水務署
WATER SUPPLIES DEPARTMENT

啟迪傳承 煥發新知
Living the Legacy; Exploring New Frontiers

年報 **Annual Report** 2012/13


TREATMENT WORKS MAIN CONTROL ROOM

煥發新知
啟迪傳承

Living the Legacy; Exploring New Frontiers

信念 Values

以客為本
Customer satisfaction

確保質量
Reliability

重視環保
Environmental awareness

竭盡所能
Dedication

精益求精
Improvement

同心協力
Teamwork

使命 Mission

以最符合成本效益的方式為客戶提供可靠充足的優質食水及海水。
To provide a reliable and adequate supply of wholesome potable water and sea water to our customers in the most cost-effective way.

提供以客為本的服務。
To adopt a customer-oriented approach in our services.

維持及激勵一支能幹、高效率及完全投入的工作隊伍，以服務社群。
To maintain and motivate an effective, efficient and committed workforce to serve the community.

時刻關注對保護環境方面須負的責任。
To remain conscious of our responsibilities towards the environment.

善用資源和科技，力求不斷改善服務。
To make the best use of resources and technology in our striving for continuous improvement in services.

全年回顧 Year in Review

部門總覽
Corporate Profile

香港特別行政區政府水務署負責開拓水源，並維持香港的食水及鹹水供應。這涉及每天向超過715萬人口提供256萬立方米食水，食水取自香港山坡上的廣闊集水區和中國南部的東江，經處理後達到世界安全標準，並儲存在配水庫網絡，以作隨時分配。鹹水亦經收集及處理，分配至大部分住宅、商業及工業大廈的沖廁系統，以減少整體的食水需求。本署亦開發替代水源，例如海水化淡、再造水和雨水收集等，並監督有關替代水源的發展。

我們達到客戶的期望，並在所有工作範疇中推廣強而有效的節約用水政策。水源是香港成功及繁榮不可或缺的元素，因此我們會繼續分析用水需求及優化供水，以滿足即時及長遠的規劃需要。

The Hong Kong SAR Government's Water Supplies Department is responsible for sourcing and maintaining the city's supplies of fresh and salt water. This involves pumping 2.56 million cubic metres of fresh water daily to over 7.15 million people. Fresh water is taken from Hong Kong's vast hillside catchments and from the Dongjiang in southern China, treated to global safety standards and stored in a network of reservoirs ready for distribution. Salt water is also gathered, treated and distributed to toilet flushing systems used in the majority of residential, commercial and industrial buildings, reducing the overall demand for fresh water. The Department also initiates and oversees the development of alternative sources of water, such as desalination, recycled water and rain harvesting.

We meet the expectations of customers and promote strong and effective water conservation policies across our business. Water is integral to Hong Kong's success and prosperity. With this in mind, we continue to analyse needs and optimise supplies to meet both immediate and long term planning scenarios.

主要統計數字（截至二零一三年三月三十一日）
Principal Statistics (as at 31.3.2013)

* *包括敷設於私人街道的水管。*
* *Water mains laid in private streets are included.*

水塘數目 No. of Impounding Reservoirs	17	個 nos.	總容量 Total Storage Capacity	586.05	百萬立方米 million cubic metres (mcm)
濾水廠數目 No. of Water Treatment Works	21	個 nos.	總日產量 Total Daily Treatment Capacity	5.02	百萬立方米 million cubic metres (mcm)
食水抽水站數目 （包括食水和原水抽水站及泵房） No. of Fresh Water Pumping Stations (including both fresh & raw water pumping stations and pump houses)	153	座 nos.	總抽水日產量 Total Daily Pumping Capacity	31.23	百萬立方米 million cubic metres (mcm)
海水抽水站數目 No. of Salt Water Pumping Stations	31	座 nos.	總抽水日產量 Total Daily Pumping Capacity	1.86	百萬立方米 million cubic metres (mcm)
食水及海水抽水站數目 No. of Combined Fresh Water & Salt Water Pumping Stations	7	座 nos.	總抽水日產量 Total Daily Pumping Capacity	0.29	百萬立方米 million cubic metres (mcm)
食水配水庫數目 No. of Fresh Water Service Reservoirs	170	個 nos.	總容量 Total Storage Capacity	4.18	百萬立方米 million cubic metres (mcm)
海水配水庫數目 No. of Salt Water Service Reservoirs	50	座 nos.	總容量 Total Storage Capacity	0.24	百萬立方米 million cubic metres (mcm)
食水管長度 （直徑20毫米至2 400毫米） Length of Fresh Water Mains (20 mm to 2 400 mm diameter)	6 627	公里* kilometres (km)*	海水管長度 （直徑20毫米至1 200毫米） Length of Salt Water Mains (20 mm to 1 200 mm diameter)	1 680	公里* kilometres (km)*

