

## City Centre Sustainable Housing Design Competition

# *Workshop 1: Why a City Centre Housing Design Competition?*

Date: 20 March 2024

Time: 16:00-18:00

Venue: Online hosted by the CIB

Presenter: Jeremy Gibberd



# City Centre Sustainable Housing Competition

Who?

Why?

Where?

How?

# Who?

## **Organiser**

- CIB

## **Sponsors**

- NHBRC
- Boogertman and Partners

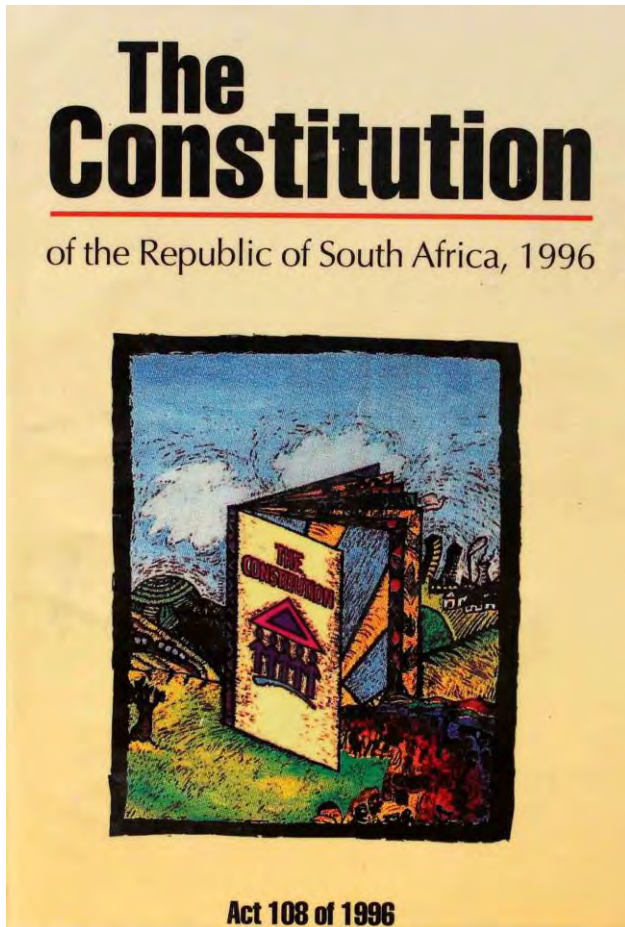
## **Judges**

- Department of Human Settlements
- NHBRC
- Boogertman and Partners
- CSIR
- PIA

## **Organising team**

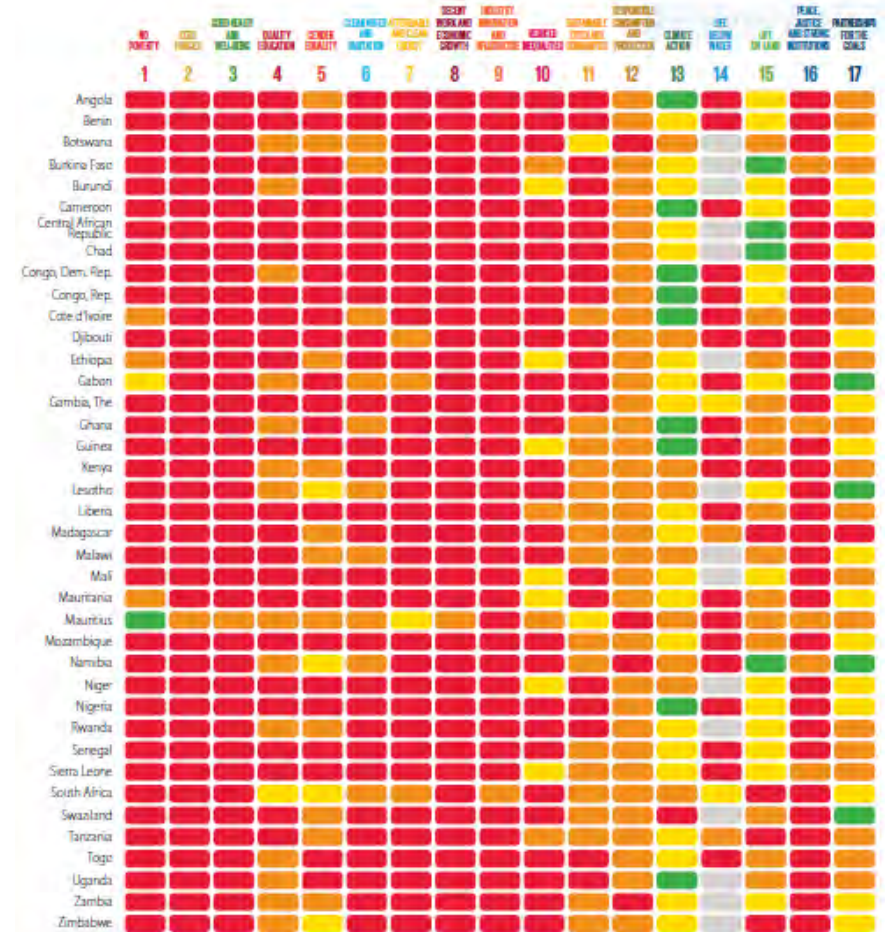
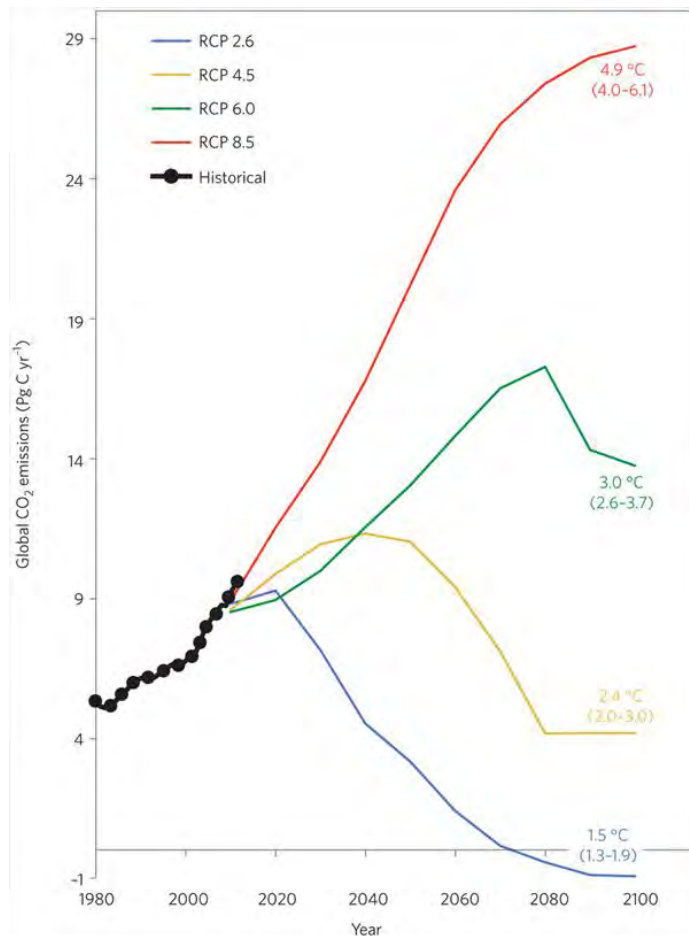
- Francine, Prof Mbanga, Isaac, Busi, Theo, PD, Jeremy, Others

