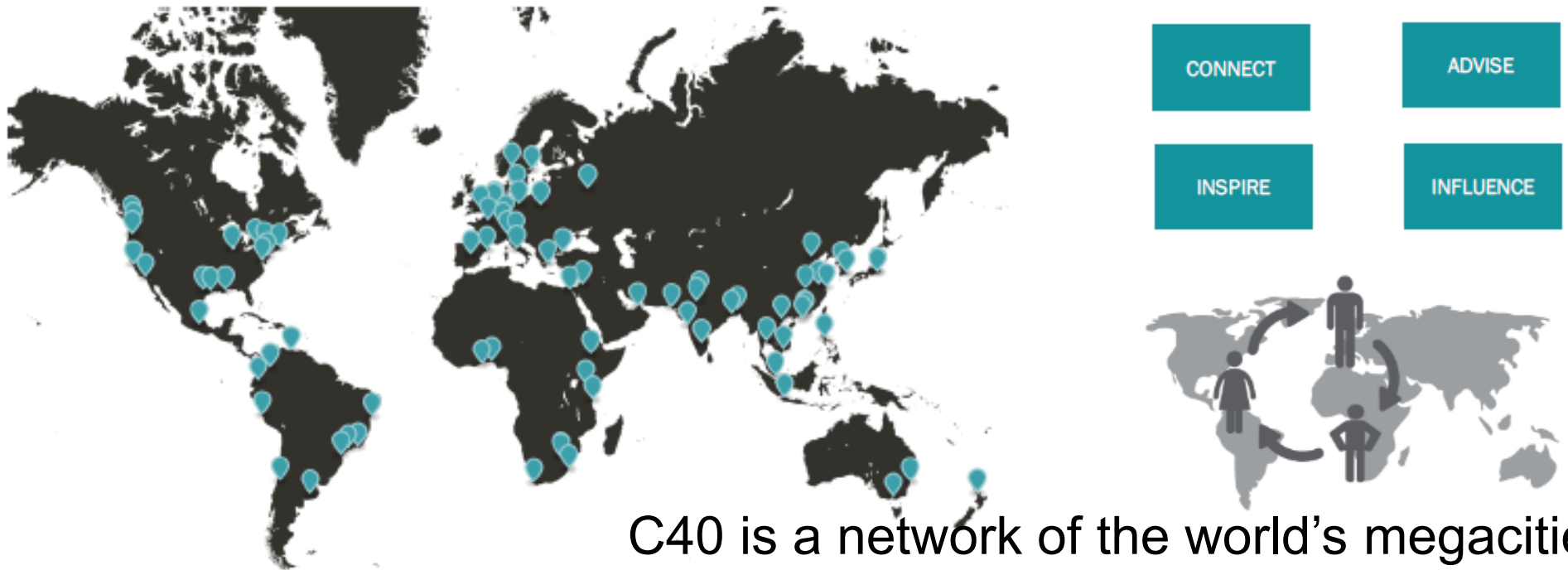


At **COP21** in 2015, nations created the **Paris Agreement** aiming to limit global temperature increases to 1.5°C and promoting climate resilience.



# C40 Cities

The C40 Cities Climate Leadership Group connects more than 90 of the world's largest cities, representing over 650 million people and one quarter of the global economy.



C40 is a network of the world's megacities committed to addressing climate change.

