For information
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Legislative Council Panel on Development

Enhancing Land Supply Strategy: Reclamation outside Victoria Harbour and Rock Cavern Development - Stage 1 Public Engagement

PURPOSE

This paper informs Members of the latest development of the technical studies and the public engagement exercise for enhancing land supply by reclamation outside Victoria Harbour and rock cavern development.

BACKGROUND

2. In May 2011, we briefed Members on the Administration's plan[1] to launch a search for potential reclamation sites, identify suitable existing government facilities for relocating to rock caverns, and conduct relevant technical assessments. In conjunction with these technical studies, a two-stage public engagement (PE) exercise will be conducted to initiate public discussions with a view to gauging the public's views on the two land supply options: reclamation outside Victoria Harbour and rock cavern development.

3. Members expressed support to commence the technical studies and the PE exercise, and advised that the PE exercise should be conducted in a knowledge-based manner, with sufficient background information including difficulties in the land development process and the pros and cons of the two options disseminated to the public.

LATEST DEVELOPMENT

4. The Civil Engineering and Development Department (CEDD) commenced a consultancy study on site search cum public engagement in July 2011. The study will span 21 months for completion in early 2013. The Stage 1 PE exercise was formally launched on 10 November 2011 and will last until 29 February 2012.

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1 LC Paper No. CB(1)2205/10-11(05)

5. On the search for reclamation sites, we have developed an inventory of site constraints in consultation with relevant government departments. This inventory helps identify the "no-go" areas for reclamation and areas that pose serious constraints and hence facilitates the site search study. As regards cavern development, we are reviewing the suitability of relocating certain public facilities to caverns. With the public's input in the on-going Stage 1 PE, we are working towards the target of identifying a longlist of 25 possible reclamation sites and 20 possible cavern development sites.

6. Actually, before the PE exercise, we briefed the Town Planning Board, the Land and Development Advisory Committee and its Planning Sub-committee in July and August 2011, seeking their initial views on the initiatives, our proposed studies and the PE exercise. We also advised the 18 District Councils of our planned studies and the PE exercise by means of an information paper in July 2011. In August and September 2011, we convened four focus group meetings with relevant think tanks, business associations and green groups, and consulted concerned individuals from the academics and professional institutions for their initial views and concerns on the proposal and the site selected criteria.

7. The views collected during the pre-engagement consultations are summarized at **Annex 1**. In sum, the consultees were in general supportive of the initiative of relocating suitable public facilities to rock caverns, and the Government should endeavour to expedite the relocation and project delivery programmes. As regards reclamation, potential impact on marine ecology and the preservation of natural shoreline remained the main concerns. We will explore opportunities to enhance the marine habitat by adopting innovative reclamation designs and limiting encroachment upon natural shorelines.

8. In the 2011-12 Policy Address announced by the Chief Executive on 12 October 2011, reclamation outside Victoria Harbour and rock cavern development are identified as two of the six innovative measures[2] to expand Hong Kong's land resources. The Chief Executive also promulgated the policy of land development and accumulation to build up a land reserve.

PUBLIC ENGAGEMENT

9. The objective of the Stage 1 PE is to arouse the public and solicit their views on the feasible ways of increasing land supply, the guiding principles and the site selection criteria. For well-received development proposal identified during

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[2] The other measures are : release of industrial land for non-industrial use, use of green belt sites, review of "Government, Institution or Community" sites and conversion of agricultural land.

this stage, we may advance detailed studies for the proposed development so as to expedite its implementation. Based on the outcome of the Stage 1 PE and the established site selection criteria, we will evaluate with the public the proposed list of potential sites in the Stage 2 PE, tentatively in the third quarter of 2012.

10. We held a kick-off ceremony for the PE exercise, together with the first leg of a roving exhibition, on 10 November 2011. To facilitate informed discussions, a PE Digest providing information on the background and key issues is prepared for dissemination to the public and appended at **Annex 2** for Members' reference. To reach a wide audience, a nine-minute video has been produced (a disk containing the video is enclosed for Members' viewing). A wide range of PE activities, which are listed on page 22 of the PE Digest, have been scheduled for November 2011 to February 2012.

Key Issues

11. We are engaging the public to discuss the following key issues on enhancing the land supply strategy :

(a) **Land supply in line with Progressive Development**[3] – To underpin sustainable development, it is necessary to enhance our land supply strategy by devising a good mix of supply options and building up a sufficiently large land reserve to achieve a balance among social, environment and economic needs. Reclamation outside Victoria Harbour and rock cavern development are strategic ways to achieve the good mix of supply options and create the land reserve. The enhanced land supply strategy can also better meet the demand of progressive development advocated by the Chief Executive in his 2007-08 Policy Address, i.e. an overall progress with economic, cultural, social and environmental benefits.

(b) **Land reserve ensuring timely supply** – The policy of maintaining a land reserve as announced by the Chief Executive in his 2011-12 Policy Address can effectively address the short-term fluctuations of land demand, and ensure a timely and steady supply. Our aim is to ensure an annual supply of land for an average of about 40 000 residential units of various types. Even when demand for land declines, land development will continue. The newly developed land will be kept in the Government's land reserve and made available when appropriate. Land reserve would also allow us to be more responsive to special land needs arising from unexpected economic and technological development. We will explore with the public

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[3] In his 2007-08 Policy Address, the Chief Executive said "*By Progressive Development, I mean overall progress rather than economic development alone. Apart from economic benefits, we should strive for benefits to culture, the society and the environment ….. a sustainable, balanced and diversified development.*"

different forms of land reserve.

(c) **Reclamation outside Victoria Harbour serving other purposes** – Cities like Hong Kong generate large amounts of public fill and contaminated sediment in construction activities and fairway maintenance. Existing public fill banks and contaminated mud disposal areas are expected to be full by 2015 to 2020 and 2017 respectively. Apart from increasing land supply, reclamation outside Victoria Harbour can offer the benefits of re-using surplus public fill and handling contaminated sediments in an environmentally-friendly manner. This can avoid cross-boundary disposal of such materials which involves additional cost and carbon emission in the delivery process.

We observe that the public are mindful of the environmental impact arising from reclamation. We will advocate cutting-edge technologies including reclamation without the dredging of marine mud, re-establishing natural marine habitats by eco-shoreline, and various environmental mitigation measures during the construction stage.

