

# 生命泉源

## OUR WATER



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香港獲得廣東省當局  
保證繼續供應東江水。

Hong Kong has been assured  
of a continuing supply of  
Dongjiang water.



▲ 密封式輸水管道系統的其中一段。  
A part of the closed aqueduct.

### 保證供水

憑藉與廣東省當局的良好合作關係，香港獲得保證可於二零零五年餘下時間繼續輸入東江水，消除了因去年整個珠三角地區出現不尋常乾旱現象及雨量下降而引起的憂慮。

與此同時，鑑於香港的需求不斷變化，我們正致力為日後按更適合的條款供水作進一步磋商。

香港七至八成的食水來自東江。二零零四年，輸入本港的東江水共8.08億立方米，水價為每立方米3.085元。

本港龐大的集水網絡及水塘所收集的雨水量，也因乾旱天氣而受到影響，減少了56%。二零零四年降雨量為1739毫米，收集的雨水僅得1.11億立方米，遠低於正常年度的一半。

### 諮詢委員會

「水質事務諮詢委員會」由方鏗太平紳士和水務署署長分別出任正副主席，其餘委員包括政府人員、專業人士、學者及環保團體和地區代表，他們致力監督所採取的措施，防止東江水在輸往水務署濾水廠的途中受到污染。

委員們透過與廣東方面的討論及親身觀察，對各項環保措施，尤其是在保

護東江源頭、其主流和支流水質方面的措施，都感到很滿意。

年內，「水質事務諮詢委員會」及其工作小組曾舉行多次會議，討論改善大廈水質、昂坪廢水循環再用計劃、海水化淡試驗研究，以及公布水質數據和公眾教育等事項。

### 東江水水質

整體而言，自密封式輸水管道系統於二零零三年完工，輸港的東江水避開了石馬河及觀瀾河沿途所有污染源，加上污水轉移等大量其他進行中的工程，水質已有顯著改善。



▲ 水質事務諮詢委員會。  
Advisory Committee on the Quality of Water Supplies.

## Assured Supply

Having a very good cooperation relation with the Guangdong authorities, Hong Kong has been assured of a continuing supply of Dongjiang water for the rest of 2005, easing some concerns arising from the unusually dry spell and low rainfall yield in the entire Pearl River Delta in 2004.

Meanwhile, further negotiations were being held for future supplies on more suitable terms for Hong Kong's changing needs.

Hong Kong obtains some 70 to 80 per cent of its water supply from Dongjiang. For 2004, this amounted to 808 million cubic metres, at a cost of \$3.085 per cubic metre.

Rainfall collected in Hong Kong's own vast network of catchments and impounding reservoirs, also adversely affected by the drought, fell short by 56 per cent. The 1 739 mm of rainfall recorded in 2004 yielded only 111 million cubic metres, much less than half of that of an average year.

## Advisory Committee

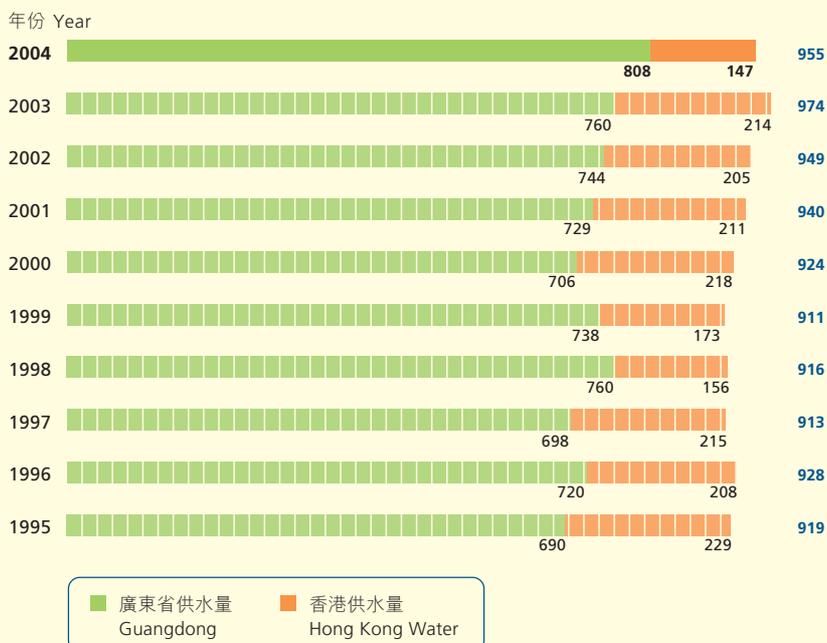
The Advisory Committee on the Quality of Water Supplies (ACQWS), led by Mr. Kenneth Fang, GBS, JP, as Chairman and the Director of Water Supplies as Vice-chairman, and including government officials, individuals from the professional, academic, green groups and district councils, devoted particular attention to overseeing the measures being taken to prevent pollution of the Dongjiang water on the way to the WSD treatment works.