# Constitution: How do we fulfil the right to housing?

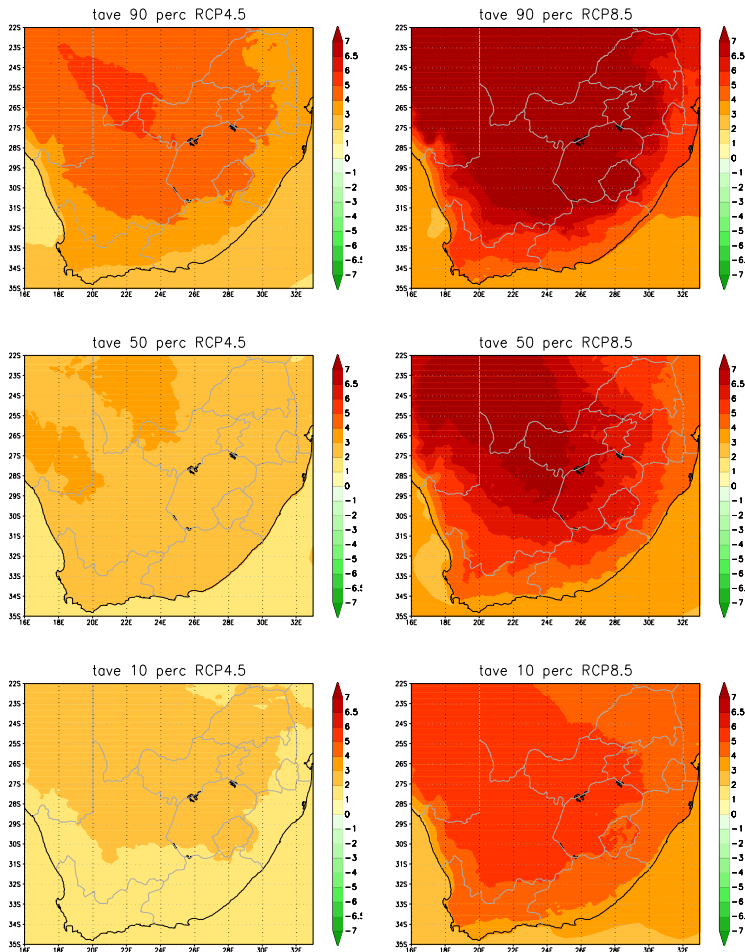


- Equality
- Freedom of religion, belief and opinion
- Environment
- Housing
- Education
- Health
- Children have a right to basic nutrition, shelter, basic health care services and social services
- Sets out key objectives and principles that government legislation and programmes must fulfil (Department of Justice, 1996).

# Climate change and SDG targets: How can human settlements be designed to achieve these?



# Climate change: How can housing adapt for climate change?



- Increasing average temperatures
- More very hot days, (days over 35°C) especially in N Cape and Limpopo
- Increasingly erratic and extreme weather events and storms
- Increasing occurrence of water scarcity, drought and fires
- Increasing occurrence of very heavy rain, flooding, landslides
- Disruptions to supply chain food, water, power



# New White Paper on Human Settlements: What does this mean for housing?

The screenshot shows the official website of the Department of Human Settlements, Republic of South Africa. The header includes the department's logo and name, the South African flag, and a navigation menu with links for Home, About us, Parliament, News, Resource Centre, PAIA, Gallery, Tenders, Vacancies, Contacts, FAQ, and Vacancies. A search bar is located below the navigation. The main content area features a prominent banner for a 'REQUEST FOR COMMENTS ON THE DRAFT WHITE PAPER FOR HUMAN SETTLEMENTS' with the slogan 'MAKE YOUR VOICE HEARD'. The banner includes a QR code and states that the closing date for public comments is 19 March 2024. Below the banner, there is a section titled 'Department of Human Settlements' with a brief history of the department's formation. Further down, there are three main content blocks: 'DRAFT WHITE PAPER FOR HUMAN SETTLEMENTS', 'Ministerial Directives', and 'Strategic Documents'. The 'Latest News' section highlights a dispatch by Minister Mmamoloko Kubayi to assist storm victims in Kwanongoma on 19 February 2024, and another news item about the government handing over 299 title deeds and free housing alongside.

