



HKIE Engineering Forum
Engineering Hong Kong Housing Supply –
Challenges, Changes, Continuity
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Building Capacity for Our Future

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發展局
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Hong Kong – Asia's World City

A Highly Competitive
Global City with World-
Class Infrastructures



Challenges for Hong Kong

- **Global and regional competitions**
- **Innovation and technological advancement**
- **Climate change adaptation**



Challenges for Hong Kong



Very crowded city with little home space

- Urban population density - 27,000 persons/km²
- Av. living Space per person – 13m² in public rental housing and 20m² in private housing
- Households in sub-divided units – 87.6K



Challenges for Hong Kong



Insufficient Open Space

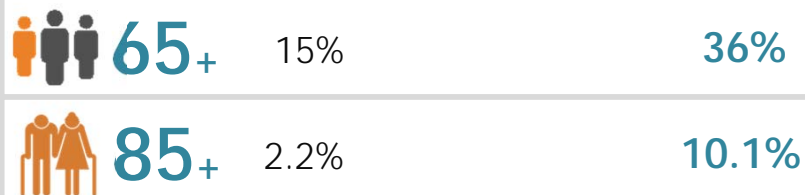
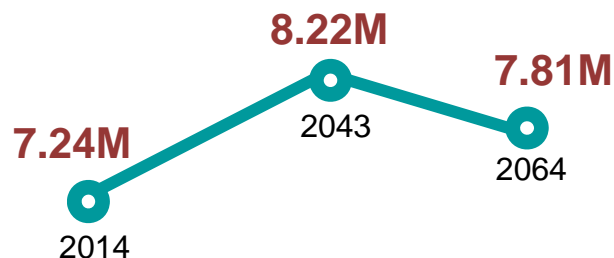
- Av. Local Open Space per person – 1.64m^2
- Av. District Open Space per person – 1.07m^2

Challenges for Hong Kong



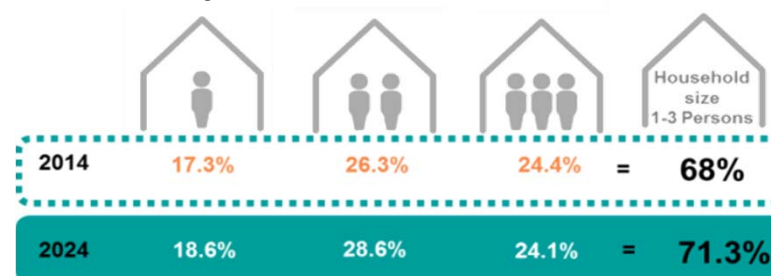
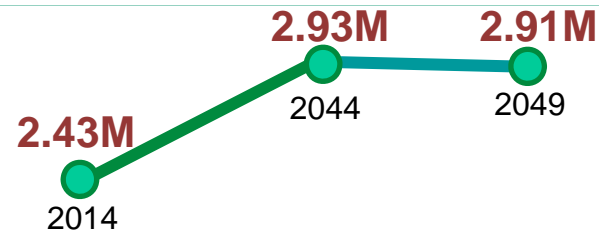
Growing and ageing population

Population



Population Projection (2014 Based)

- Shrinking labour force due to population ageing



Household Projection (2014 Based)

- Smaller household size leading to faster household growth
- Need for 20% housing capacity increase in next three decades

Challenges for Hong Kong



Large quantity of
old building stock

326,000

private housing units
aged 70 or above by 2046



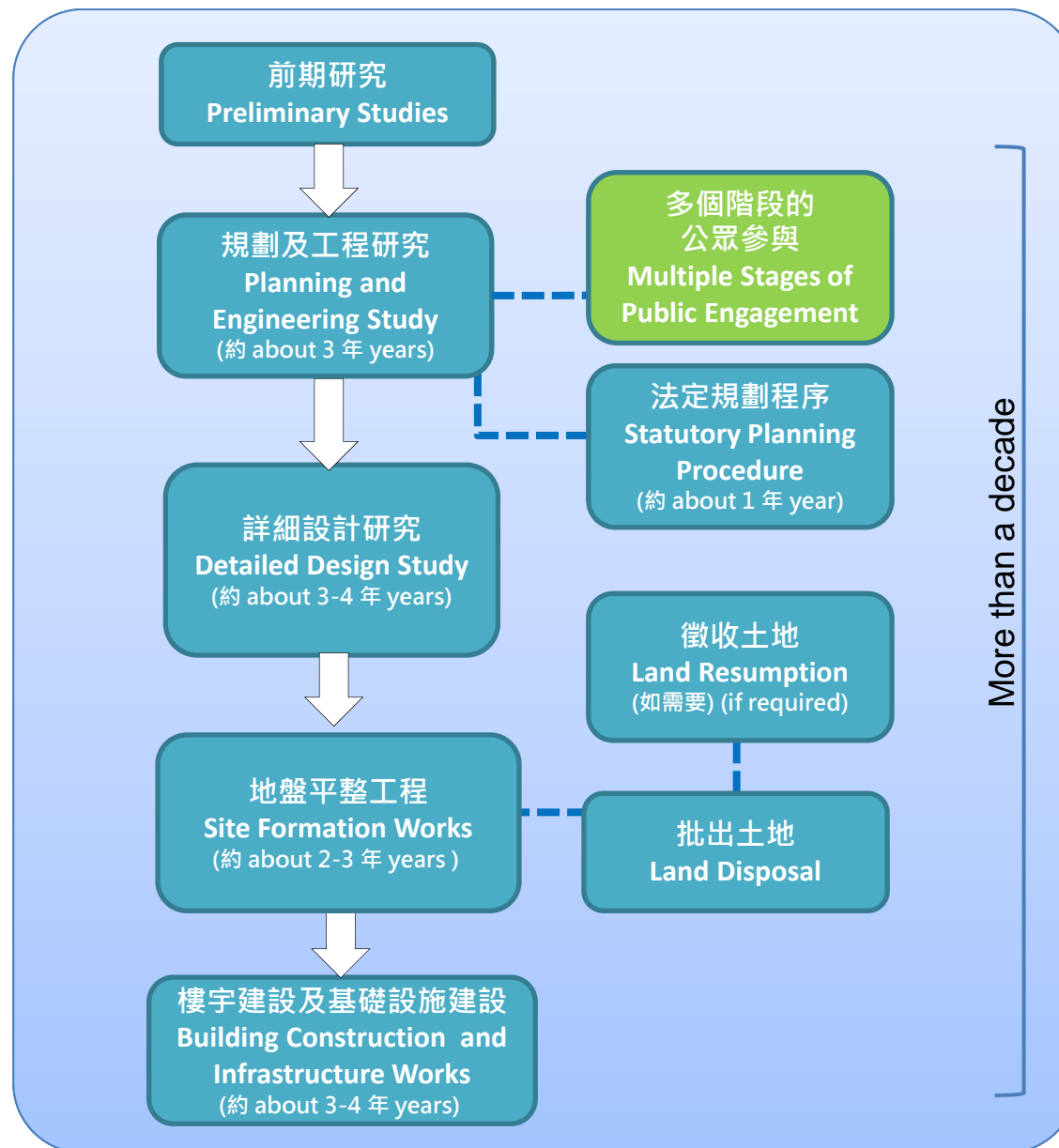
Nearly **300 times**
of the building stock of the same
age in 2015