From discussions with their Guangdong counterparts and their own observations, members were impressed by the measures being taken in dealing with the environment generally, and especially in protecting the quality of Dongjiang water at its source as well as on the mainstream and tributaries.

During the year, meetings were held by the ACQWS and its working groups for discussions on such matters as improving the quality of water in buildings, the project for reuse of reclaimed water in Ngong Ping, the pilot desalination plant study, as well as the publication of water quality data and public education.

廣東省對港供水  
ANNUAL QUANTITY OF GUANGDONG WATER SUPPLY

百萬立方米 Million Cubic Metres



認可計劃

越來越多的物業管理公司自願參加「食水系統優質維修認可計劃」，市民對食水水質的關注由此可見一斑。

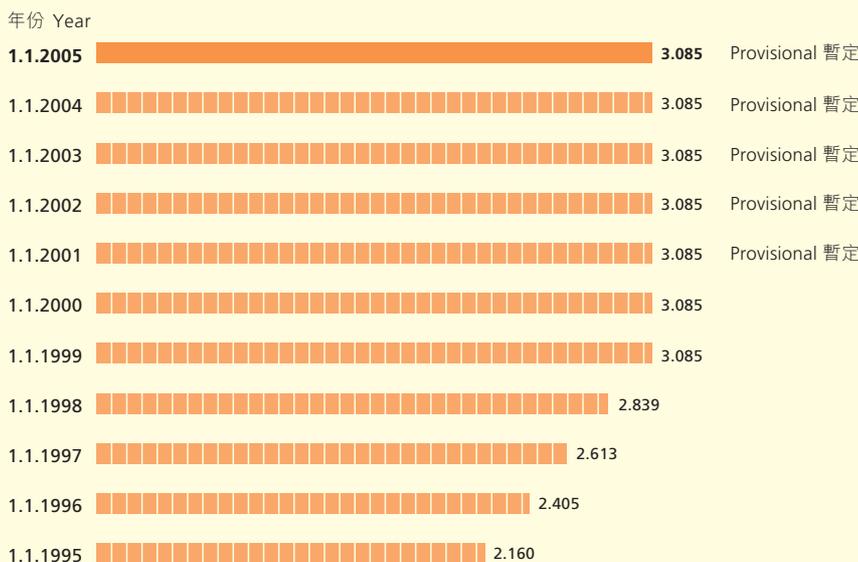
這計劃的宗旨，是要確保從每位用戶水龍頭流出來的食水，均能達到水務署供應食水的優良飲用標準，並符合世界衛生組織發布的指引。這計劃於二零零二年七月推出，經「水質事務諮詢委員會」認可，專責處理樓宇內影響水務署食水純淨度的問題。例如，樓宇內部水管系統保養欠妥善導致食水變黃的現象。