水務署組織圖
WSD Organisation Chart

馬利德工程師, SBS, JP
Ir MA Lee Tak, SBS, JP
水務署署長
Director of Water Supplies

吳孟冬工程師, JP
Ir NG Mang Tung, Bobby, JP
水務署副署長
Deputy Director of Water Supplies

黃國雄工程師
Ir Wong Kwok Hung
助理署長／客戶服務
Assistant Director/ Customer Services

錢柱森工程師, JP
Ir CHIN Chu Sum, JP
助理署長／發展
Assistant Director/ Development

內部稽查組
Internal Audit Section

- 一般行政組 General Administration Section
- 合約顧問組 Contract Advisory Unit
- 公共關係組 Public Relations Unit

客戶服務科
Customer Services Branch

- 客戶服務部 Customer Services Division
- 客戶帳務組 Customer Accounts Section
- 技術支援組 Technical Support Unit

發展科
Development Branch

- 發展(1)部 Development (1) Division
- 發展(2)部 Development (2) Division
- 水質科學部 Water Science Division

李光明先生
Mr LEE Kwong Ming
助理署長／
財務及資訊科技
Assistant Director/Finance
& Information Technology

汪學成工程師
Ir WONG Hok Sing
助理署長／機械及電機
Assistant Director/
Mechanical
& Electrical

梁永廉工程師
Ir Leung Wing Lim
助理署長／設計及建設
Assistant Director/
New Works

黃仲良工程師
Ir Wong Chung Leung
助理署長／運作
Assistant Director/
Operations

李尹璇先生
Mr LI Wan Suen, Clement
部門秘書
Departmental Secretary

財務及資訊科技科 Finance and Information Technology Branch

- 財務部 Finance Section
- 物料供應組 Supplies Section
- 資訊科技及數據管理組 Information Technology & Data Management Unit
- 資訊科技工程計劃管理及覆檢小組 IT Project Management & Review Unit

機械及電機科 Mechanical and Electrical Branch

- 保養部 Maintenance Division
- 工程計劃部 Projects Division
- 機電行政組 M & E Administration Unit
- 安全組 Safety Unit
- 訓練組 Training Unit

設計及建設科 New Works Branch

- 建設部 Construction Division
- 顧問工程管理部 Consultants Management Division
- 設計部 Design Division
- 工程管理部 Project Management Division

運作科 Operations Branch

- 香港及離島區 Hong Kong and Islands Region
- 九龍區 Kowloon Region
- 新界東區 New Territories East Region
- 新界西區 New Territories West Region
- 運作組 Operations Section
- 斜坡安全組 Slope Safety Section

部門行政部 Departmental Administration Division

大事紀要 Events in Brief

二零一二年

四月

諮詢委員會擴大工作範疇

為回應公眾日益殷設的期望，供水水質事務諮詢委員會的工作範疇擴大至水資源事宜。有關委員會現已改稱為「水資源及供水水質事務諮詢委員會」。

2012

APRIL

Advisory Committee's Scope of Work Expanded

In response to growing public expectations, the role of the Advisory Committee on the Quality of Water Supplies was expanded to include water resources-related issues. The Committee has been renamed as the 'Advisory Committee on Water Resources and Quality of Water Supplies'.

六月

頒發節約用水比賽獎項

本署舉辦的節約用水比賽收到超過450份作品，各提出具創意的家居節約用水建議。比賽設有公開組和學生組，最終頒發多個獎項及獎狀，以表揚得獎的節約用水建議。

JUNE

Water Conservation Competition Awards

More than 450 entries in the Department organised event focused on creative water saving ideas for homes. The competition covered an open category and a student category and resulted in a range of awards and citations honoring key water conservation messages.

龍舟賽大放異彩

水務署龍舟隊在六月舉辦的城門河沙田龍舟競賽ANZ澳盛銀行盃中榮獲季軍，並承此勢頭，於一個月後在中華電力贊助的龍舟友誼盃中奪得中電友誼盾。

Dragon Boat Successes

The Water Supplies Department's dragon boat team came third in the ANZ Cup at the Sha Tin Dragon Boat Race held on the Shing Mun River in June. The Department followed up this a month later by taking the CLP Friendship Shield at the CLP Power sponsored Dragon Boat Friendship Cup.