Need for Improved Development Approach

- **Demand-led approach**
- **Reactive and not adequately flexible to meet our fast-changing needs**

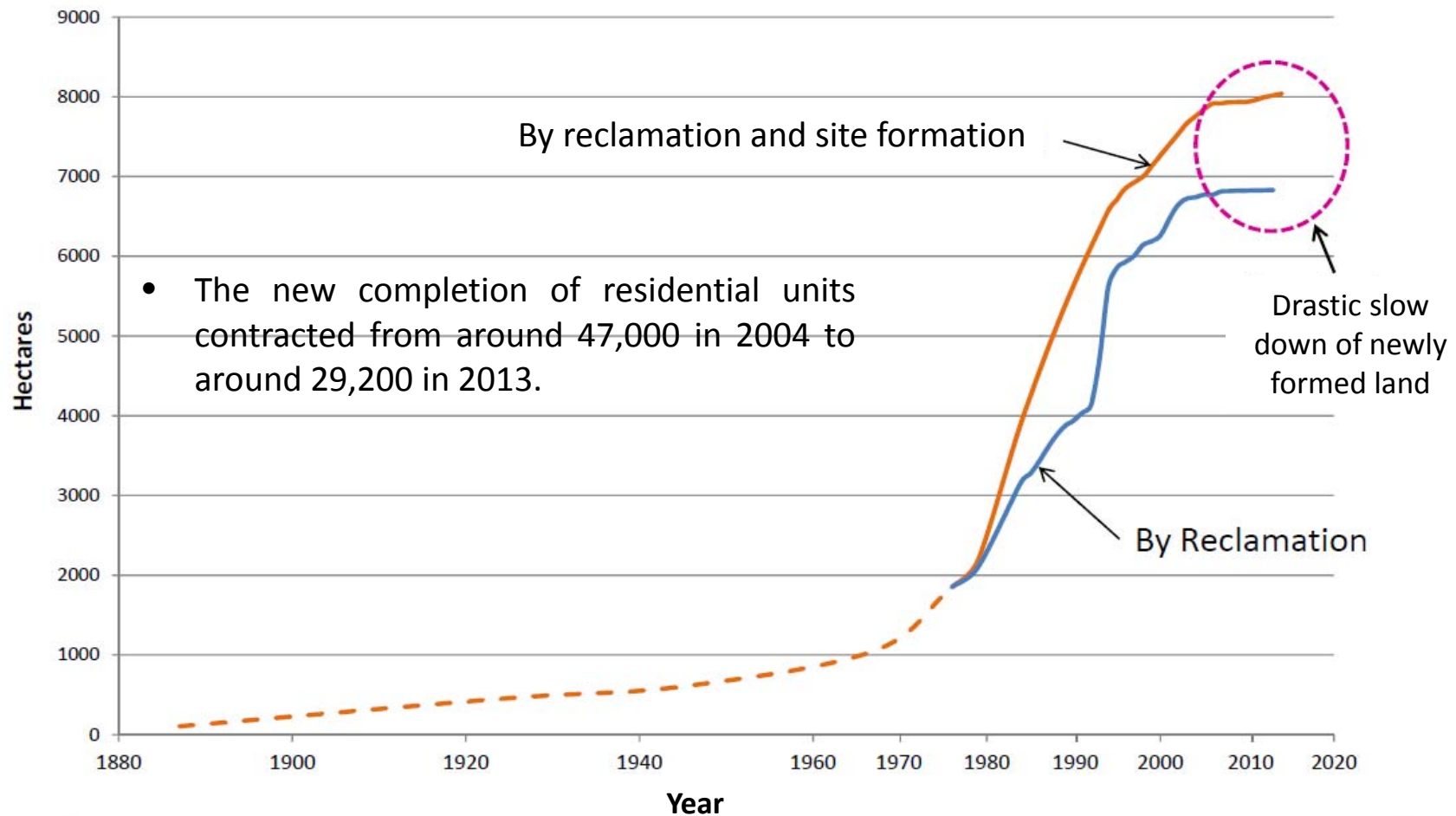
Long Lead Time in Land Development



Land development is becoming more and more time consuming

Supply of New Land Slowed Down Significantly

Land formed by Reclamation and Site Formation*



* Site formation by private developers and the Housing Department is not included in the statistics.