本署已向符合資格負責大廈內部水管系統維修的人士頒授認可證書。

截至二零零五年六月底，我們已頒發 3 185張認可證書，令受惠的住宅樓宇用戶達81.8萬戶左右。

廣東省供水價格  
PRICE OF GUANGDONG WATER

每立方米 per cubic metre



海水沖廁

本署將展開基本工程改善計劃，以提高現有海水沖廁系統的可靠性。

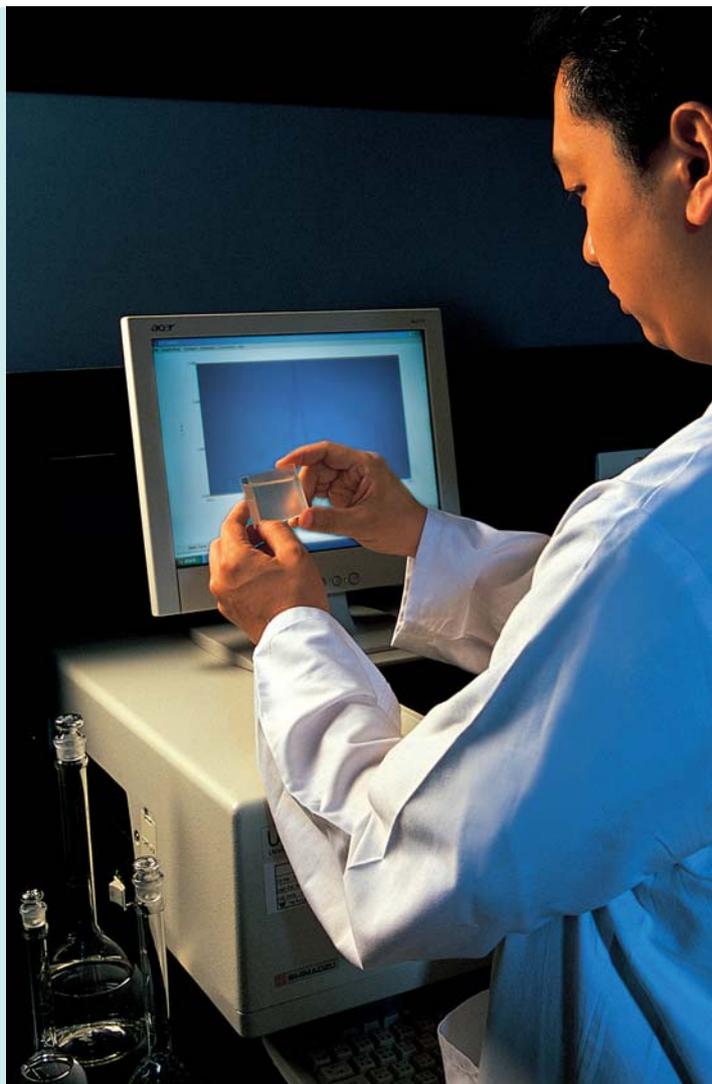
計劃進行的主要項目將包括沙田及西北九龍地區的供水系統改善工程，以及在茶果嶺啟用環形總水管系統。

此外，有關計劃亦研究在西北新界地區建設全新的海水供應系統，應付天水圍新市鎮及屯門東部地區的需要。

全港約有八成人口使用海水沖廁，服務範圍正逐步擴大。我們按照本署訂定的水質指標處理海水，並正為各配水庫加設上蓋，以防海藻滋生和未經批准的人士擅自闖入。



▲ 按照世界衛生組織頒布的指引試驗水質。  
Testing for purity in accordance with World Health Organization guidelines .



▲ 以光譜儀測試水樣本。  
Spectrometric testing of water sample.

## Dongjiang Water Quality

Overall, there has also been a marked improvement in the quality of the Dongjiang water ever since the completion in 2003 of the closed aqueduct system, thereby bypassing all pollution sources along the Shima and Quanlan rivers, together with a great deal of other work undertaken, such as sewage diversion.

## Recognition Scheme

Public interest in the water they consume was evident from the increasing numbers of caretakers who

have been responding to the voluntary Fresh Water Plumbing Quality Maintenance Recognition Scheme.

The scheme aims to ensure that the water emerging from consumers' taps is of the same high potable quality produced by the WSD in conformity with World Health Organization guidelines. The scheme was introduced in July 2002 with the endorsement of the ACQWS to deal with problems affecting the purity of the fresh WSD water, such as

discolouration, that sometimes occur as a result of improper maintenance of internal plumbing systems.

Certificates of Compliance are awarded to those people who are responsible for maintenance of internal plumbing systems.