# eThekweni Municipality and C40

## Durban: Top-Disclosing City in Africa, CDP Award 2018



**Mayor Zandile Gumede:  
Vice-Chair C40 Africa**

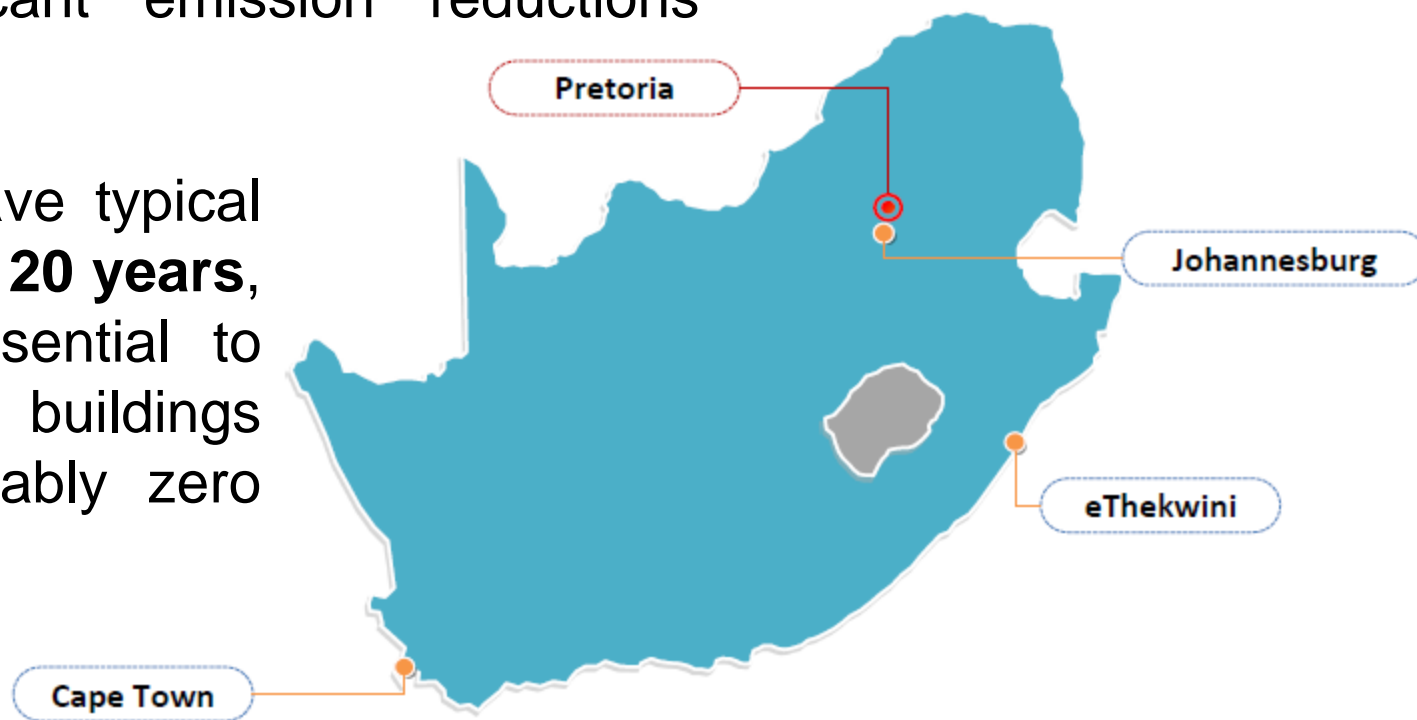
# Deadline 2020



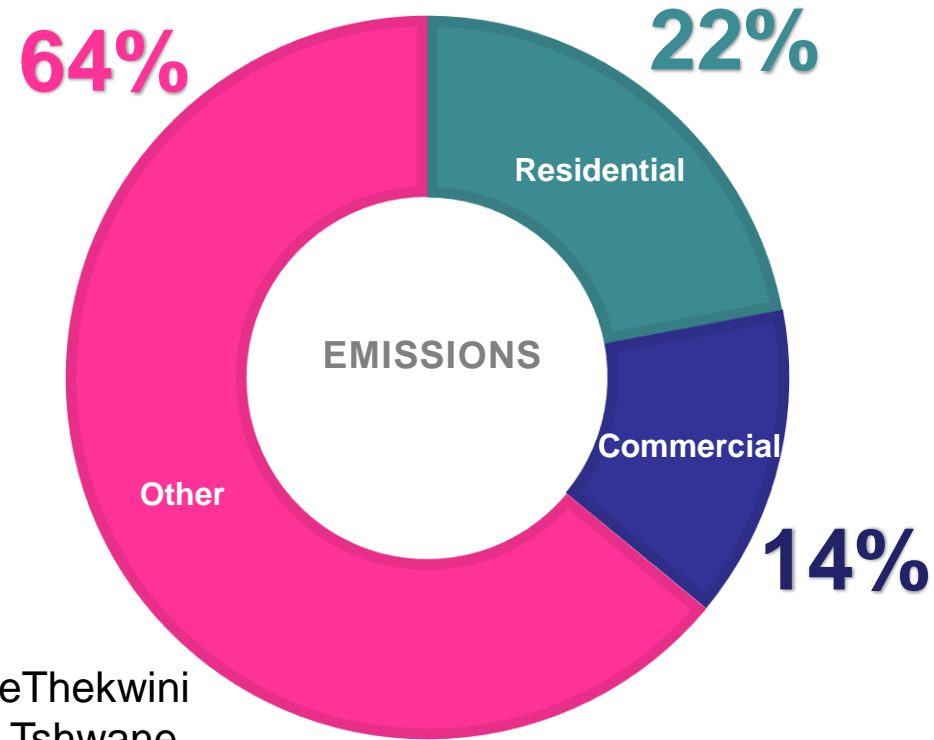
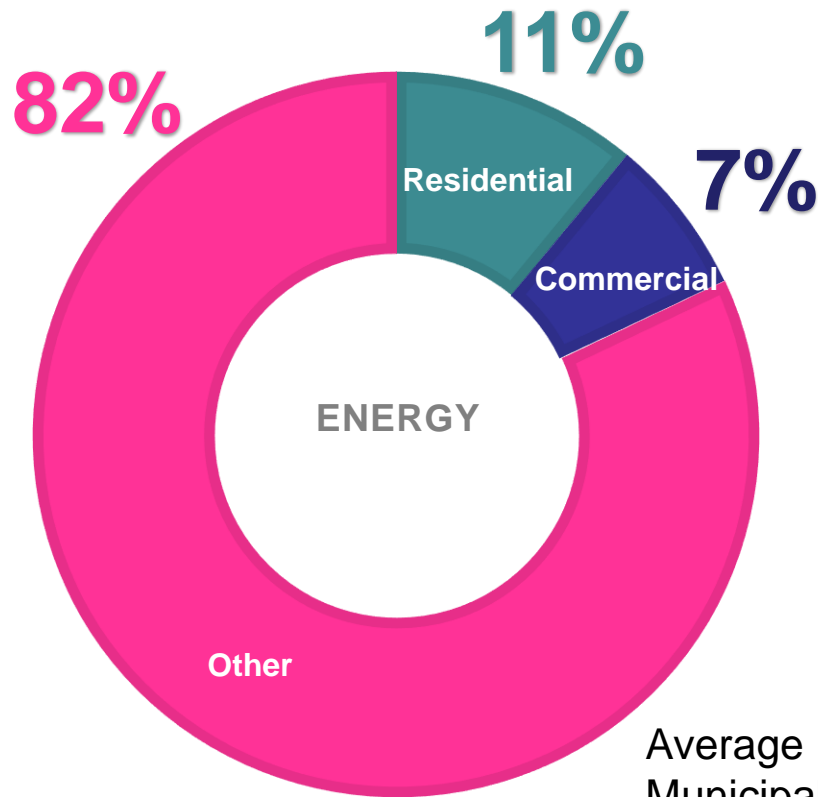
CITIES HAVE  
A PLAN

# C40 South Africa New Buildings Programme

- Improving new building standards has been identified as a key opportunity for cities to make the significant emission reductions required.
- Building stocks have typical lifespans of **40 to 120 years**, therefore it is essential to ensure that new buildings are low or preferably zero energy.