(d) **Rock cavern development** – About 64% of the land in Hong Kong is well-suited for rock cavern development, which is a valuable land resource particularly near or in the urban areas. To realize this valuable asset, more innovative use of caverns will be actively explored to reprovision existing public facilities and release such sites for housing and other uses. We note that some members of the public are concerned about the long delivery time and cost effectiveness of rock cavern development. We plan to embark on feasibility studies on relocation of the Sha Tin sewage treatment works, Mount Davis fresh water primary service reservoir and Kennedy Town fresh water service reservoir to caverns, which were well-received in the pre-PE consultations, in parallel with the Stage 2 PE exercise. Also, we will evaluate tangible economic costs and benefits as well as the intangible social and environmental costs and benefits of the development proposals in the feasibility studies.

Guiding Principles and Initial Site Selection Criteria

12. To build a sustainable future, we will strive to protect the prospect of future generations while meeting our own needs and strive for a balance among social, environmental and economic needs. “Social harmony and benefits”, “Enhanced environmental performance” and “Economic efficiency and practicality” are set as our guiding principles which provide a framework for developing the site selection criteria. They help ensure that the set of site selection criteria can meet our ultimate goal of progressive development.

13. The set of site selection criteria is a tool for screening and selecting suitable sites for reclamation and cavern development. It should be comprehensive, reasonable and prudently-formulated and should be able to reflect the core values of the community as a whole. The sites selected on the basis of these selection criteria should be able to meet the needs and aspirations of the public.

14. Following the pre-engagement consultations and with the benefit of a value management workshop[4], the CEDD has developed a set of initial site selection criteria for reclamation and rock cavern development under the three guiding principles for discussion during the Stage 1 PE. The initial site selection criteria are tabulated below -

	Initial site selection criteria	
Land supply options / Guiding Principles	**Reclamation outside Victoria Harbour**	**Relocating public facilities into cavern**
Social harmony and benefits	• Impact on local community • Site location and accessibility • Meeting local needs	• Social benefits at the releasing site upon relocation of existing facilities • Social impact at the cavern development site
Enhanced environmental performance	• Environmental impacts • Environmental benefits	• Environmental benefits in the vicinity of the releasing site upon relocation of existing facilities • Environmental impact at the cavern development site
Economic efficiency and practicality	• Planning flexibility • Engineering feasibility • Cost effectiveness	• Engineering feasibility • Cost effectiveness • Specific requirements of facility • Suitability of relocation based on existing facility status

[4] The purpose of the value management workshop is to identify opportunities to improve the value of the project. It involves information gathering, analysis and synthesis in relation to the timeline, requirements and functions of the project.

15. During the Stage 1 PE, we will gather the views of the public on the initial site selection criteria and their relative importance. Views collected will be used in finalizing and prioritizing these criteria. The finalized set of site selection criteria, combined with the findings of the technical studies on the performance of each site, will be used for assessing the suitability of a reclamation site or whether a government facility is suitable for relocation to rock cavern.

WAY FORWARD

16. We will conduct the Stage 1 PE with a wide range of activities including telephone polls, roving exhibitions, focus group meetings, topical discussions and public forums. Members of the public are welcomed to join our activities or express their views by mail or through the project website before 29 February 2012.

17. We will identify potential sites taking account of the 'no-go" areas, seriously constrained sites, and views of the public collected during the Stage 1 PE. The identified sites in the longlist mentioned in paragraph 5 above will be subject to a broad technical assessment to ascertain their technical, environmental and social performance for shortlisting in accordance with the established site selection criteria. We target to formulate a shortlist of 10 potential reclamation sites and 8 cavern development sites for consideration in the Stage 2 PE and further detailed engineering studies.

18. We plan to embark on the following four consultancy studies and seek the support of the Members in early to mid 2012 tentatively -

(a) feasibility study on relocation of Sha Tin sewage treatment works to caverns;

(b) feasibility study on relocation of Mount Davis fresh water primary service reservoir and Kennedy Town fresh water service reservoir to caverns;

(c) study on the long-term strategy for cavern development, which seeks to prepare cavern master plans to reserve strategic cavern areas, work out a systematic relocation programme for suitable government facilities, and formulate policy guidelines to facilitate cavern development for both public and private sectors; and

(d) planning and engineering studies on reclamation sites, stage 1, which will cover a maximum of four reclamation sites well received during the PE.

ADVICE SOUGHT

19. Members are invited to note the latest development of the technical study and the public engagement, the key issues and proposed initial site selection criteria for reclamation outside Victoria Harbour and rock cavern development, and the way forward for the initiatives.

Development Bureau
November 2011

Annex 1

A summary of the views collected during the pre-engagement consultations from July to September 2011

Town Planning Board

The Town Planning Board generally supported the study to explore different options of increasing land supply in the long term and the land reserve concept at the meeting on 15 July 2011. The following views were expressed :

- Reclamation outside Victoria Harbour can be a good means of increasing land supply but there might be negative impact on marine ecology and objections from the green groups and the local residents.
- There is good potential to better utilize cavern development in Hong Kong. Nonetheless, the problems encountered in overseas cavern developments, taking into account the local geotechnical and weather conditions, should be studied.
- It is worth considering the relocation of Sha Tin Sewage Treatment Works as it would release a large piece of waterfront area and remove the existing facility that has created odour nuisance to the neigbourhood.

Land and Development Advisory Committee (LDAC)

The LDAC at the meeting on 14 July 2011 expressed the following views and expectation on the forthcoming public engagement exercise :

- The community should consider the necessity of increasing land supply for future development and improving people's living environment. To help discussions and reaching consensus, the public engagement exercise should demonstrate the need of additional land, the Government's land supply strategy, the effects and constraints of other policy initiatives in land supply and the need of reclamation and rock cavern development.
- The public engagement exercise should highlight the new opportunities that reclamation would bring to Hong Kong, such as environmental benefits and sustainable ecological development. Meanwhile, reclamation sites having minimal impact on marine ecology and with supporting infrastructure should be accorded with priority.
- It may be more acceptable to the public if the community is well aware of the proposed use of the reclamation sites and the sites to be released from

relocation of government facilities.