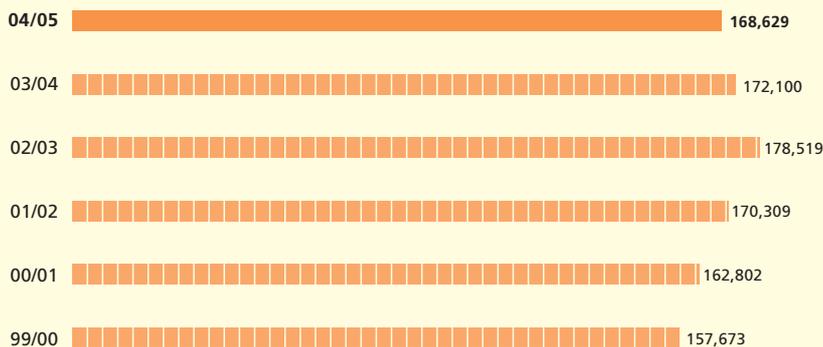
By end June 2005, 3 185 such certificates have been issued, benefiting some 818 000 households in residential buildings.



▲ 大尾篤二號原水抽水站。  
Tai Mei Tuk No.2 Raw Water Pumping Station.

化驗樣本總數  
NO. OF SAMPLES TAKEN

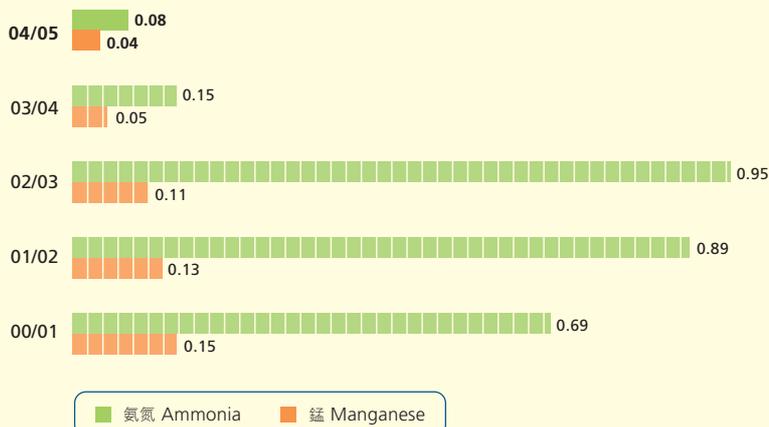
財政年度 Financial Year



東江原水內平均氨氮及錳水平  
AVERAGE AMMONIA AND MANGANESE LEVELS  
IN DONGJIANG WATER

毫克/公升 mg/l

財政年度 Financial Year



水質檢查

為保證飲用水純淨衛生，本署在測試和監察整個濾水過程及供水系統的水質方面，實施了一套嚴緊及周密的計劃，其中包括進行物理學、化學、生物學及細菌學的化驗。

我們也定期在一些選點，以及隨機選出的地點抽取水樣本，按照嚴格的品質控制標準，採用最先進的技術進行化驗。

年內，我們在集水區、進水口、接收東江水的抽水站、水塘、配水庫、濾水廠、分配系統及客戶水龍頭處，共抽取了大約168 000個水樣本。

我們進行密切監察的結果顯示，食水中並無出現賈第蟲及隱孢子蟲。本署將繼續定期於每年六月和十二月在互聯網上公布水質數據，以供公眾參考。

新的「化驗室資訊管理系統」現已投入運作，該系統使運作效率更高，更迅速地進行數據管理，使水質資料得以及時發布。

水資源管理項目

其他進行中的工作及項目包括：

- 繼續與其他部門攜手合作，在非住宅大廈推廣水冷式空調系統的試驗計劃；
- 在屯門建立一個試驗廠，研究運用逆滲透技術進行海水化淡的成本效益，以及其在本港環境下的適合程度。經過一年觀察後，試驗廠將會遷至鴨脷洲，以作進一步測試；及



▲ 本署實驗室的同事盡心盡力進行不同水質的測試。  
Staff working in our laboratories are dedicated to carry out various tests on water quality.



▲ 透過顯微系統密切監測賈第蟲及隱孢子蟲。  
Close monitoring of Giardia and Cryptosporidium parasites through microscopic system.

## Sea Water for Flushing

Capital works improvement projects will be carried out to enhance the reliability of the existing seawater flushing supply systems.

Major projects being planned will include enhancement to the supply systems for Sha Tin and North West Kowloon areas, as well as the implementation of a ring main system for Cha Kwo Ling.

Plans also call for a new salt water supply system for North West New Territories to serve the Tin Shui Wai New Town and Tuen Mun east areas.

Seawater is used by about 80 per cent of the population for toilet flushing and is being extended to other areas. The seawater is treated according to WSD quality objectives and its service reservoirs are being covered to prevent algae growth and unauthorized access.