七月

頒發保護水資源大使證書

在柴灣舉行的頒獎典禮上，有近600名學生獲頒發保護水資源大使證書，以表揚他們為推廣節約用水作出的努力；新引入的校際獎項則用以嘉許得獎學校在節水工作方面所作出的貢獻。

JULY

Certificates presented to Water Conservation Ambassadors

At a ceremony held in Chai Wan, almost 600 students were presented with Water Conservation Ambassador Certificates in recognition of steps they have taken to encourage water savings. The work of the schools themselves in this area was recognized with the introduction of inter-school awards.

八月

大廈優質食水認可計劃推行10週年

「大廈優質食水認可計劃」已推行10週年，因此向住宅、商業和工業大廈、醫院、酒店、學校、大學，以及公共機構的物業業主、業主立案法團、物業管理公司和管理代理人頒發證書。有關計劃頒發的金、銀、藍證書數目各超過1 000張。

AUGUST

Quality Water Recognition Scheme for Buildings Celebrates 10 years

The Quality Water Recognition Scheme for Buildings celebrated its 10th anniversary with the presentation of certificates to property owners, owners' corporations, property management companies and management agents for domestic, commercial and industrial buildings, hospitals, hotels, schools, universities and public institutions. The number of gold, silver and blue certificates awarded under the scheme has each reached more than 1 000.

九月

在水務講座上發表廣泛意見

在有關水質及供水服務的水務講座上，公眾特別就三大主題交換意見，包括打擊非法取水、推行「大廈優質食水認可計劃」，以及設置孖水缸供水系統，即在清洗其中一個水缸時，另一個水缸仍能維持供水的系統。出席者在講座上作出了有用的交流。

SEPTEMBER

Broad Views Expressed at Public Seminar

A public seminar aimed at exchanging views on water quality and supply services was held with particular focus on three themes – combating unauthorized water use, the Quality Water Recognition Scheme for Buildings and twin tanks that offer an uninterrupted supply during tank cleansing. Attendees provided useful exchanges at the seminar.

十月

吸引年青人參與大型節約用水活動

為配合世界水質監測挑戰，本署在船灣典禮上舉行「全情『頭』入齊慳水Cap帽設計比賽」。是次比賽開放給小一至中三學生參加，鼓勵年青人以「珍惜點滴為未來」的主題設計運動帽。此外，有120名中學生參加世界水質監測挑戰，使用大會提供的測試用品測試船灣淡水湖的水質。

OCTOBER

Key Water Saving Activities Engage Youngsters

A design competition to launch sports caps bearing a 'save water' design theme was launched in tandem with World Water Monitoring Challenge at a Plover Cove ceremony. The design competition, open to primary one to secondary three students encouraged youngsters to design sports caps with the theme 'Save Drops for Tomorrow". Separately, the World Water Monitoring Challenge involved 120 secondary schools students. Students used test kits to check the quality of water at Plover Cove Reservoir.

大事紀要
Events in Brief

十一月

諮詢委員會造訪東江

水資源及供水水質事務諮詢委員會成員到訪廣東，以視察東江供水系統。有關成員留意到廣東當局引入多項措施，繼續重點保護東江水，以免東江集水區受到污染。

新加坡代表團進行技術訪問

新加坡供水代表團訪港兩天，就我們的「更換及修復水管計劃」作交流，訪問內容包括水務講座及實地視察。

NOVEMBER

Advisory Committee Visits Dongjiang

Members of the Advisory Committee on Water Resources and Quality of Water Supplies visited Guangdong to inspect the Dongjiang water supply system. Members noted that the Guangdong authorities have continued to focus on the protection of the Dongjiang water, introducing measures to prevent pollution across the river's catchment.

Technical Visit by Singapore Delegates

Singapore water supply delegates spent two days in Hong Kong studying our water mains replacement and rehabilitation programme. The visitors' programme included presentations by staff and project site visits.

十二月

馬鞍山濾水廠開放日大受歡迎

馬鞍山濾水廠在開放日接待超過1 000名訪客，由本署義工帶領訪客參觀水質監測過程。有關展覽介紹一系列的主題，包括水質科學、水錶運作，以及「更換及修復水管計劃」。

DECEMBER

Open Day at Ma On Shan Water Treatment Works Proves Popular

More than 1 000 people visited the Ma On Shan Water Treatment Works during its open day. Departmental volunteers guided visitors on a technical tour to show the water quality monitoring process. Exhibitions highlighted a range of topics including water science, the use of water meters and the replacement and rehabilitation programme of water mains.