Land and Development Advisory Committee – Planning Sub-committee

The Planning Sub-Committee of the LDAC at the meeting on 2 August 2011 expressed the following views on the options of reclamation outside Victoria Harbour and rock cavern development, and the forthcoming public engagement exercise:

- Cavern is a creative and viable option for releasing land in the urban area. Individual development proposals should be supported by cost-benefit analysis to justify the high cost in development. The future uses of the released land after relocating the existing facilities to cavern should be carefully planned to serve the community and enhance the quality of the living environment.
- Reclamation appears to be a sensible alternative in order to preserve the country parks. Nonetheless, natural coastlines of high conservation value and sites of high ecological value should be avoided.
- More information, including purposes, justification and cost of the two options should be included in the public engagement exercise.

In addition, there were opinions that development of the New Territories and redevelopment through the Urban Renewal Authority should continue to meet the short-term demand.

Focus Groups and concerned individuals from the academics and professional institutions

A total of four focus group meetings with 46 participants from think tanks, business associations, and green groups were conducted on 30 & 31 August 2011 and 2 & 5 September 2011. From August to October 2011, we also visited and discussed with 16 persons from the academics and professional institutions who had expressed views on the subject.

The need of increasing land supply was generally agreeable to the participants for meeting population growth, improving the living quality and supporting the economic development of Hong Kong. However, more information should be provided during the public engagement exercise to decide on the proper means

of land production. Major views collected are as follows:

- The need of additional land should be justified by quantitative data including annual demand and supply of land in the past and within the planning horizon.
- The Government should take priority to rezone under-utilized industrial sites and agricultural land in the New Territories which are currently used for industrial purpose or temporary storage, rather than reclamation.
- There were divergent views on the release of some areas of the country parks for housing and other uses.
- While cost factors remain to be the major concern for rock cavern development, the social benefits should be taken into account.
- The Administration should encourage the re-use of surplus public fill and contaminated sediment in infrastructure projects and should not treat reclamation as a simple way out for handling these surplus materials.

Annex 2

Enhancing Land Supply Strategy:
Reclamation outside Victoria Harbour and Rock Cavern Development – Stage 1 Public Engagement

Public Engagement Digest and Video

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CEDD

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PLANNING DEPARTMENT

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Stage 1 第一階段公眾參與摘要
Public Engagement Digest

Enhancing Land Supply Strategy
優化土地供應策略

Reclamation outside Victoria Harbour and Rock Cavern Development
維港以外填海及發展岩洞

Invitation
誠邀您的參與

Land is one of the most valuable assets of Hong Kong which touches every aspect of our daily life. It is becoming ever more challenging to ensure an adequate and steady land supply. To meet the challenges, the Government plans to enhance the land supply strategy.

土地是香港最寶貴的資產之一，觸及我們日常生活的各個方面。要確保充足和穩定的土地供應，政府面臨與日俱增的挑戰。為未雨綢繆，政府計劃優化土地供應策略。

You are cordially invited to participate

in the Stage 1 Public Engagement exercise and express your views on enhancing the land supply strategy, particularly on reclamation outside Victoria Harbour and rock cavern development as mentioned in the Chief Executive's 2011-12 Policy Address.

誠摯邀請您積極參與

第一階段公眾參與活動，就優化土地供應策略，特別是行政長官在2011-12施政報告提及在維港以外填海和發展岩洞這兩項建議發表您的意見。

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Meeting Our Needs - Building a Sustainable Future

展望將來 未雨綢繆

Our community shares a common vision of **sustainable development**: meeting our own needs without damaging the prospects of future generations; striving for a balance among social, environmental and economic needs.

The realization of this vision calls for adequate usable land. It has been the Government's long standing policy to work with a range of land supply options. But there have been different challenges in supplying land, particularly over recent years. Meanwhile, **population growth**, rising aspiration for **quality living environment** and **economic development** all add to the demand and uncertainties surrounding the need for more land resource. To underpin the sustainable development of Hong Kong, it is therefore necessary to enhance our land supply strategy by devising a **good mix** of supply options and building up a **sufficiently large land reserve** to achieve a balance among social, environmental and economic needs.

可持續發展是社會的共同願景 — 我們在滿足自己的需要時不損害子孫後代的福祉；並力求平衡社會、環境和經濟所需。

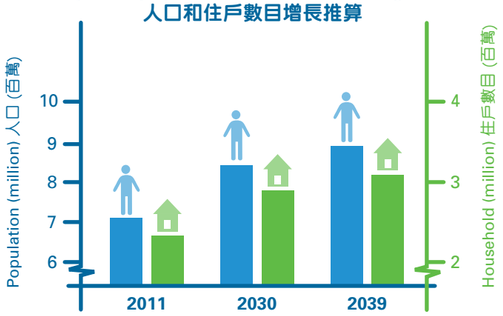
要實現這個願景需要足夠的可用土地。政府一直採用各種土地供應模式，但近年也面對不同的挑戰。同時，隨著**人口增長**、**改善生活環境**的訴求增加和**經濟發展**，對土地的需求不斷增加及改變。因此，為鞏固香港的可持續發展，我們必須優化土地供應策略，制定**良好的供地模式組合**及累積一定的**土地儲備**，以平衡社會、環境和經濟發展的需要。

Population Growth 人口增長

The population is estimated to grow by 25%, reaching 8.9 million by 2039; the number of households will increase almost by 30% to 3.1 million during the same period.

至2039年，香港人口估計會有25%的增長，達890萬；在同一期間，住戶數目更會有接近3成的增幅至310萬戶。

Projected population and household growth
人口和住戶數目增長推算



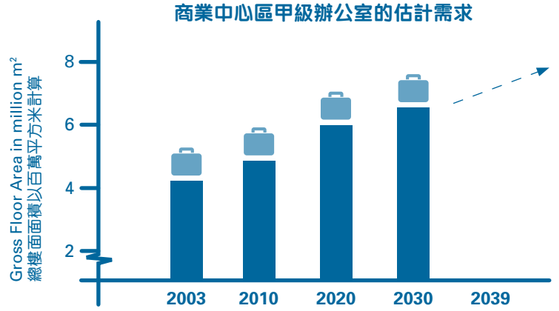
Source: Census and Statistics Department, 2011
資料來源：統計處，2011

Quality of Life 生活質素

It is the public's aspiration to improve the living environment by lowering building density, having more open space, conserving the natural environment, as well as preserving culture and heritage. More land is needed if such aspiration is to be realized.

