

How Can High Density Cities Deliver a Net-Zero Carbon Concept to Promote Public Health? The Case of Hong Kong.

Methodology



Literature and Policy Review



Case Studies



Online Surveys and Interview



Design

AIM

To identify the elements to achieve a net-zero carbon concept and improve public health in a high density city. And to apply and demonstrate those elements and principles in a district of Hong Kong.

Framework

Comfortable Space

- Green Infrastructure
- Carbon Sink
- Ecosystem Services
- Open Space
- Land Use Mix

Connectivity

- Car Free
- Pedestrianisation
- Street Network
- Accessibility

Switch Supply

- Green Transport
- Renewable-electric
- Clean Energy

Thermal Comfort

- Air Circulation
- Ventilation
- Permeable Blocks



Living Closer Thriving Better

Conclusions

Made a positive step but more strategies can be done to boost the process in achieving net-zero carbon goals, such as more detailed land use zoning and population distribution strategies. In order to create places more accessible and make lives more sustainable.

Objectives

1. Understand the existing policies and guidance regarding net-zero carbon in the past and for the future in Hong Kong, which is a high density area.
2. Develop an analytical framework to approach how the policies can meet the net-zero carbon concept.
3. Apply the developed framework to analyse the local case studies of net zero carbon strategies and approaches in Hong Kong.
4. Use interviews to gain opinion and social expectations on how places can be designed to gain net-zero carbon goals to form key design concepts and recommendations.
5. Refine the design concepts for the chosen site from the case studies and test feasibility.

Results

- Case studies highlighted the limitations of the urban renewal projects in old districts and gave an idea how to further develop places with lower carbon emissions.
- Interviews found that infrastructure support is the most important element when creating low carbon neighbourhoods, such as electric vehicle charging station.
 - Online survey also found that they are hardly to access green space in their living area.

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