二零一三年

一月

公佈家居用水調查結果

本署公布家居用水調查的主要結果，經分析市民的用水模式後，訂定針對性措施，鼓勵市民加倍努力節約珍貴的水資源。

2013

JANUARY

Domestic Water Consumption Survey Findings Revealed

The Department released the key findings of the Domestic Water Consumption Survey and formulated core measure after analyzing the public's consumption patterns, encouraging greater efforts to conserve precious water resources.

二月

批出擴建大埔設施的大型合約

本署批出價值32.52億元的合約，以擴建大埔濾水廠及其附屬原水及食水輸送設施。該合約為本署歷來批出的最大型合約，旨在把濾水廠的每日濾水量增加一倍。有關工程將於二零一七年年中完成。

FEBRUARY

Major Contract Awarded for Expansion of Tai Po Facility

A contract valued at $3.252 billion was awarded for the expansion of the Tai Po Water Treatment Works and its ancillary raw water and fresh water transfer facilities. The contract is the largest awarded by the Department and aims to double daily treatment capacity at the plant. Work is due to be completed by mid-2017.

三月

水資源教育中心在旺角開幕

水資源教育中心在本署的旺角辦事處開幕，該處為中心的臨時地址。該中心旨在加深年青人對節約用水的認識，從而培養終身的節水習慣。該中心最終會搬遷至新界西辦事處的永久基地。

MARCH

Water Resources Education Centre Opens in Mong Kok

A Water Resources Education Centre was opened at the Department's Mongkok regional office. The centre, currently in its temporary location, aims to enhance water conservation knowledge among young people leading to life-long water saving habits. The Centre will eventually move to a permanent base at the New Territories West office.

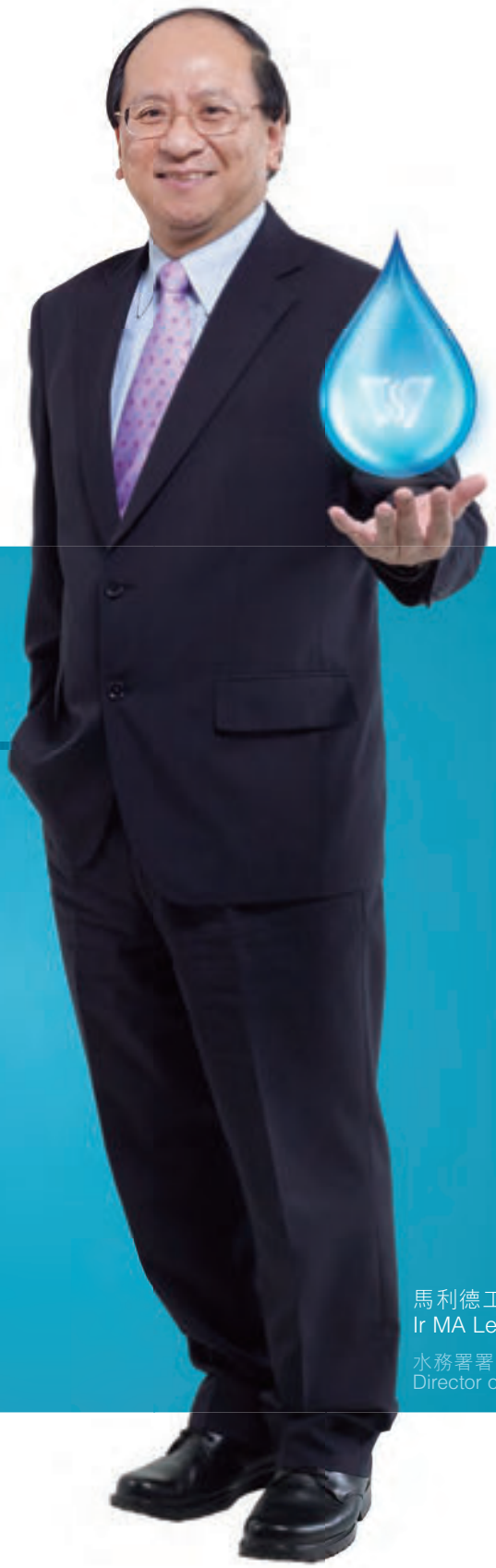
「水的巡禮」展覽

本署在香港科學館舉辦一個與水相關的展覽，作為由水資源及供水水質事務諮詢委員會舉辦「水的巡禮」講座系列的一部分，展覽期至二零一三年七月。

"All About H2O" Exhibition

An exhibition on water related topics was held at the Hong Kong Science Museum as part of the "All About Water" lecture series presented by the Advisory Committee on Water Resources and Quality of Water Supplies. The exhibition ran through to July 2013.