改善生活環境是大眾的期望，包括降低建築密度、增加活動空間、保護自然環境，以及保存文化和文物，以上的都需要更多土地才能實現。

Estimated requirement of CBD Grade A offices
商業中心區甲級辦公室的估計需求



Source: Hong Kong 2030: Planning Vision and Strategy
資料來源：香港2030研究：規劃遠景與策略

Economic Development 經濟發展

The Four Pillar Industries, namely financial services, trading and logistics, tourism, and professional services have been the drivers of Hong Kong's economic growth and jobs creation. To enhance our competitiveness, adequate land should be provided for infrastructure and business use. The six industries actively promoted by the Government, namely medical services, environmental industries, testing and certification services, education services, innovation and technology, and cultural and creative industries, also require land for development.

四大支柱行業，即金融、貿易及物流、旅遊，以及專業服務一直是香港經濟增長動力及工作職位來源。為提升香港的競爭力，我們需要提供足夠商業用地及其他土地進行基礎建設。政府正積極推動的六大產業即醫療、環保、檢測及認證、教育、創新科技，以及文化及創意，亦需要土地供應配合發展。

Existing Land Supply Options and Challenges
現有土地供應模式與挑戰

6 Existing Land Supply Options
種現有土地供應模式

Each of these options has its own limitations and challenges.

每一項的土地供應模式都有各自的局限和挑戰。

Rezoning Land 更改土地用途

Land Resumption 收地

Rock Cavern Development 發展岩洞

Reuse of Ex-quarry Sites 重用前石礦場

Reclamation 填海

Redevelopment 重建

Rezoning Land 更改土地用途

Rezone under-utilized sites, e.g. industrial or "Government, Institution or Community" sites, and lands that no longer perform their original functions, e.g. deserted green belt areas or agricultural land for housing or other uses.

將一些未被善用的地段，例如工業用地或作「政府、機構或社區」用途的土地，及一些已失去其原有功能的土地，例如已荒廢的「綠化地帶」或農地，改作房屋或其他用途。

Key limitation / challenge:

- Involving private owners and developers, or different Government departments, it requires a longer process. Actual development hinges on market response. Timing of development is less predictable.

主要限制 / 挑戰：

- 牽涉私人業主和發展商，或不同政府部門，故需要較長程序。實際發展情況視乎市場情況，難掌握發展時間。

Redevelopment 重建

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Redevelop the older urban areas, e.g. Kwun Tong, Tsuen Wan, Wan Chai, or individual buildings through re-planning and re-building to improve the local environment and better utilize the land.

透過重新規劃與重建，重新發展例如觀塘、荃灣、灣仔等舊區或個別樓宇，以改善環境和善用土地。

Key limitation / challenge:

- Private owners and developers take the leading role. Comparing with other options implemented by the Government, it is less predictable.

主要限制 / 挑戰：

- 業主和私營發展商主導開發進程。相比其他由政府執行的土地開發模式，這方法的供應較難預測。

Rezoning 更改土地用途 and 及 redevelopment 重建 → market driven, unpredictable supply 市場主導，供應難測

Land Resumption 收地

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Exercise statutory power to compulsorily take over private lands for public purposes. For instance, private agricultural land in the New Territories has been resumed for developing new towns and infrastructure.

為公共用途行使法定權力，強制徵收私人土地。例如通過徵收新界私人農地發展新市鎮和基礎設施。

Key limitations / challenges:

- It will cause local resentment if residents wish to maintain their rural lifestyle or are not satisfied with compensation or re-housing arrangement.
- The land acquired can only be used for designated purposes, resulting in low flexibility in land use.

主要限制 / 挑戰：

- 如果居民不願改變鄉郊生活方式，或不滿意補償或安置安排，收地會引起反感。
- 由於所得的土地只能作指定用途，靈活性較低。

Resumption 收地 → local disruption 影響居民

Reclamation 填海

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Create land over the foreshore or sea-bed. Most new towns and the Hong Kong International Airport are built on reclaimed land. Reclamation and leveling mountain slopes have been the major means to create usable land in Hong Kong for more than a century.

從前濱或海床填造土地。大部分新市鎮及香港國際機場都是建在填海土地上。一個多世紀以來，移山填海是香港增加土地的主要方法。

Key limitation / challenge:

- Emphasis is to be placed on reducing and mitigating impact on marine ecology.

主要限制 / 挑戰：

- 要注重減少和紓緩對海洋生態的影響。

Reclamation 填海 → environmental issues 環境考慮

Rock Cavern Development 發展岩洞

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Place new facilities inside caverns, e.g. Island West Transfer Station, and relocate suitable existing government facilities, e.g. Sha Tin Sewage Treatment Works, into rock cavern to release such sites for housing or other uses.

將新設施，如港島西廢物轉運站，設置於岩洞內，並將適合的現有政府設施，如沙田污水處理廠，遷移至岩洞內，從而騰出原址作房屋或其他用途。

Key limitation / challenge:

- As the public may not readily accept daily activities inside cavern, this option may not be applicable to many uses.

主要限制 / 挑戰：

- 市民或未能完全接受在岩洞內進行日常活動，很多用途未必適合置於岩洞內。

Rock cavern 岩洞 → public perception 公眾觀感

Reuse of Ex-quarry Sites 重用前石礦場

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Rehabilitate the platforms formed in ex-quarry sites, e.g. Anderson Road Quarry, as a source of new land.

修復前石礦場的平台作為新土地來源，如安達臣道石礦場。

Key limitation / challenge:

- This type of land supply is limited, and can only be available upon quarry closure.

主要限制 / 挑戰：

- 只可利用關閉了的石礦場，因此以這模式提供的土地數量有限。

Ex-quarry sites 前石礦場 → limited supply 數量有限

Land Supply in Line with Progressive Development
符合進步發展的土地供應

Flexible Land Supply used to meet Hong Kong's Needs

A portfolio of land supply options with enough flexibility in the past had enabled considerable economic and social growth of Hong Kong.

A good mix of land supply options can also better meet the demand of the **"Progressive Development"** advocated by the Chief Executive in his 2007-08 Policy Address.

"By 'Progressive Development', I mean overall progress rather than economic development alone. Apart from economic benefits, we should strive for benefits to culture, the society and the environment…sustainable, balanced and diversified development," the Chief Executive said.