Visionary Development Approach



Need for a visionary territorial development strategy and multi-pronged land supply approach

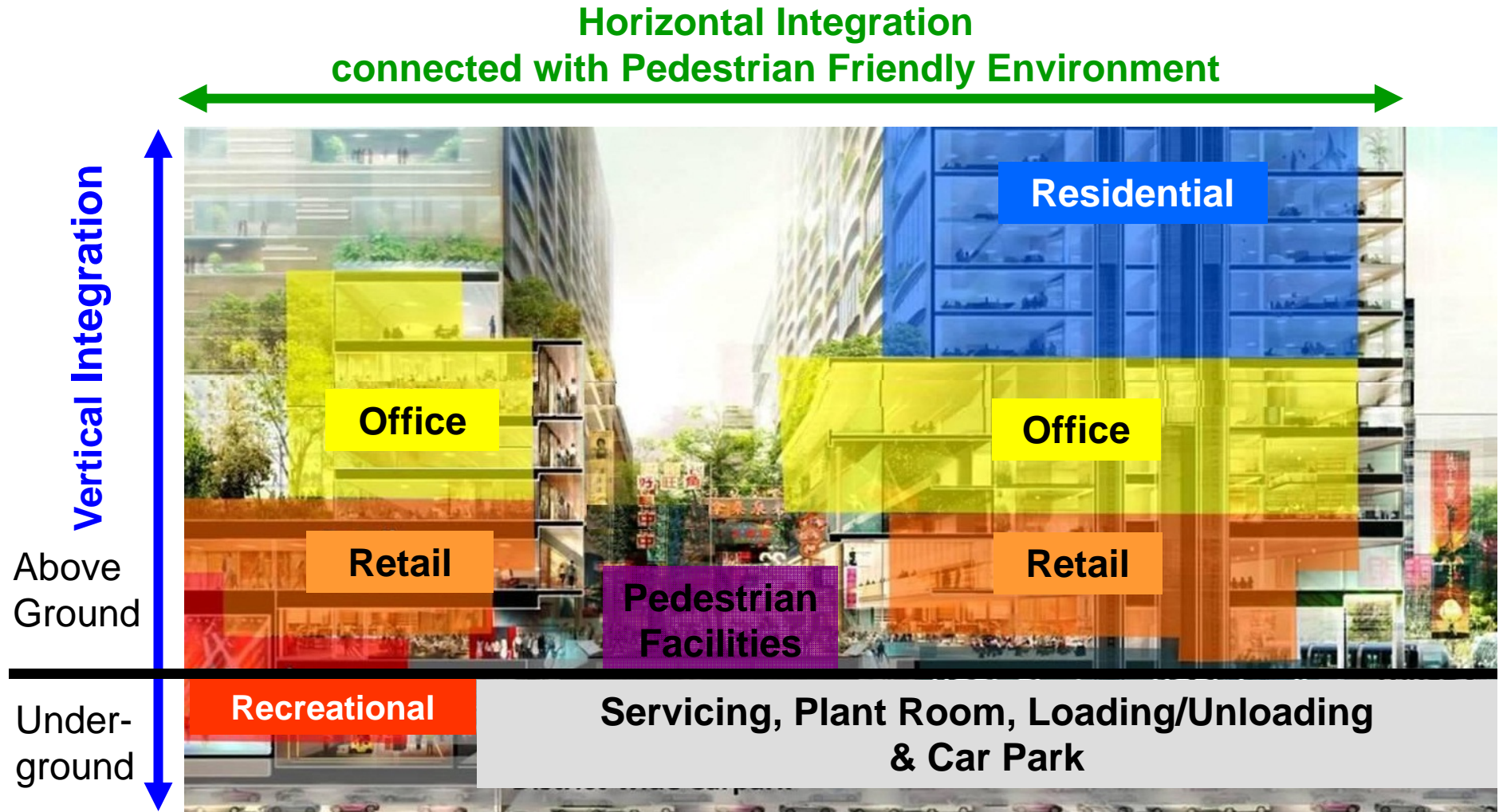
Overview of HK2030+



Visionary and capacity creating strategic planning approach - focusing on developments along node and axes while preserving natural assets & enhancing liveability

Building Block 1: Planning for a Liveable High-Density City

Development Model - A Compact High-Density City



Building Block 1: Planning for a Liveable High-Density City

To enhance liveability of our compact high-density city -



**Kwun Tong
Town Centre**

Retrofitting densely developed urban areas



**Hung Shui Kiu
NDA**

Optimising development in new development areas

Building Block 2: Embracing New Economic Challenges and Opportunities

Overall Approach

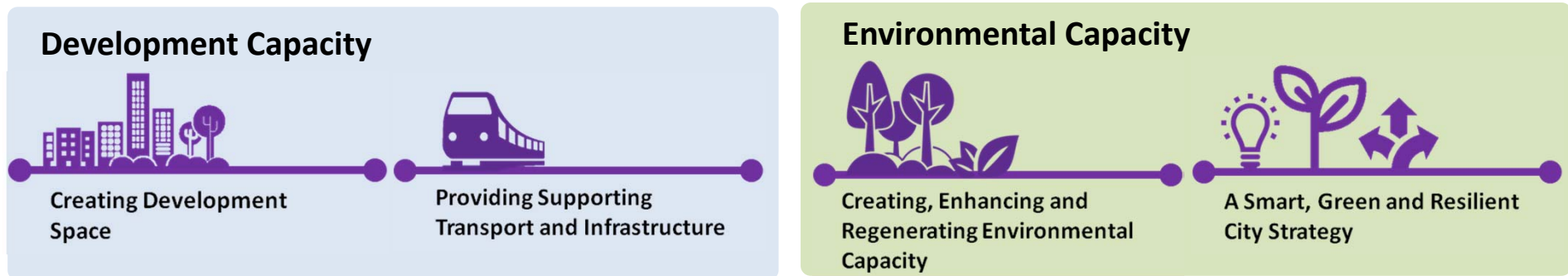
- Move up the value chain, diversify economic base and provide jobs requiring a range of skills
- To provide land and space not only to address shortfalls, but to meet future demand