署長的話
Director's Statement



啟迪傳承 煥發新知
Living the Legacy; Exploring New Frontiers

本人五年前接任水務署署長時，已認定供水領域承受著兩大考驗：氣候變化和與日俱增的用水需求。這些考驗並非本港獨有，而是全球都要面對的問題，亦是我們在籌劃香港的未來增長及發展時，需要考慮的基本要素。

When I took up the position of Director of Water Supplies five years ago, I identified two key challenges we face in terms of water provision – climate change and an increasing demand for water. These factors are not unique to Hong Kong; they are challenges faced across the globe. As we map Hong Kong's future growth and development, they remain our primary considerations.

馬利德工程師, SBS, JP
Ir MA Lee Tak, SBS, JP

水務署署長
Director of Water Supplies

管理用水需求

過去兩年，我們積極調整及管理供水，準確滿足用水需求，同時通過廣泛推廣節約用水，成功降低香港的食水耗用量。此外，社會整體對節約用水的意識及投入程度亦迅速提高。

本署通過積極的更換及修復老化水管計劃和改良的測漏技術，成功減少總長8 000多公里水管的供水系統內的食水流失量。我們已實施新的需求管理措施，並繼續尋求創新方案，以節約用水及控制未來用水需求。

截至目前為止，為改善3 000公里老化水管功能而訂定的「更換及修復水管計劃」已完成超過70%，並會如期於二零一五年大致竣工。水管爆裂的現象已顯著減少，目前我們正籌備下一階段的更換及修復工作。

MANAGING DEMAND

Over the past two years, by proactively adjusting and managing our supplies of water to precisely meet demand and through extensively promoted conservation measures, we have reduced Hong Kong's fresh water consumption levels. There has also been a surge in community-wide awareness and commitment to the need to conserve precious water supplies.

At departmental level, we have limited water loss across the more than 8 000 km of water mains in our distribution system through an aggressive replacement and rehabilitation programme applied to aging water mains and by using improved leak detection technology. New demand management measures have been implemented and we have continued to look at innovative ways to both save water and curb future demand.

The replacement and rehabilitation programme which has improved the service delivery of 3 000 km of aged pipelines to date is now over 70 per cent complete and remains on track for substantial completion in 2015 as scheduled. Pipeline bursts have been significantly reduced and we are now taking steps to prepare for the next phase of replacement and rehabilitation work.

署長的話
Director's Statement

1 **馬利德工程師**, SBS, JP
Ir MA Lee Tak, SBS, JP
水務署署長
Director of Water Supplies

2 **吳孟冬工程師**, JP
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水務署副署長
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3 **黃國雄工程師**
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助理署長／客戶服務
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5 **李光明先生**
Mr LEE Kwong Ming
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Ir WONG Chung Leung
助理署長／運作
Assistant Director/Operations

9 **李尹璇先生**
Mr LI Wan Suen, Clement
部門秘書
Departmental Secretary

打造節約用水的文化

採取積極的節水措施逐漸成為用水量減少的主要因素。國際人均用水量平均約為每日110公升，而香港目前的人均用水量平均約為每日130公升。為降低用水量，我們於今年三月推行運動，鼓勵用戶每人每日節約10公升食水。達到這個目標並不困難，只要用點心思。在個人日常生活中，縮短淋浴時間及小心控制水龍頭出水量就是一些比較顯著的途徑。我們已推出「齊來慳水十公升」的先導計劃，有1 000人參與，日後這計劃會推廣至全港市民。當每人每日成功節約首10公升水，我們就會推出計劃的第二步，我有信心每人將會再多節約10公升水。

為擴闊消費者對水資源的認識，我們與多個環保團體和非政府組織建立緊密的合作關係，旺角水資源教育中心就是典型的合作例子。該中心提供空間給環保團體和非政府組織擺設展品，讓訪客認識本港及全球的水資源。展品主要展示過往香港水源短缺的問題，以及我們為了讓香港享有今天這個相對穩定的用水環境而採取的方案。