靈活土地供應 滿足香港所需

過去我們一直採用靈活的土地供應模式組合，令香港在經濟和社會各方面都有可觀的發展。

一個良好的供地模式組合，亦較能符合行政長官於2007-08施政報告中提倡**「進步發展」**的要求。

行政長官說：「進步發展觀是指不單要追求發展，也要追求整體進步，除了要取得經濟效益外，也要取得文化、社會及環境的效益…代表一個可持續、均衡和多元的發展方向。」

In recent years ...
近年 ...

Some challenges in land development have hindered the progress and realization of our strategy and target in land supply. These challenges must be overcome if we are to implement the concept of "progressive development".

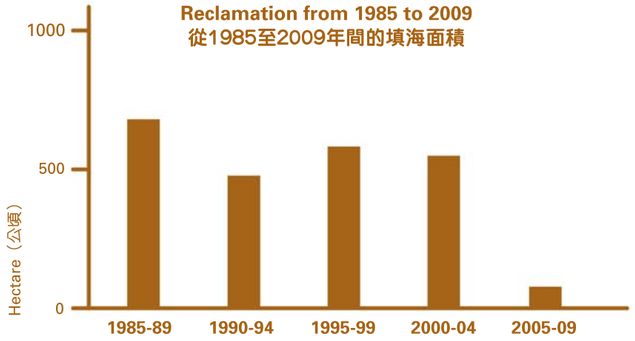
當局在開拓土地上遇到不少挑戰，窒礙了我們實現土地開發的策略和目標。要落實「進步發展觀」，我們必須盡力克服這些挑戰。

Significant Decline in Reclamation

The strong public aspiration of protecting and preserving Victoria Harbour as a special public asset and a natural heritage of Hong Kong people is enshrined in the Protection of the Harbour Ordinance. To explore the balance among economic development, environmental protection and natural heritage conservation, the Government has been very cautious in pursuing further reclamation in recent years. Land created by reclamation has significantly declined, from about 500 to 700 hectares every five years to 84 hectares in 2005 to 2009. In order to realize progressive development, we need to consider reclamation outside Victoria Harbour to generate more land.

填海明顯減少

維多利亞港是香港人獨特的公共資產和自然文物，《保護海港條例》印記了市民對保護及保存維港的強烈願望。為了在經濟發展、環境保護和自然文物保育之間取得平衡，近年來政府對進一步填海非常審慎。填海造地明顯減少，由過往平均每五年造地約 500 至700公頃，到2005至2009年，銳減至84公頃。為了實現進步發展，我們需要考慮在維港以外填海，以開拓更多土地。



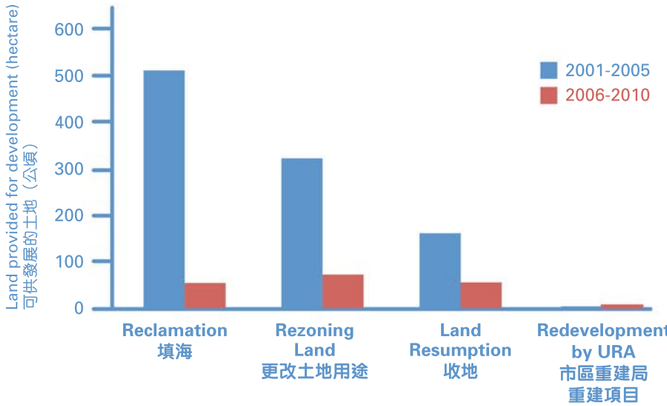
Challenges Faced by Other Options

It is also challenging to make extensive use of other land supply options such as rezoning, redevelopment and land resumption. Rising public concerns on natural and heritage conservation, and disputes over compensation and clearance for developments in the New Territories are just some of the issues. The usable land that could be obtained through these options also dropped significantly in the past five years. Land provided by reusing ex-quarry sites and rock cavern development was negligible.

其他土地供應模式所面對的挑戰

如要廣泛採用其他土地供應模式，包括更改土地用途、重建和收地等，我們同樣面對很多挑戰。公眾對自然和文物保育的日益關注，以及發展新界所引起有關補償和清拆的爭議，都是一些需要處理的問題。過去五年，藉這些模式新增的可供發展土地數量顯著下降，而透過重用前石礦場或發展岩洞所獲得的土地數量更是微不足道。

Land supplied by different options in the past decade
不同供地模式在過去10年所提供的土地



1. For "Reclamation", land formed by leveling mountain slopes to provide earth for reclamation was about 200 ha and 85 ha in 2001-2005 and 2006-2010 respectively.
在2001至2005年間和2006至2010年間由移山得來的土地分別約200公頃和85公頃，所得的泥土用作填海之用。

2. "Rezoning land"covers rezoning of non-development zones or zones of relatively restricted uses to development zones.
「更改土地用途」涵蓋了將非發展用地或用途相對有限的用地，更改為可以發展的用地。

3. "Land resumption" covers land resumed for implementation of public works projects excluding railway projects.
「收地」涵蓋了因工務項目而徵收的土地，但不包括鐵路項目。

4. "Redevelopment by URA" covers developments completed within the shown timeframe by Urban Renewal Authority.
「市區重建局重建項目」涵蓋了市區重建局在指定時間內完成的發展項目。

Changing Demand

Population forecasts, especially long-term forecasts, are bound to be adjusted as social and economic circumstances change, resulting in uncertainties in land demand.

People's expectation of living quality also changes when social and economic circumstances change, adding more uncertainties to land demand.

The fast changing market conditions have also caused considerable uncertainties in land demand for economic development.

不斷變化的需求

隨著社會和經濟情況的變化，人口的預測，尤其是長期預測，必然需要有所調整，令土地需求變得不確定。

市民對生活質素的期望也隨著社會和經濟情況的變化而改變，增添了土地需求的不確定性。

市場狀況瞬息萬變，為經濟發展預留所需用地會有相當大的不確定性。

3Rs

More flexibility and resilience in land supply strategy

Given the limitations in land development and the changing demand in land resources, we need a more flexible and resilient mix of land supply options to respond to future challenges and opportunities. Supplying land and creating a land Reserve through Reclamation outside Victoria Harbour and developing Rock cavern is a strategic way to achieve our goal.

更靈活及具彈性的土地供應策略

由於土地開發上的限制及土地資源需求不斷改變，我們需要一個更靈活及具彈性的土地供應模式組合，以應付未來的挑戰和抓緊機遇。透過在維港以外填海和發展岩洞去供應土地及建立土地儲備，便可以有策略地實現目標。

Land Reserve Ensuring Timely Supply
土地儲備確保適時供應

A target was set in the Chief Executive's 2011-12 Policy Address to expand our land resources and to build up a land reserve to stabilize land supply.