- Spatial planning
- New models of delivery
- Informal upgrading
- Affordable rental housing
- Contribution to the economy
- Climate change
- Capacity development
- <https://www.dhs.gov.za/>

# Government housing programmes: How can these be developed?



- Variety of schemes
- Housing on the outskirts of cities, limited social infrastructure, public transport, employment, construction
- Inner city, social housing
- Upgrading of hostels
- Self-build schemes



# Private sector housing: How can this be developed?



- Security estates to the periphery of cities, limited social infrastructure, public transport, reliance on car, access highly controlled, codes of behaviour.
- Townhouse development
- Mixed use

# Informal settlements: How can these be developed?



- Located for economic opportunities, public transport, and affordability
- No security of tenure
- Poorly serviced for water, sanitation, electricity, schools, clinics
- Informal dwellings susceptible to heat, cold, and flooding

# Inner cities: How can these be developed?

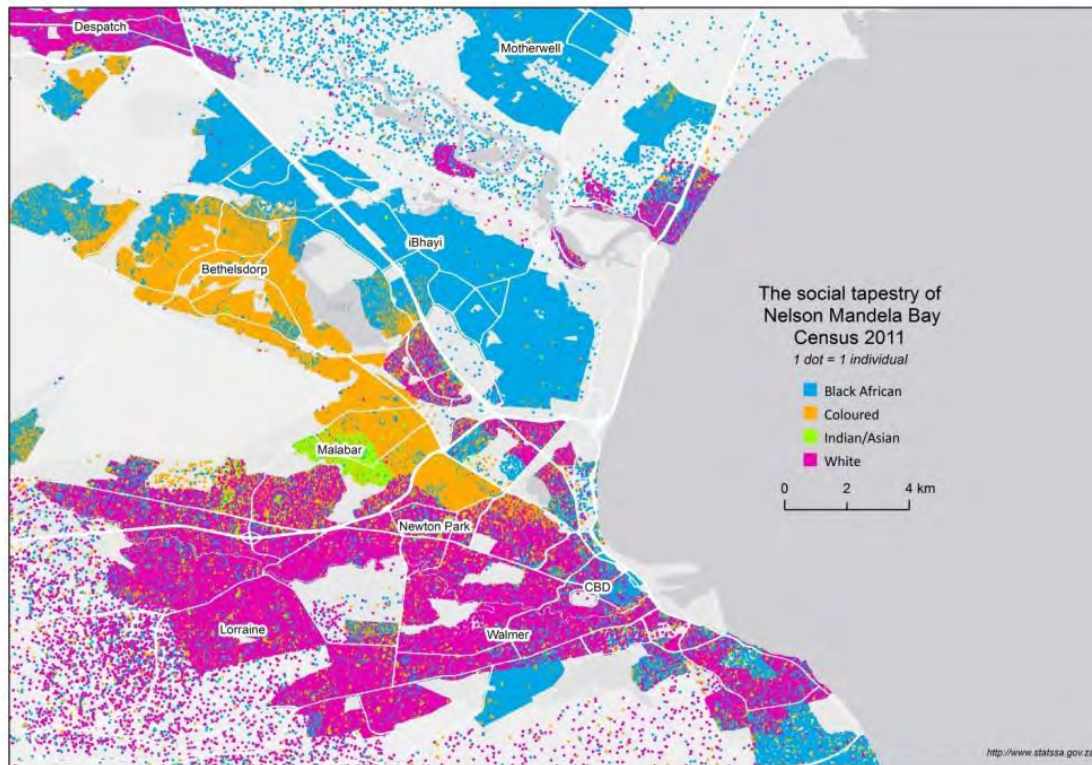


Authorities say Thursday's fire spread quickly through the structure because of combustible materials used in makeshift shacks inside the building. (Reuters Image: @odirileram)

- Private and public sector offices move out
- Urban decay
- Hi-jacked buildings
- Poor urban management
- Crime
- Fire
- Lack of maintenance