Building Block 3: Creating Capacity for Sustainable Growth

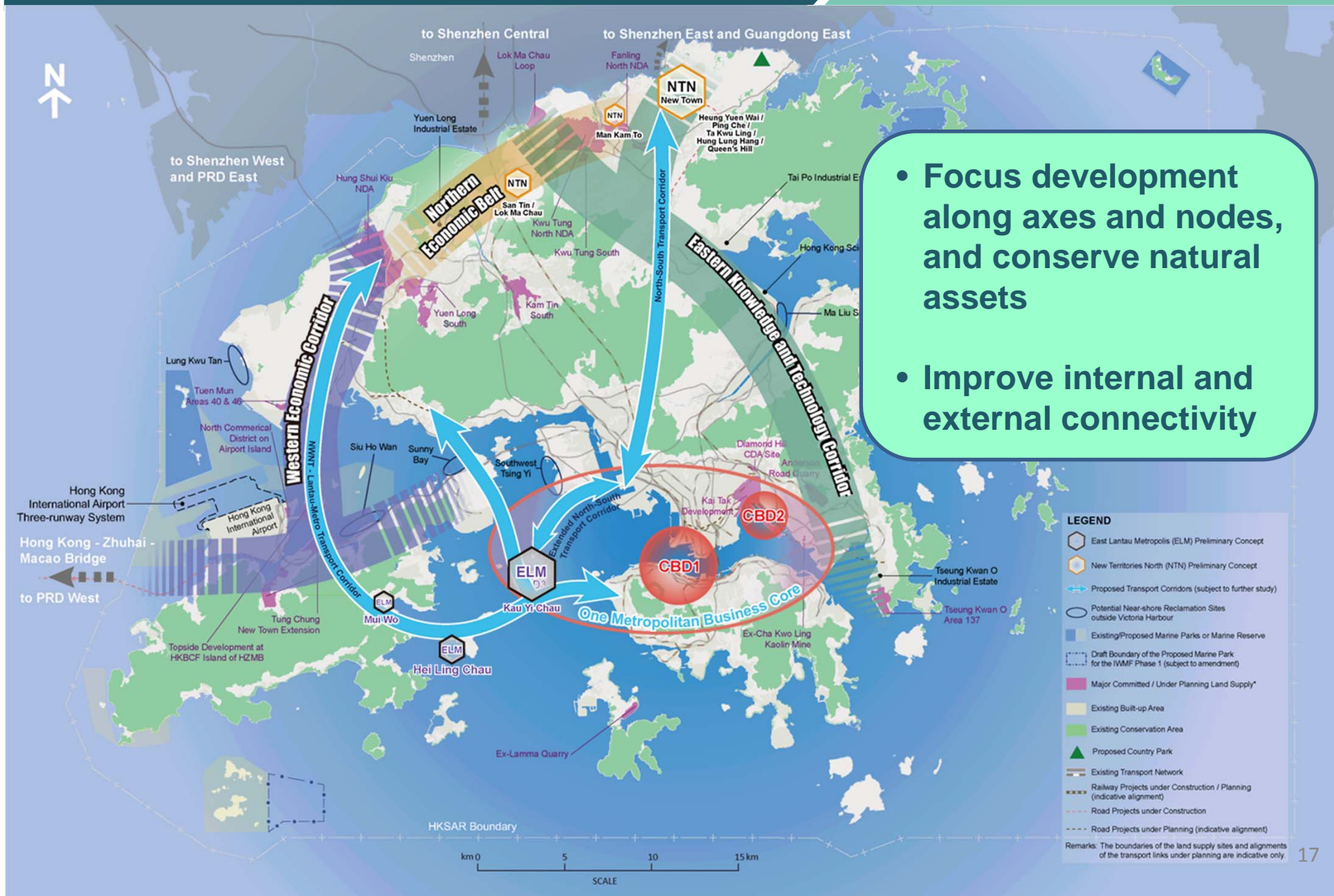
Overall Approach

- To adopt an enhanced strategic planning approach embracing creation of development and environmental capacity in a holistic manner



- Create sufficient and timely capacity with buffers to meet fast changing needs
- Avoid land and infrastructure provision posing major bottlenecks for developments

Conceptual Spatial Framework for Hong Kong 2030+



Land Requirements

	Total new land requirement (ha)	Total committed and planned land supply* (ha)	Outstanding land requirements (ha)
Total:	4,800+	3,600	1,200+