"Our aim is to ensure an annual supply of land for an average of about 40,000 residential units of various types. Even when demand for land declines, land development will continue. The newly developed land will be kept in the Government's land reserve and made available when appropriate," the Chief Executive said.

行政長官在2011-12年度的施政報告中定下目標，要開拓土地資源和建立土地儲備，以穩定土地供應。

行政長官說：「我們的目標，是確保供應的土地每年平均能提供約四萬個各類住宅單位。當在土地需求下降時， 開拓土地工作會繼續，新開拓土地會成為政府土地儲備，在適當時候再推出。」

Land reserve 我們可以運用 3 can be established in three forms 種形式來建立土地儲備

1 **Land is formed first**. It can be used readily when the needs arise. The land can be allocated for temporary use before a permanent land use is established.

先平整土地，以備有需求時可即時使用。在確立土地永久用途前，亦可用作其他臨時用途。

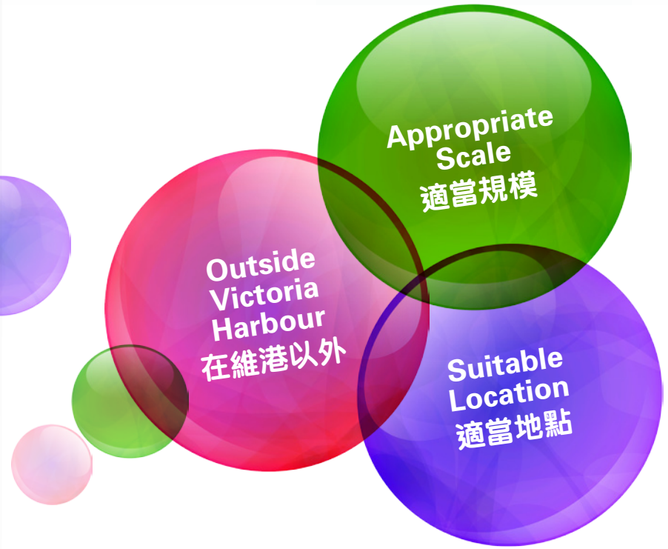
2 **Potential sites are identified with the necessary studies and design work completed**. Actual construction works can commence immediately when the need is confirmed.

在已物色的可行地點，先完成研究及設計工作。在確定有需要時，建造工程可以立即動工。

3 **Potential sites that fulfill the site selection criteria are reserved**. Further studies to ascertain their feasibility and design works will only be carried out after the need is established.

預留符合選址準則的可行地點，待日後有需要時才進一步研究其可行性及開展設計工作。

Reclamation outside Victoria Harbour
在維港以外填海



Reclamation at suitable location outside Victoria Harbour on an appropriate scale can be a possible option to increase land supply and create a land reserve. This option is a sustainable solution for the handling of surplus public fill and contaminated sediment at the same time, achieving "triple benefits".

Reclamation has been an important source of creating usable land in Hong Kong for more than a century. As of early 2011, about 6% of land in Hong Kong (6,824 hectares) came from reclamation.

Technologies for reclamation nowadays have been enhanced which help reduce the impact on the marine environment. For instance, dredging marine mud from the seabed is not necessary in some new designs. Re-establishment of natural marine habitats by measures such as eco-shoreline can also be explored in the design.

在維港以外適當的地點進行適度填海，是其中一個增加土地供應和建立土地儲備的可行方法，亦是處理剩餘的建築填料和污染海泥的可持續方案，此方案同時帶來三重好處。

一個多世紀以來，填海工程一直是香港創造可用土地的重要方法。截至2011年年初，香港有大約 6%的土地來自填海 (6,824公頃)。

填海技術至今已改進不少，可以幫助減低對海洋環境的影響。例如，一些新設計可以避免在海底清挖淤泥。在設計新海岸線時，也可考慮透過如生態海岸等設施，重新建立海洋生物棲息地。

Triple benefits 3 重好處

- Creating land 填造土地
- Handling public fill 處理建築填料
- Disposing of contaminated sediment 處置污染海泥

Sustainable use of surplus public fill and contaminated sediment

Large cities like Hong Kong generate large amount of public fill and contaminated sediment in redevelopment, infrastructure projects, fairway maintenance works and other construction activities. Existing public fill banks and contaminated mud disposal areas are expected to be full by 2015 to 2020 and 2017 respectively. Reusing surplus public fill in local reclamation would be less costly and more environmentally-friendly than shipping to Taishan for reclamation.

Up to August 2011, about 328 hectares of land, equivalent to 17 nos. of Victoria Park, formed in Taishan. Given the high cost and high carbon emission, the sustainability of this arrangement is questionable.

可持續地利用剩餘建築填料和污染海泥

大城市如香港會產生大量來自重建、基礎建設、航道護理工程和其他建築活動所產生的建築填料和污染海泥。預計現有的建築填料庫和污泥卸置區將分別在2015至2020年及2017年滿溢。將剩餘建築填料用於本地填海，比運往台山填海成本低，而且更環保。

截至2011年8月，已經為台山完成了大約328公頃的填海土地，相當於17個維多利亞公園。這安排的成本和碳排放量都十分高，其可持續性值得商榷。

Public Fill for Different Reclamation 將建築填料用於不同填海工程	Local Reclamation 本地填海	Reclamation in Taishan 台山填海
Additional delivery distance 額外運送距離	-	170 km 公里
Additional diesel consumption per day 額外每日柴油消耗量	-	19,000 litres 公升
Additional carbon emission per day 額外每日碳排放量	-	50 tonnes 公噸
Handling cost (per tonne) 處理費用 (每公噸)	$43	$70

Public Fill
建築填料 (或稱公眾填料)

Public fill is the inert portion of the construction and demolition materials generated from construction activities and is made up of rocks, concrete, asphalt, rubbles, bricks, stones and earth. Construction activities generate about 6 to 7 million tonnes of surplus public fill each year.

由建築活動產生的惰性拆建物料包括岩石、混凝土、瀝青、瓦礫、磚塊、碎石及泥土等統稱建築填料。每年建造業所產生的剩餘建築填料約600至700萬公噸。

Contaminated Sediment
污染海泥

About 2 to 2.5 million m^3 of contaminated sediment is produced annually by dredging of harbour fairways and other marine works.