# Integration: How are more cohesive and inclusive human settlements developed?



- Highly segregated
- The central business districts (CBDs) have a high percentage of black African residents.
- CBDs are surrounded by suburbs that have a high percentage of white residents.
- High-density townships – dominated by black African, coloured or Indian/Asian residents – are disconnected from the CBD.
- Racial mixing seems to be occurring mostly in previously white-dominated neighbourhoods. (Statssa)

# City form: How can housing contribute to more efficient urban form?

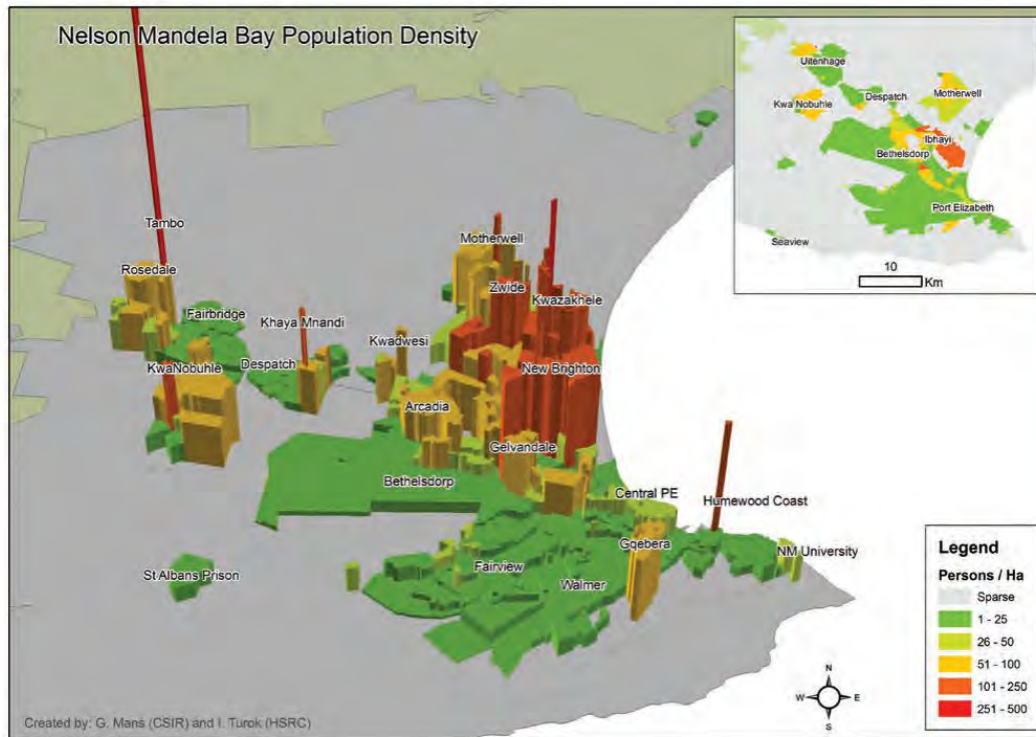
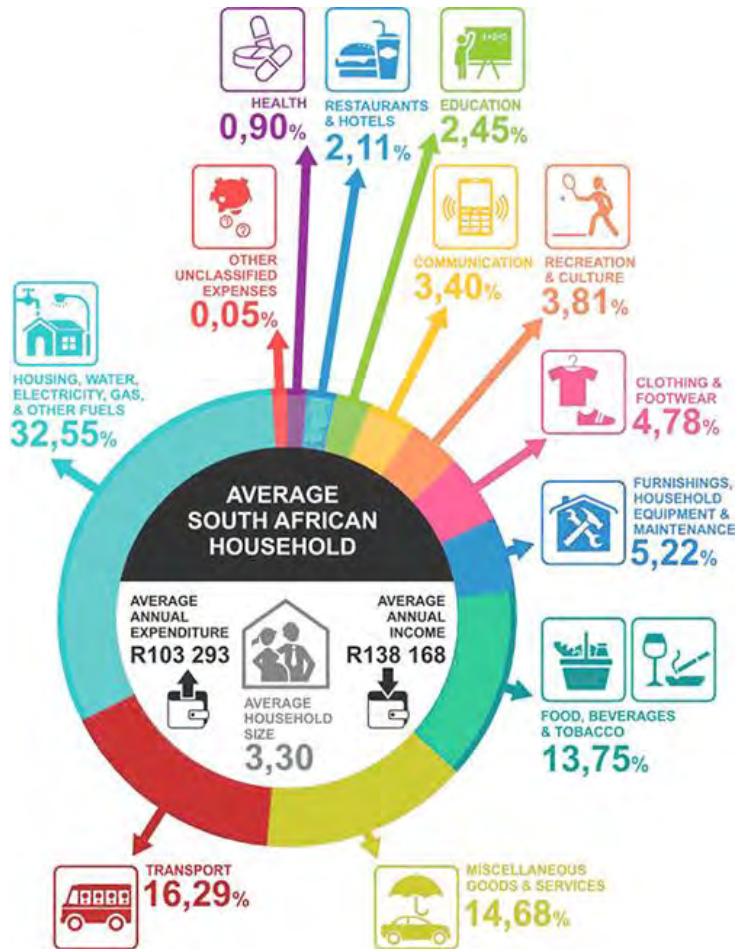