## Checking on Quality

Stringent tests and monitoring are carried out frequently to ensure the purity of our potable water. These procedures extend throughout the treatment process and supply system, covering physical, chemical, biological and bacteriological analyses.

Samples are regularly taken from selected points and at random for analyses with the use of the most advanced technology and under strict quality control.



位於屯門的海水化淡試驗廠正進行實驗運作。  
The desalination pilot plant at Tuen Mun was put to trial operation.



During the year, some 168 000 such samples were taken from catchments, intakes, pumping stations receiving Dongjiang water, impounding and service reservoirs, water treatment works, distribution systems, and consumers' taps.

Close monitoring showed no sign of the presence of any Giardia and Cryptosporidium parasites. As usual, water quality data were published on the internet regularly in June and December for information of the public.

A new Laboratory Information Management System has been put in use for more efficient operation and data management and timely dissemination of water quality information.

## Water Resources Management Projects

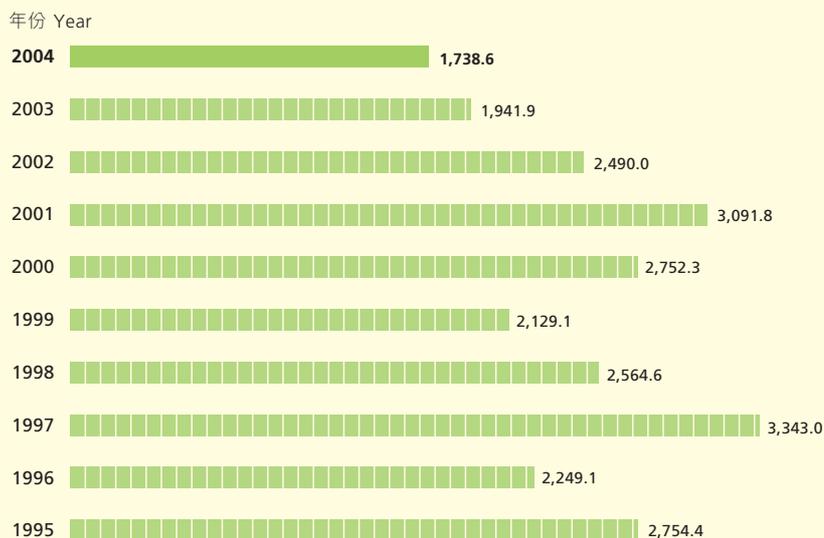
Various other works and projects undertaken include:

- Cooperation with other departments continues on the pilot scheme for wider use of water-cooled air conditioning for non-domestic use;
- Commissioning of a pilot plant in Tuen Mun to study the cost-effectiveness of desalination of seawater by the use of Reverse Osmosis (RO) technology and its suitability under local conditions. After a year of observation, it will be moved to a site at Ap Lei Chau for further testing; and