香港的港口航道疏浚工程和其他海事工程每年產生約200至250萬立方米的污染海泥。

Confined Disposal Facility
密閉污泥處理設施

A Confined Disposal Facility (CDF) is a form of nearshore reclamation that stores contaminated sediment underground in a controlled environment. After CDFs are filled, they are covered with public fill for future land development. This method is widely used overseas such as the US and Singapore.

密閉污泥處理設施(CDF)是一種在近岸位置以填海的方式，將污染海泥存放在受控的地下環境下。當污染海泥存量達到一定水平，設施會被建築填料覆蓋，造成的土地可作未來發展之用。這種做法已於國際間包括美國和新加坡廣泛應用。

Rock Cavern Development
發展岩洞

Previous studies have shown that 64% of Hong Kong is particularly well-suited for rock cavern development. We have been looking for opportunities to make use of this unique geological asset.

In the mid-1990s, a few purpose-built rock caverns were constructed to accommodate government facilities to meet the needs of the community, such as the Island West Refuse Transfer Station and Stanley Sewage Treatment Works. Using caverns to house MTR stations such as the Tai Koo Station is an application closer to our daily life.

Up to now, cavern development has generally been either out of necessity (e.g. railways stations) or only considered where overriding circumstances exist (e.g. Island West Refuse Transfer Station and Stanley Sewage Treatment Works).

©CEDD, HKSAR

Stanley Sewage Treatment Works 赤柱污水處理廠 (1995)

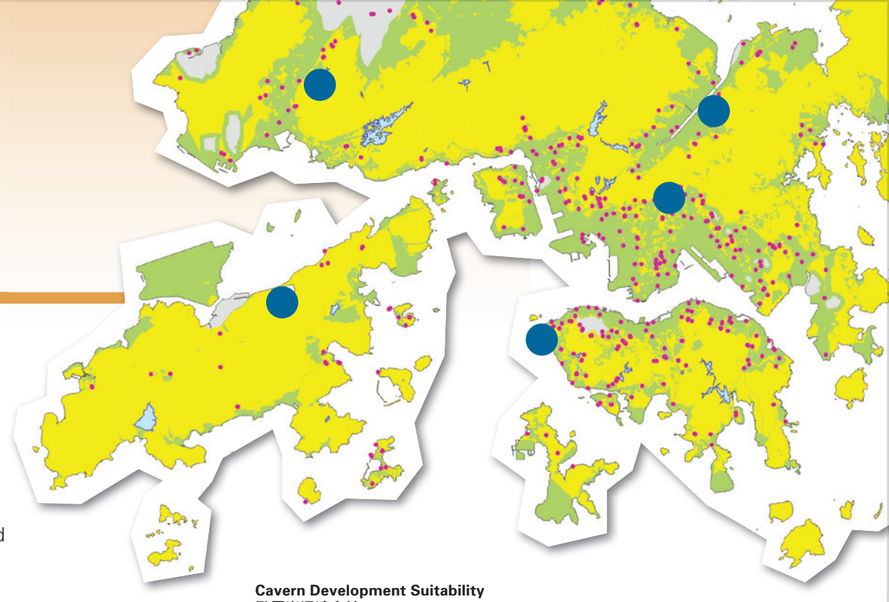
©CEDD, HKSAR

Tai Koo MTR Station 太古地鐵站 (1985)

據以往的研究顯示，香港有64%的地區適合發展岩洞。我們一直都在找尋機會善用這獨特的地質資產。

在90年代中，為了滿足社區需要，若干政府設施，如港島西廢物轉運站、赤柱污水處理廠皆設於特別建造的岩洞。於岩洞內興建地下鐵路車站，如太古站，是我們日常生活中經常接觸到的岩洞應用方式。

到目前為止，發展岩洞一般出於實際需要(如鐵路車站)，或因其他重大原因而須選用岩洞方案(如港島西廢物轉運站及赤柱污水處理廠)。



Innovative Use of Caverns

Cavern development is regarded as a new source of land supply. By relocating suitable government facilities to caverns, the original land as well as the adjacent sterilized land can be released for housing and other uses. This land is a valuable resource, particularly near or in the urban area. A recent example is the relocation of the Western Salt Water Service Reservoirs into cavern to make way for the development of the University of Hong Kong's Centennial Campus.

Moreover, innovative cavern usage, such as columbaria, data centres and laboratories can release valuable land for other uses.

創新思維 發展岩洞

發展岩洞是土地供應的一種新來源。通過將合適的政府設施遷入岩洞，原來以及相鄰受凍結的用地可以騰出作房屋或其他用途。這些土地，特別是位處市區附近的土地，是社會寶貴資源。近期例子包括將西區海水配水庫遷入岩洞，以騰出土地發展香港大學百周年校園。

此外，以創新的方式利用岩洞，如設置骨灰龕、數據中心或實驗室，便可騰出有價值的土地作其他用途。

"Not-in-My-Backyard (NIMBY)" facilities
「厭惡性設施」

©Arup

"Not-in-My-Backyard (NIMBY)" facilities are facilities that are unsightly, emitting unpleasant odours, noisy and disrupting local communities. Putting them inside cavern would minimize adverse impacts on the community.

「厭惡性設施」指有礙觀瞻、散發難聞氣味、發出噪音和影響當地社區的設施。將此等設施放入岩洞可減少對社區的影響。

Guiding Principles / Initial Site Selection Criteria
指導原則 / 初步選址準則

16 Initial Site Selection Criteria
初步選址準則

Public Engagement Exercise to establish site selection criteria
藉公眾參與活動訂定選址準則

	Reclamation outside Victoria Harbour 在維港以外填海	Rock Cavern Development 發展岩洞
Social Harmony & Benefits 社會和諧與效益	• Impact on local community 對當地社區的影響 • Site location and accessibility 新填海區選址及交通便捷程度 • Meeting local needs 能否滿足當地居民需要	• Social benefits at the releasing site upon relocation of existing facilities 當現有設施遷出後，騰出的土地產生的社區效益 • Social impact at the cavern development site 發展岩洞地點對社區的影響
Enhanced Environmental Performance 提高環境效益	• Environmental impacts 對環境的影響 • Environmental benefits 對環境的好處	• Environmental benefits in the vicinity of the releasing site upon relocation of existing facilities 當現有設施遷出後，對附近環境的好處 • Environmental impacts at the cavern development site 發展岩洞地點對附近環境的影響
Economic Efficiency & Practicality 經濟效率與實用性	• Planning flexibility 規劃的靈活性 • Engineering feasibility 工程的可行性 • Cost effectiveness 成本效益	• Engineering feasibility 工程的可行性 • Cost effectiveness 成本效益 • Specific requirements of facility 設施的具體要求 • Suitability of relocation based on existing facility status 現有設施的狀況是否適合搬遷