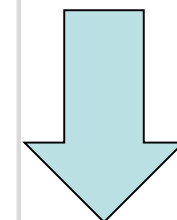
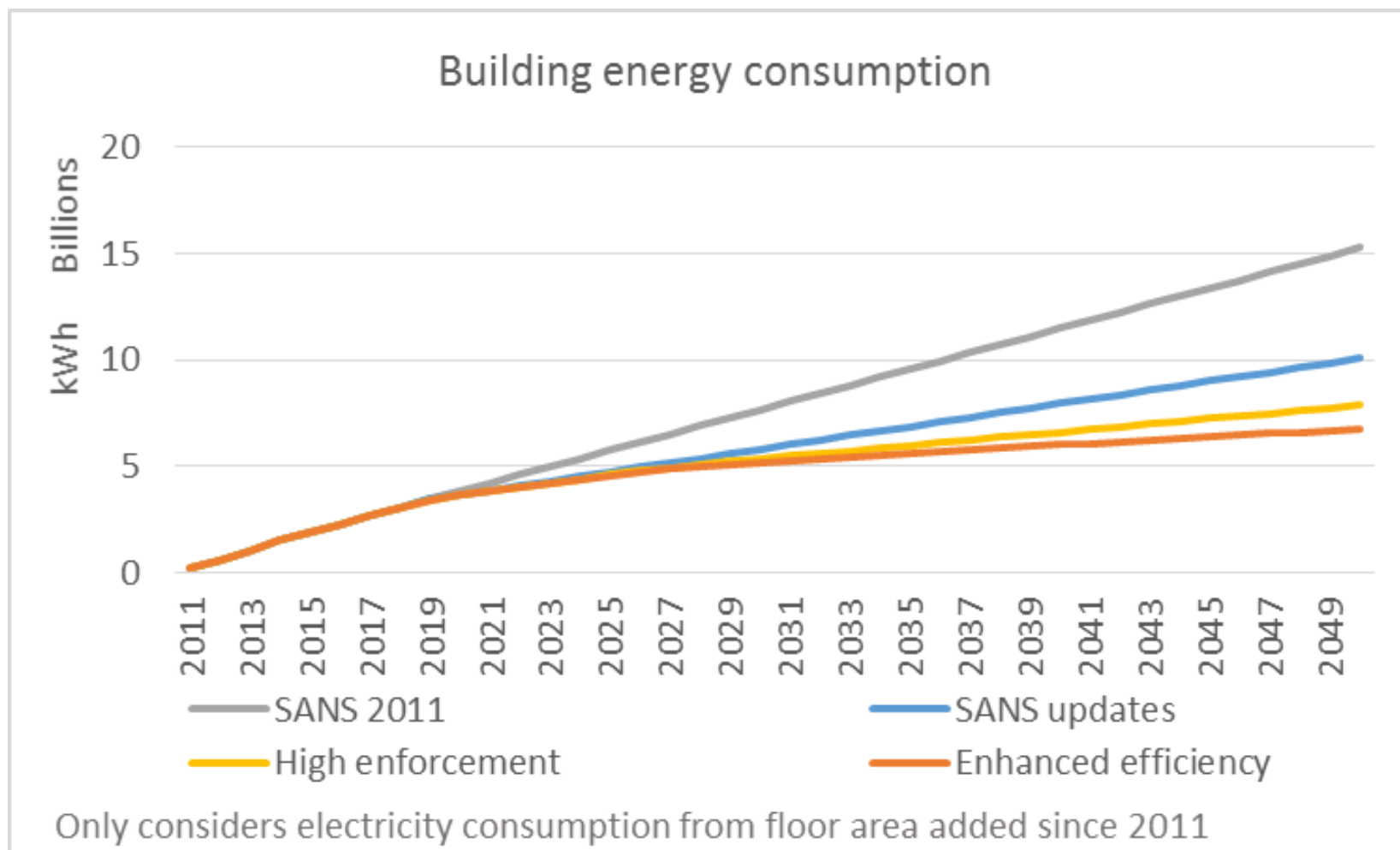


# Buildings are Significant to Emissions Reductions



Average from eThekweni Municipality, City of Tshwane, City of Cape Town and City of Jo'burg.