## 降雨量及集水量 ANNUAL RAINFALL AND YIELD

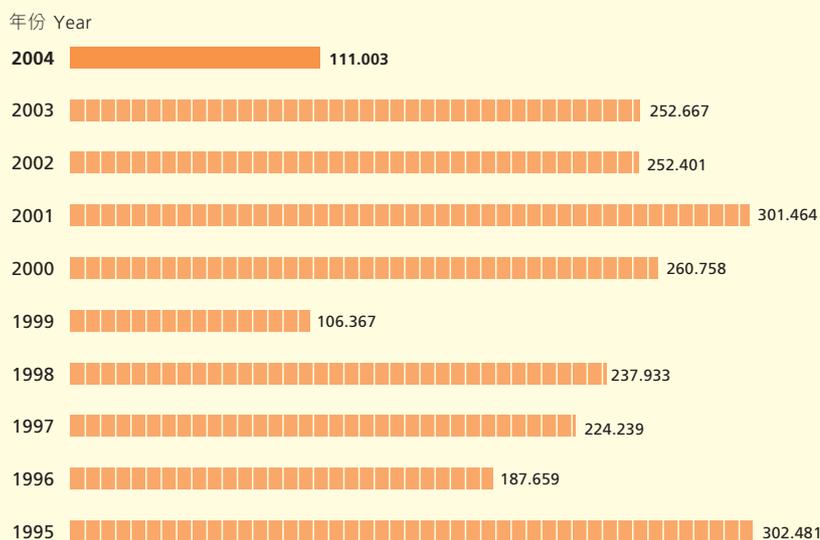
### 降雨量 ANNUAL RAINFALL

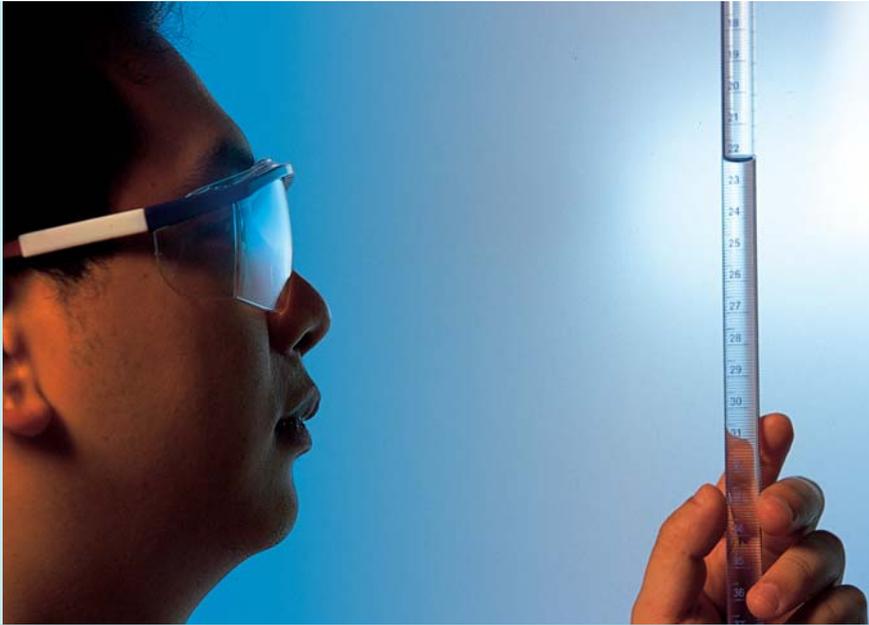
毫米 Millimetres



### 集水量 ANNUAL YIELD

百萬立方米 Million Cubic Metres





▲ 實驗室員工正量度容量。  
Laboratory staff at measurement work.

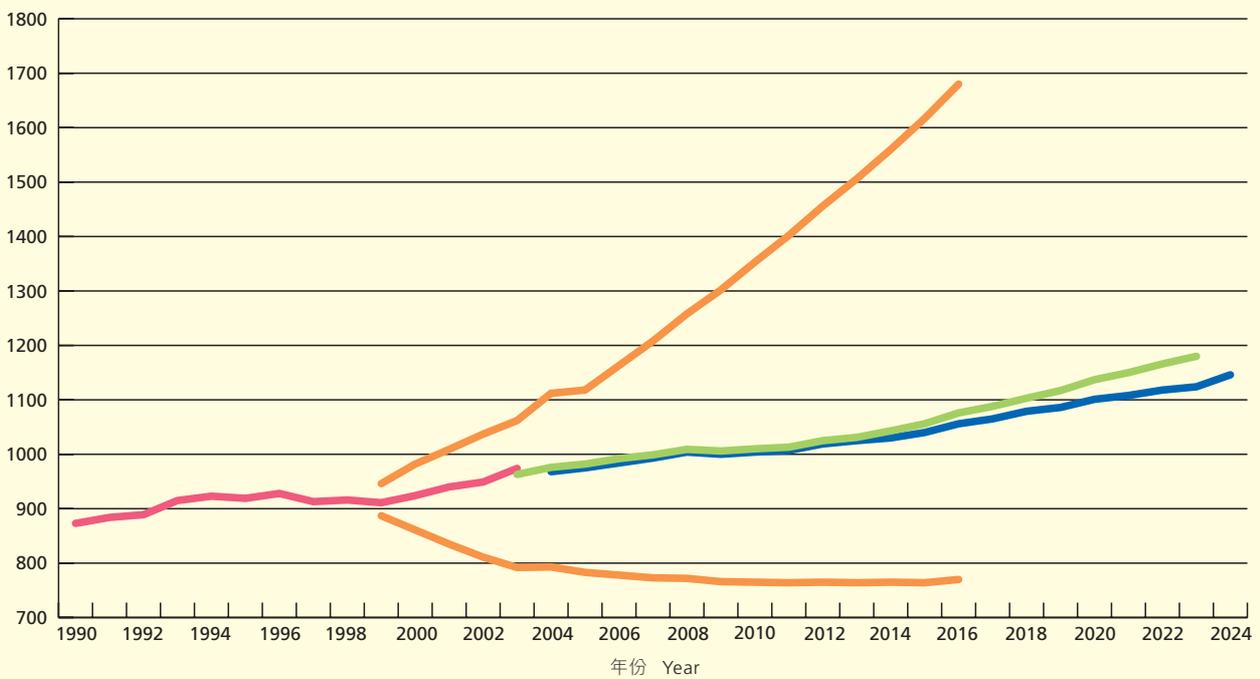
- 作為政府發起的「綜合水資源管理政策」的一部分，本署已推行一項試驗計劃，在昂坪使用經處理的廢水作沖廁和灌溉用途，以推廣節約用水及增加水資源。