Figure 3.13 Population density of Nelson Mandela Bay

- Not coherent form, settlements a long way from centres, city centre has low residential density
- Considerable scope for redevelopment and infill.
- Bring people closer to economic activity and increase the population catchment of the city centre, increasing the demand for its facilities (Sacities, 2004).

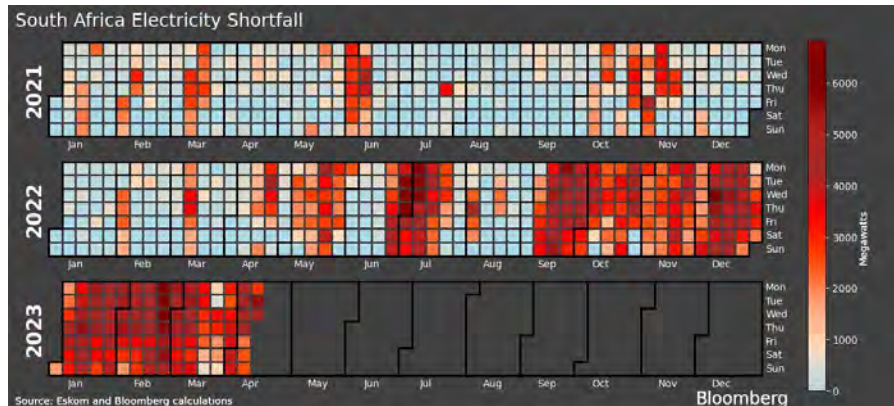


# Affordability: How do we develop affordable housing?



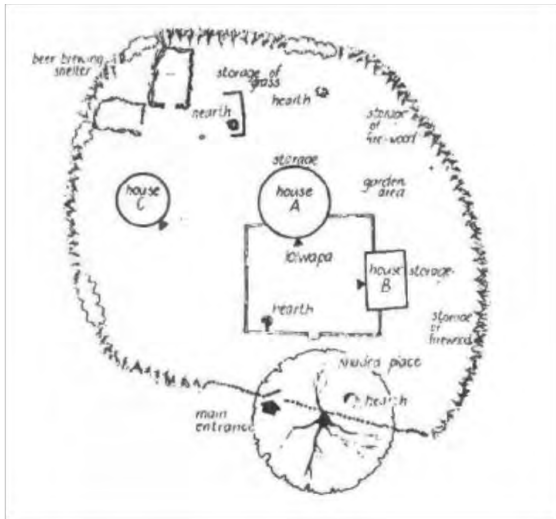
- Housing, water, electricity (33%) transport (16%) and goods and services (15%) = **64%**
- Education (2%), Health (1%), Recreation (4%) = **7%**
- The South African Household Survey of 2020 indicates that workers who used the train travelled 107 minutes, bus travellers 84 minutes and taxi users 63 minutes to get to work in the morning (Statssa, 2022a).
- Two-thirds of South Africa's poorest households spend 20% of their monthly household income on transport (Statssa, 2024).