# South Africa's Building Outputs Scenarios

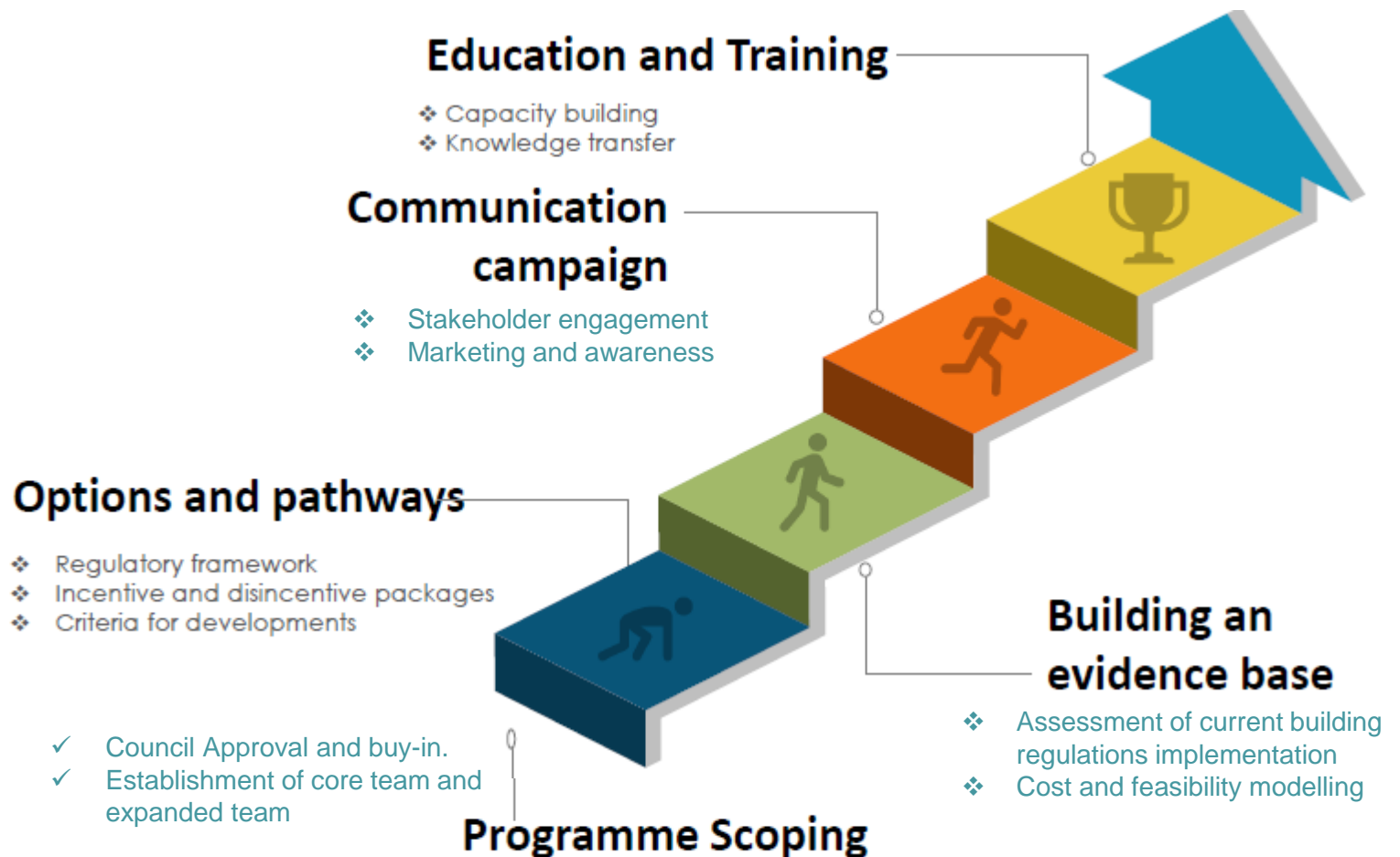


# New Buildings Programme Outcomes: eThekweni

eThekweni envisions a multi-stakeholder scenario achieving multiple objectives including:

- a) improvement of energy standards;
- b) designing buildings for climate;
- c) enhancement of existing municipal functions and services;
- d) local job creation.

# Pathway of eThekweni's New Buildings Programme





# Identified Challenges

## **Financial Resources:**

High initial upfront capital costs, difficulty quantifying external benefits.

## **Shifting of development:**

Risk of shifting development outside of eThekweni.

# Identified Opportunities

## Local Job Creation:

- a) Potential to mitigate high costs to developers using *Shared Savings Finance Schemes / Approaches* - enabling local financiers that would cover the upfront costs of green interventions while sharing in the electrical savings until a suitable ROI is achieved (Case Study: Seattle: Pay for Performance model).
  
- b) Potential to create enabling environment for locally procured “green” building products.

# Identified Opportunities

## **Encouraging Development**

Developers note higher operating costs in eThekweni compared to other metros in SA, mainly due to cooling. Energy efficiency measures can bring down these costs.

## **Benefits to Developers:**

- a) Risk Mitigation: E.g. increased energy security;
- b) Reduced Operating Expenses;
- c) Improved Occupancy and/ or Rental Premiums;
- d) Improved Valuation.



By 2030 eThekweni will be Africa's most caring and liveable city

Thank You