Economic Uses

500+

200

300+



Housing

1,700

1,500

200



GIC , Open
Space, Transport
and
Infrastructure
Facilities

2,600+

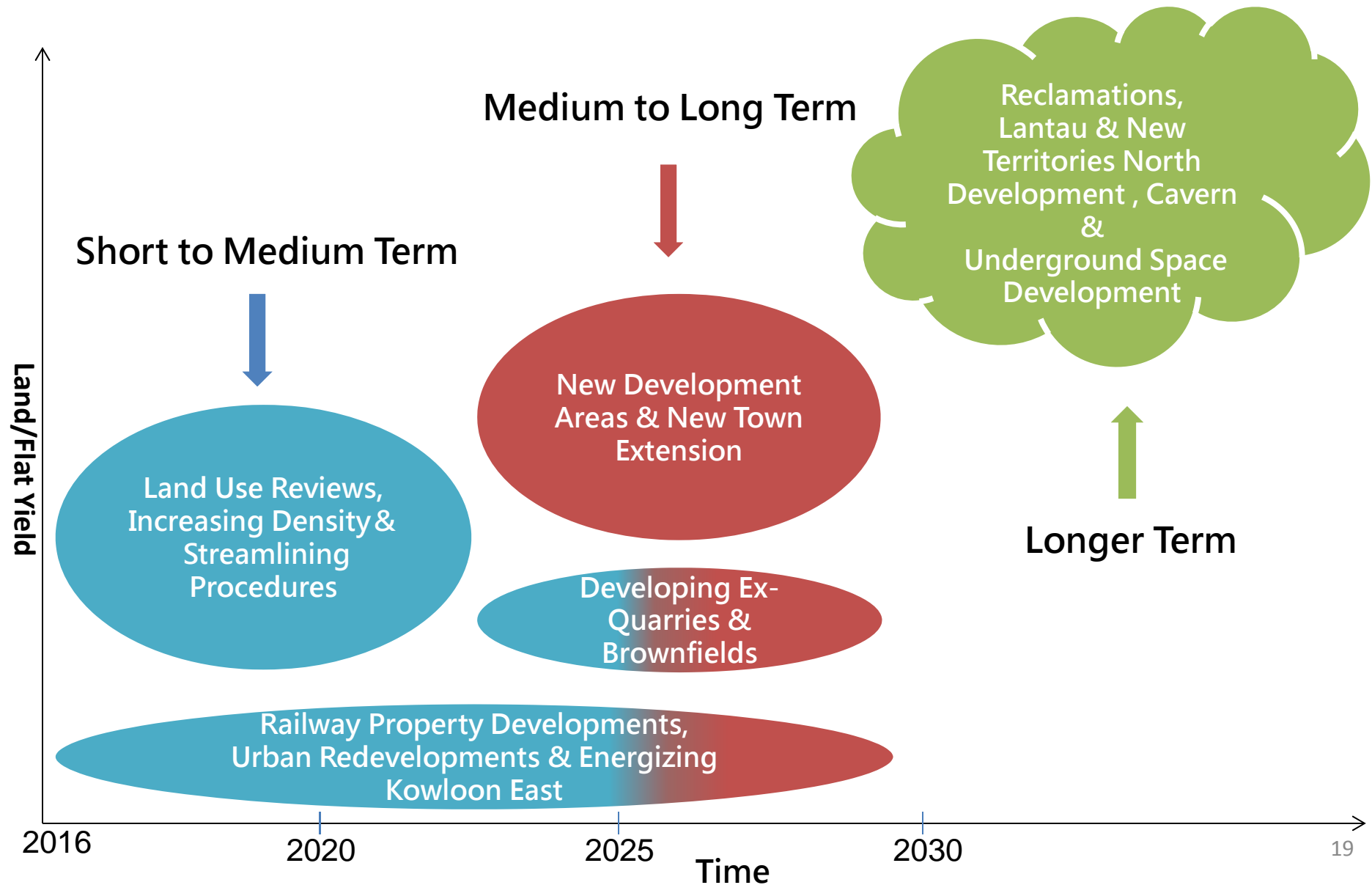
1,900

700+

- To meet the long-term land shortfall of at least **1,200 ha**, two strategic growth areas (i.e. East Lantau Metropolis (ELM) and New Territories North (NTN) (total development area of 1,720 ha, including 10% buffer) are recommended

* Major development projects include Anderson Road Quarry, Diamond Hill Comprehensive Development Area Site, Ex-Cha Kwo Ling Kaolin Mine, Ex-Lamma Quarry, Fanling North New Development Area (NDA), Kwu Tung North NDA, Kwu Tung South, Hung Shui Kiu NDA, Yuen Long South, Kam Tin South Development (Phase I), Tung Chung New Town Extension and Kai Tak Development.

Multi-pronged Land Supply Approach



Short- to Medium- term Land Supply

Land Use Review

Short- to Medium Land Supply Initiatives	Estimated Developable Land Area (ha)	Estimated Flat Production (units)
Land Use Reviews - Some 150 Potential Housing Sites (2014 Policy Address)	over 200 (including about 70 GB sites of over 150 ha)	over 210 000

Statutory plan amendment process for 53 sites (66,200 units) completed

Short- to Medium- term Land Supply

- Technical Challenges



A housing site on steep terrain (with 100m level difference)

- Public Objection



Protest to a public housing development

- Legal Challenges

Medium- to Long-term Land Supply

Land Supply Projects	Estimated Flat Production (units)	Estimated Economic Floorspace (sq. m.)
Kwu Tung North and Fanling North NDAs	~60,000	~837,000
Tung Chung New Town Extension	~49,400	~877,000
Hung Shui Kiu NDA	~61,000	~6,367,000
Yuen Long South	~27,700	~593,000
Total	~198,100	~ 8,674,000