# Bulk services: How can services be made more reliable and affordable?



- Reduced electricity availability, prolonged outages
- 40% of treated water is lost to leaks and illegal connections (SAICE 2022)
- 34% of South Africa's 1,186 urban water supply systems at high to critical risk of failure (SAICE, 2022)
- Municipal water supplies increasingly unreliable - 30% of households reporting a dysfunctional water supply service in 2021 (Statssa, 2022a).

# Culture and age: How does housing respond to culture and age?



- Wide range of different cultures and practices
- Age groupings in households: babies, toddlers, children, teenagers, young adults, adults, retired fit people, older people who may require support

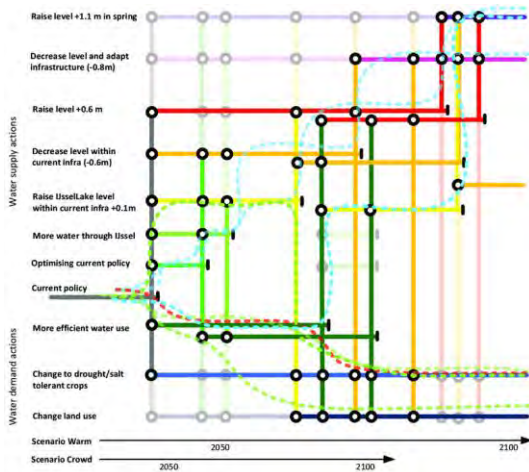


# New technologies, methods and materials: How can these be applied?



- Artificial Intelligence
- New business models
- Co-living and co-working
- Smart technologies
- Simulation and modelling
- Digital twins
- Nature-based solutions
- Regenerative
- Circular economy
- Biobased materials
- Mycoremediated materials

# Future: What sort of future do we want to achieve?




- How would you like to live and work in future?
- What do others see as a desired and optimal future?
- How do you develop a shared vision for the future?
- How is this achieved?
- What development pathways can be used to work towards this?
- How do these pathways take into account and address the current situation, vulnerabilities and future change?






# Summary, questions, references

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**Why Have a City Centre Sustainable Housing Competition?**

We are running the City Centre Sustainable Housing Competition again and opened with lectures on Who, Why, Where and How? I covered Who and Why. So why have a competition on city centre sustainable housing? This is because there are ... [Continue reading](#)




**How To Choose a Research Topic**

How do you choose a research topic for a university research project? Having discussed this with students recently, here are some suggestions: [Continue reading](#)




**Private: The Value of Art and Design**

Architects and Artists sometimes find it difficult to argue for the value of their designs and art. The Gauteng Institute for Architecture (GIFA) recently organized a visit to the Radisson Red Hotel in Rosebank, Johannesburg. The new hotel has many ... [Continue reading](#)




**Private: Building Codes in Developing Countries**

Building codes, or building regulations, are the set of rules that define the requirements that buildings must confirm to in order for a local council to approve their construction. Built environment professionals, like Architects, develop submissions which include drawings, specifications ... [Continue reading](#)



**The Right Sizing of Space and Sufficiency**

Limited resources mean that we need to think more carefully about how much space we provide in buildings. Overprovision results in inefficient space use and owners and occupants bearing disproportionately high costs for heating, cooling, lighting and maintaining space. Over ... [Continue reading](#)



**Tax Incentives for Rapid Private Investment in Renewable Energy**

There still seems to be some uncertainty about government programmes to encourage rapid private investment in electricity generation from renewable energy. The 12B incentive is particularly valuable for businesses, so it is useful to have some clarity: This incentive has ... [Continue reading](#)

1. **Select:** Questions, focus
2. **Research:** Explore, understand
3. **Concept:** First principles, develop
4. **Rigour:** Pursue to logical conclusion
5. **Present:** Rational, performance