Public Engagement Activities Programme
公眾參與活動時間表

Events 活動	Date 日期	Location 地點
Roving Exhibitions **巡迴展覽** Please visit our website for opening hours 開放時間以網頁公佈為準	10 - 11 Nov 2011 2011年11月10日至11日	G/F, North Atrium, Olympian City 2,Tai Kok Tsui 大角咀奧海城2期北翼中庭地下
	12 - 14 Nov 2011 2011年11月12日至14日	Thematic Exhibition Gallery, G/F, Hong Kong Heritage Discovery Centre, Tsim Sha Tsui 尖沙咀香港文物探知館地下專題展覽廳
	15 - 20 Nov 2011 2011年11月15日至20日	The Arcade, Kowloon Park, Tsim Sha Tsui 尖沙咀九龍公園拱廊
	5 - 11 Dec 2011 2011年12月5日至11日	G/F, Covered Piazza, Times Square, Causeway Bay 銅鑼灣時代廣場地面展覽廳
	12 - 15 Dec 2011 2011年12月12日至15日	G/F, Central Terminal Building, Central Pier No. 8, Central 中環8號碼頭中央大樓地下
	5 - 8 Jan 2012 2012年1月5日至8日	1/F, Atrium TMT Plaza Phase 1, Tuen Mun 屯門市廣場1期1樓中央廣場 #
	16 - 19 Feb 2012 2012年2月16日至19日	Central Atrium, G/F, Home Square, Sha Tin 沙田新城市中央廣場地下中庭 #
Topical Discussions **專題討論 *** 2:30pm – 5:30pm 下午2時30分至5時30分	Housing and Development - HK's needs and opportunities 房屋和發展 - 香港的需要和機遇 3 Dec 2011 2011年12月3日	Multi-Function Rooms 2A & 2B, 2/F, Youth Outreach Jockey Club Building, Sai Wan Ho 西灣河協青社賽馬會大樓2樓多功能房間2A及2B
	Land Reserve - ensuring timely supply 土地儲備 - 確保適時供應 10 Dec 2011 2011年12月10日	Multi-Function Rooms 2A & 2B, 2/F, Youth Outreach Jockey Club Building, Sai Wan Ho 西灣河協青社賽馬會大樓2樓多功能房間2A及2B
	Reclamation outside Victoria Harbour - a land supply option 在維港以外填海 - 其中一種土地供應模式 7 Jan 2012 2012年1月7日	Chamber 2, InnoCentre, Kowloon Tong 九龍塘創新中心展覽廳二
	Rock Cavern Development - international experience and possible local application 發展岩洞 - 國際經驗和本地應用的可能性 14 Jan 2012 2012年1月14日	Multi-Function Rooms 2A & 2B, 2/F, Youth Outreach Jockey Club Building, Sai Wan Ho 西灣河協青社賽馬會大樓2樓多功能房間2A及2B
Public Forums **公眾論壇** 2:30pm – 5:30pm 下午2時30分至5時30分	4 Feb 2012 2012年2月4日	Auditorium, 9/F, Hong Kong Federation of Youth Group, North Point 北角香港青年協會大廈9樓演講廳
	11 Feb 2012 2012年2月11日	Chiang Chen Studio Theatre, Hong Kong Polytechnic University, Hung Hom 紅磡香港理工大學蔣震劇院
	18 Feb 2012 2012年2月18日	Room 307, Lecture Hall, Caritas Bianchi College of Careers, Tseung Kwan O # 將軍澳明愛白英奇專業學校多用途禮堂307室 #

* Additional sessions may be arranged 場數或會增加 # Date / venue of the event is subject to change 活動日期 / 地點或會有所變動 Please refer to the dedicated website www.landsupply.hk. 詳情以網頁公佈為準。
Registration / Enquiry for Topical Discussions and Public Forums: Online registration (www.landsupply.hk) or by phone (852) 2864 4885 (Monday to Friday from 10:00 am to 6:00 pm).
專題討論和公眾論壇報名/查詢：網上登記www.landsupply.hk或致電 (852) 2864 4885留座（星期一至五上午10時至下午6時）

Your Views are Welcome
歡迎您提供意見

At this stage of the study, we are particularly interested in knowing your views on the following:

- Option of increasing land supply through reclamation outside Victoria Harbour
- Option of increasing land supply through rock cavern development
- Site selection criteria
- Proposed land uses and possible site locations

We will consider your views and, together with findings of the technical studies, work out a set of site selection criteria so that potential sites can be identified. We plan to conduct the Stage 2 Public Engagement exercise in the third quarter of 2012 to solicit views on the potential sites.

Your views are important. Please send us your comments on or before **29 February 2012**.

Please voice your opinions by:

- Sharing your comments online at www.landsupply.hk
- Emailing us at landsupply@cedd.gov.hk
- Sending a fax to (852) 2714 2054
- Sending written comments to 4/F Civil Engineering and Development Building, 101 Princess Margaret Road, Homantin, Kowloon *(Please specify "Enhancing Land Supply Strategy")*

在這階段的研究，我們特別想知道您對下列事項的意見：

- 在維港以外填海增加土地供應
- 發展岩洞增加土地供應
- 選址準則
- 擬議土地用途和可能的選址

我們會將您的意見與技術研究結果一併考慮，藉以訂定選址準則及物色可行的選址。我們計劃於 2012年第三季進行第二階段公眾參與活動，屆時歡迎大家就可行的選址提出意見。

您的意見非常重要。請於**2012年2月29日**前向我們提出。

請循下列途徑發表意見：

- 網上發表意見www.landsupply.hk
- 電郵意見至 landsupply@cedd.gov.hk
- 傳真意見至 (852) 2714 2054
- 請將書面意見寄回九龍何文田公主道101號土木工程拓展署大樓4樓*（請註明『優化土地供應策略』）*