Hung Shui Kiu NDA



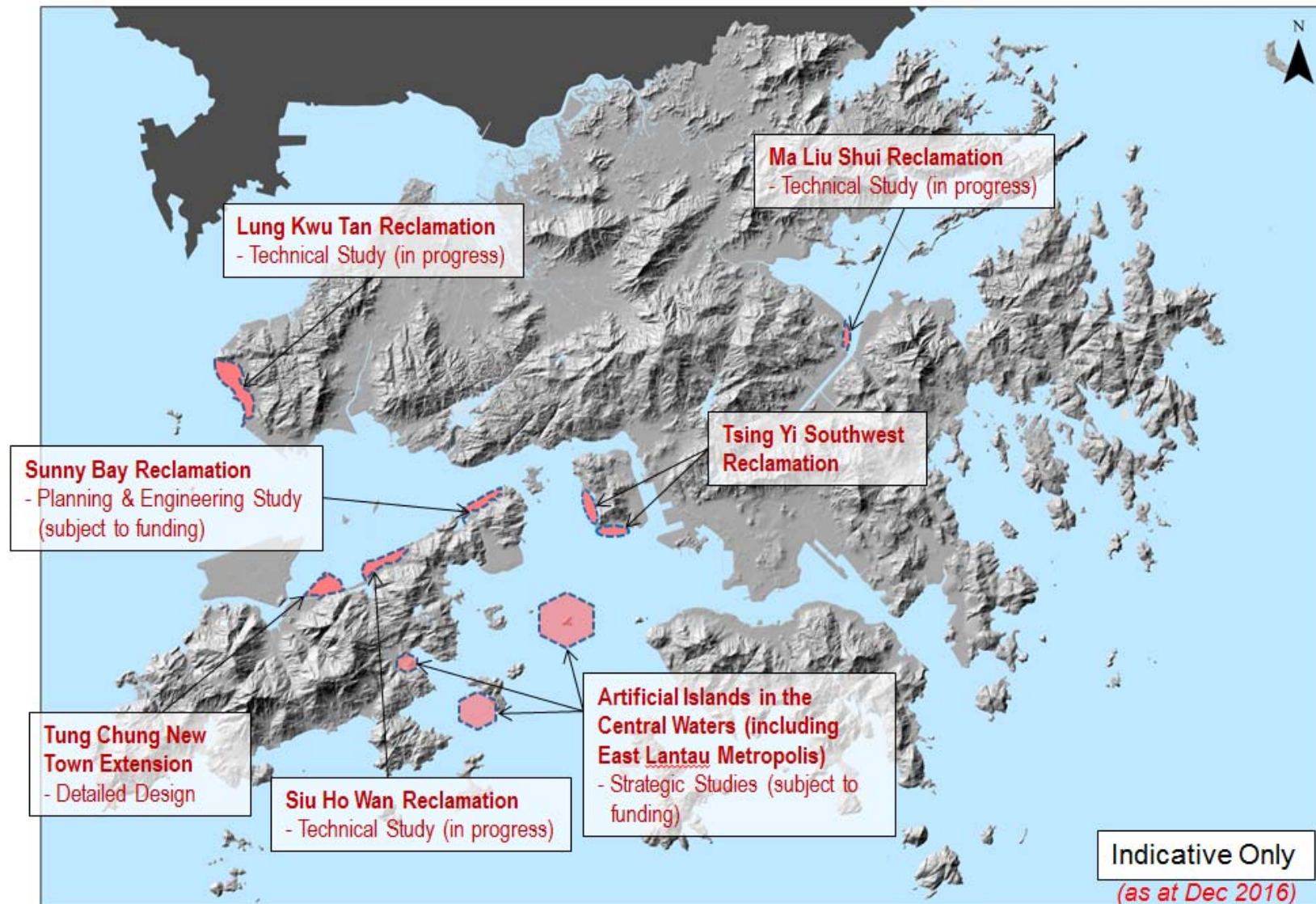
Tung Chung New Town Extension

Brownfield Sites

- Mostly occupied by lower value-added, but important economic activities
- Clearance for releasing development potential, with comprehensive re-planning & infrastructural upgrading
- Reviewing viability of accommodating some of these operations into multi-storey buildings
- PlanD to conduct a territory-wide survey on overall distribution and uses in 2017