### 供水

本港幾乎家家戶戶都獲得自來水供應，但仍有少數偏遠地區的市民依賴井水和溪水生活，本署將繼續努力使全港市民均享用到自來水。

## 2004-2024年食水需求預測 FRESH WATER DEMAND FORECAST PROJECTION 2004-2024

百萬立方米 Million Cubic Metres



■ 實際用量 Actual Consumption    
 ■ 1999年預測的上下限 1999 Forecast Upper & Lower Bounds    
 ■ 2004年預測 2004 Forecast    
 ■ 2003年預測 2003 Forecast



### 全年食水用水量 (按用水類別劃分) ANNUAL WATER CONSUMPTION (BY CATEGORIES)

百萬立方米 Million Cubic Metres

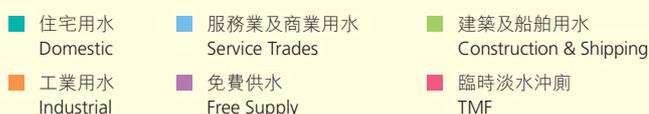
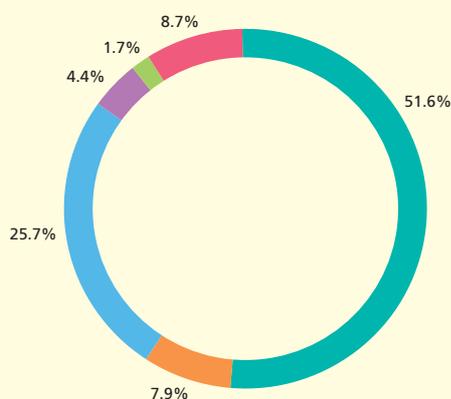
年份 Year	住宅用水 Domestic	工業用水 Industrial	服務業及 商業用水 Service Trade	免費供水 Free Supply	建築及 船舶用水 Construction & Shipping	臨時 淡水沖廁 TMF	食水 總用水量 Total Fresh Water Consumption
<b>2004</b>	<b>493</b>	<b>75</b>	<b>245</b>	<b>42</b>	<b>16</b>	<b>84</b>	<b>955</b>
2003	511	77	234	52	18	82	974
2002	479	82	241	44	24	79	949
2001	468	83	242	43	27	77	940
2000	447	91	241	43	28	74	924
1999	441	95	235	43	24	73	911
1998	436	104	232	41	25	78	916
1997	419	120	228	40	28	78	913
1996	406	137	229	44	28	84	928
1995	383	145	221	44	23	103	919

註：以上所列的用水量，均包括流失的水量在內。

Notes : All consumption figures include unaccounted-for water. TMF – Temporary Mains Water for Flushing

### 2004年全年食水用水量 (按用水類別劃分) ANNUAL WATER CONSUMPTION (BY CATEGORIES) 2004

百分比 Percentage



- A pilot scheme on the use of water reclaimed from treated sewage effluent for toilet flushing and controlled irrigation at Ngong Ping, as a part of the Total Water Management programme initiated by the government, to promote conservation and to increase water resource.

### Water Distribution

Almost all the people of Hong Kong receive piped fresh water and effort continues to bring it also to the remaining few who live in the remotest areas and rely on wells and stream water.