Long-term Land Supply

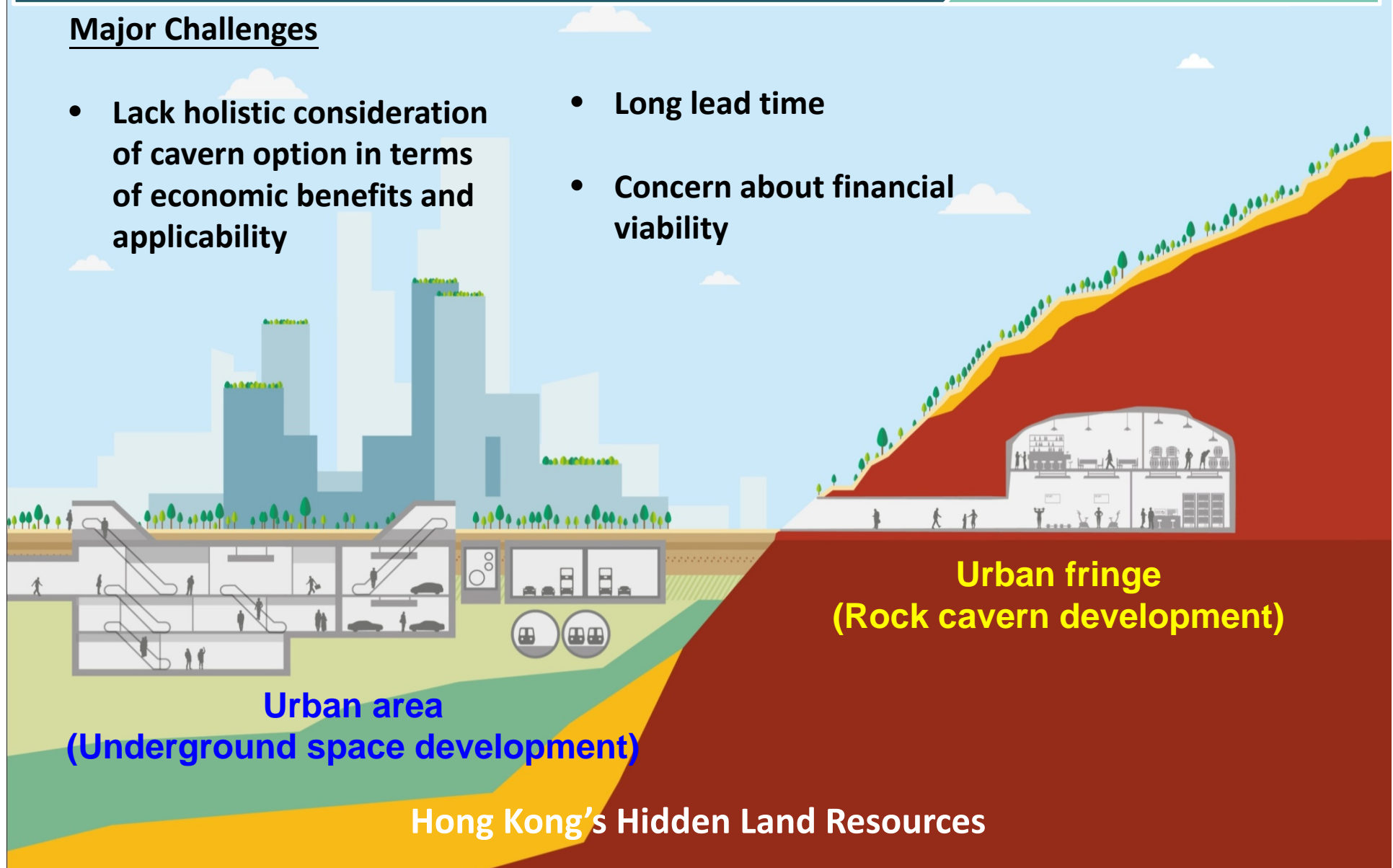


Reclamation outside Victoria Harbour

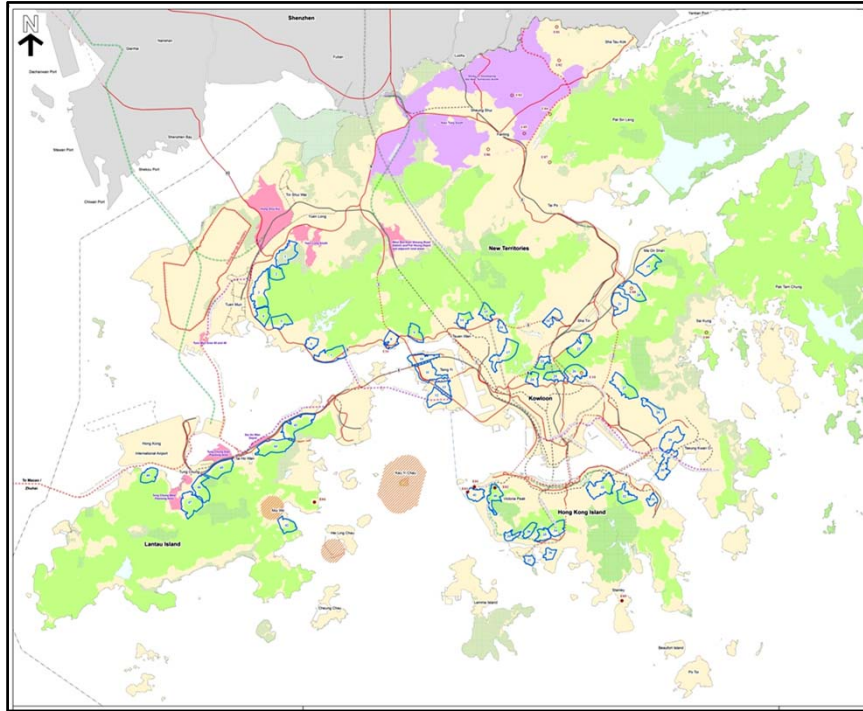
Create Underground Spaces

Major Challenges

- Lack holistic consideration of cavern option in terms of economic benefits and applicability
- Long lead time
- Concern about financial viability



Open Up Opportunities



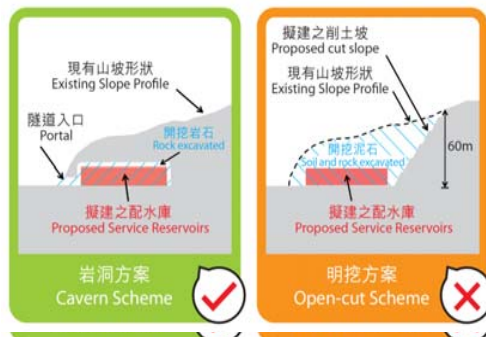
Cavern Master Plan (CMP) being prepared for issue in 2017

- **CMP to guide and facilitate territory-wide cavern developments**
- **Consider financial viability in a wider planning context with appropriate level of economic analysis**

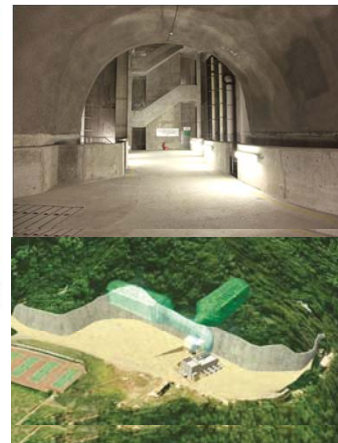
Creating Spaces in Sustainable Manner

1. Preserve natural environment while creating space

e.g. Western Salt Water Service Reservoirs



- Avoid massive hillside cutting
- Preserve 3 graded historic buildings



2. Recycle excavated rocks for other beneficial uses

e.g. aggregates for making concrete



Building our Capacity for Future Growth

Long-term Strategic Growth Areas

	Estimated Development Area (ha.)	Estimated Population	Estimated Employment
ELM	1,000	400,000 – 700,000	200,000
NTN	720	255,000 /350,000	215,000

*Development phasing and scale to be decided



East Lantau Metropolis (ELM)

- A smart, liveable and low-carbon development cluster with the third CBD
- Strategic transport infrastructures to improve connectivity, upfront provision needed
- Address key development constraints by further studies
- Mega project involving substantial investment – Adopt progressive implementation approach



New Territories North



A new generation new town with modern industries and other special industries uses (e.g. new science park/industrial estate) at boundary locations

Challenges

- **Urban-rural-nature integration**
- **Effective use of brownfield sites and abandoned agricultural land**
- **Preservation of heritage and agricultural activities**
- **Resumption / Compensation**

Creating, Enhancing and Regenerating Environmental Capacity

Building environmental capacity

Biodiversity Enhancement



Revitalise Water Bodies (Sai Kung)



Protect Counry Park Enclaves

Environmental Improvement



Revitalise Restored Landfills (Sai Tso Wan)



Waste to Energy (T-Park in Tuen Mun)

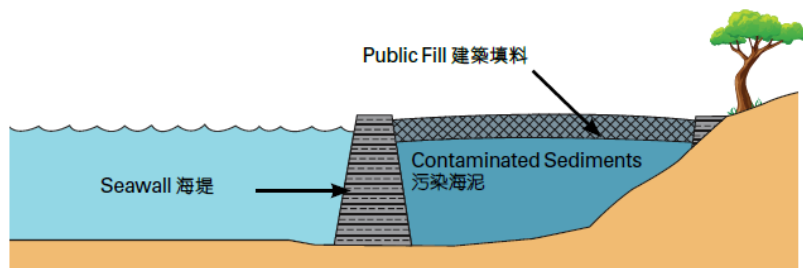


Reuse Treated Effluent (Ngong Ping STW)

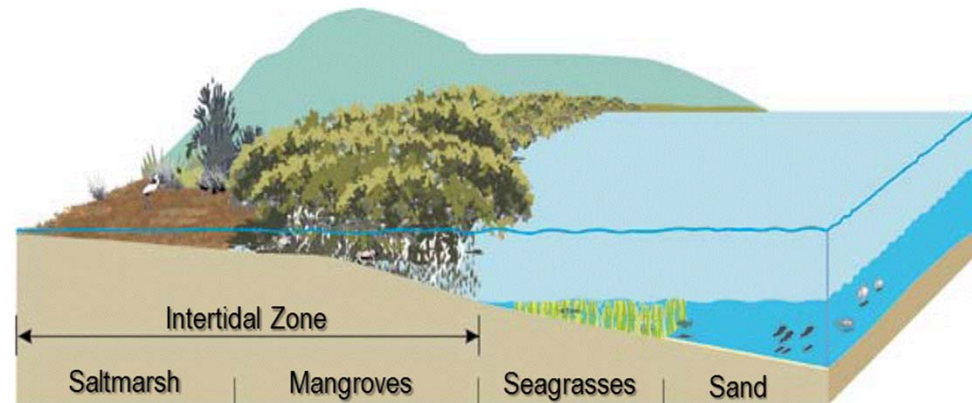
Turn Challenges into Opportunities



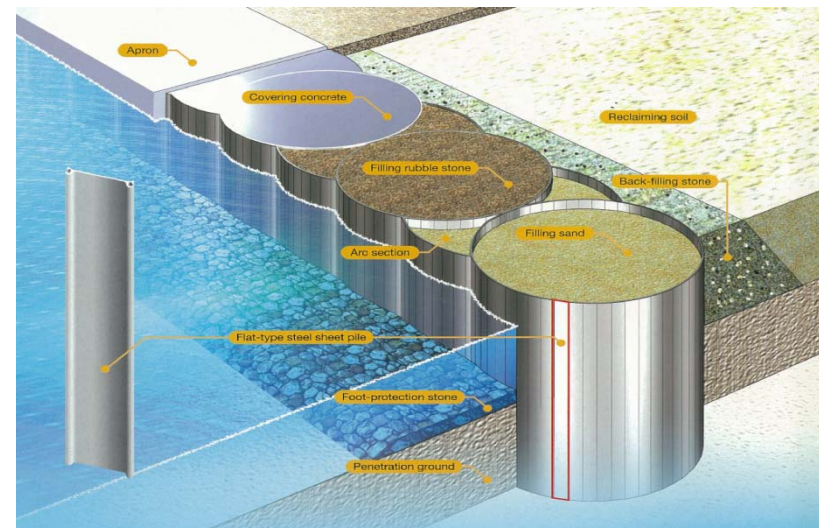
Ground Improvement Techniques,
e.g. Deep Cement Mixing



Confined Disposal Facilities



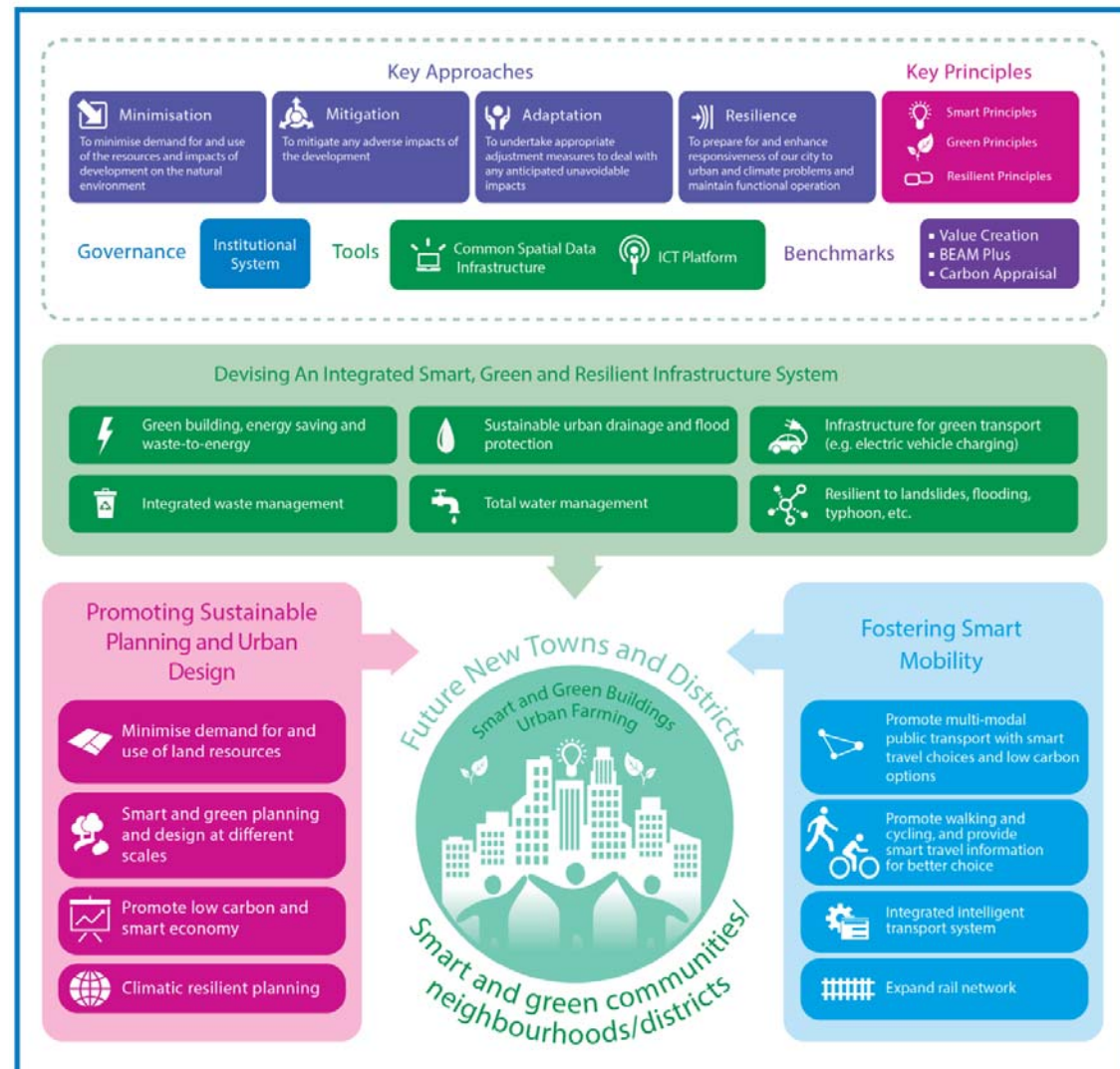
Eco-shorelines to re-establish affected
habitats



Non-dredged Reclamation

Smart, Green and Resilient City Strategy

- Promote sustainable planning & urban design
- Foster smart mobility
- Devise an integrated smart, green and resilient infrastructure system
- Set up a common spatial data infrastructure and ICT infrastructure



An aerial photograph of Hong Kong's harbor, showing a dense urban landscape with numerous skyscrapers and residential buildings. The water is a vibrant turquoise color, and several boats are visible on the surface. In the background, rolling green mountains rise above the city. The text "Thank You" is superimposed in the center of the image.

Thank You