我們舉辦了兩個流動展覽，在商場和屋村傳播「珍惜水源」的信息，並向物業管理公司、學校、各類機構和家庭傭工派發單張和海報，以宣傳節約用水。現時的水費單亦印有節約用水的提示。

CREATING A CULTURE OF CONSERVATION

Active conservation measures are emerging as a major contributing factor towards savings in water use. The international average for water use is around 110 litres per person per day. Each Hong Kong resident currently consumes on average 130 litres of water per day. To reduce consumption levels, we launched a campaign in March this year to encourage all consumers to save 10 litres of water a day per person. This is not a difficult target; it just requires some thought. Cutting time spent in a shower and careful control of flow from water taps are obvious pathways to daily personal savings. The campaign "Let's Save 10 L Water" has been launched initially as a pilot scheme among 1 000 individuals and will eventually be rolled out across the community. Once we have achieved the initial 10 litre saving, we plan to unveil a second scheme which I am confident will result in a further 10 litre water saving per person.

To successfully broaden consumer understanding of water resources we have developed close partnerships with green groups and non-government organisations. The Water Resources Education Centre in Mongkok is an example of this co-operation with space provided for green groups and non-government organisations for their exhibits. The Centre provides its visitors both local and global perspectives of water as a resource. Exhibits highlight the challenges of water shortages faced by Hong Kong in the past and the solutions we have developed to give us the relatively stable water situation we enjoy today.

Two mobile exhibitions take a "Cherish Water" message to shopping malls and housing estates and leaflets and posters on water conservation have been distributed to property management companies, schools and other institutions and domestic helpers. Water bills now also contain reminders about water savings.

署長的話
Director's Statement

確保長期供水

政府於二零零八年發布的「全面水資源管理策略」概述水資源的管理，要求我們小心平衡用水的供求情況。我們在管理用水需求方面已有所進步，並於過去12個月在確保食水及鹹水的即時及長期供應方面取得重大進展。有關供水量已考慮香港的預計人口增長和城市發展模式，以及珠三角洲的日後用水需求。

目前香港約80%的食水直接來自東江，我們將於明年與廣東當局在既定確保總體長期供水的協議下，商討另一份的三年協議，詳細涵蓋水價、可提高的供水量，以及水質標準。

儘管已確保獲得東江水的供應，我們仍關注到珠三角洲因經濟增長而帶來與日俱增的用水需求。除香港外，東江水亦為河源、惠州、東莞、深圳和廣州等華南城市近四千萬人提供用水。

SECURING LONG TERM SUPPLIES

Managing water resources, as outlined in the Government's Total Water Management strategy released in 2008, requires us to carefully balance supply and demand. Whilst we have moved forward in terms of managing demand for water, we have also made tremendous progress in the past 12 months in terms of securing fresh and salt water supplies for both the immediate and long term. These supplies take into account Hong Kong's predicted population growth and patterns of development as well as future demands of the Pearl River Delta.

Currently about 80 per cent of Hong Kong's fresh water comes to us directly from the Dongjiang River through an agreement that broadly secures supplies for the long term. We will start negotiations next year with the Guangdong authorities on a further detailed three-year agreement covering the price, volume of water that we can uplift and its quality standards.

Whilst we are guaranteed water from the Dongjiang River, we remain conscious of the growing level of demand for water to drive the Pearl River Delta's economic growth. In addition to Hong Kong, the Dongjiang River supports almost 40 million people in the southern Chinese cities of Heyuan, Huizhou, Dongguan, Shenzhen and Guangzhou.

目前，雨水可滿足本港約20%的食水需求。為配合有關需求，我們亦積極開拓其他水源計劃，例如污水重用和雨水收集等。重用再造水的試驗計劃亦逐步見到成效。再造水屬於非飲用水，其最終用途一般包括屋苑清潔、景觀美化和灌溉。我們亦規劃及初步設計佔地10公頃的將軍澳海水化淡廠，項目進展良好。目前的研究一完成，我們便會進行公眾參與活動，並準備向立法會申請撥款。該海水化淡廠計劃於二零二零年左右投入服務，初步生產的食水量能滿足約5%的食水需求。海水化淡廠全面運作後，所生產的食水量將能滿足10%的食水需求。

與此同時，我們供應海水給本港超過80%人口作沖廁用途，並提升及擴建相關海水抽水站及管道基建的設施。

邁向未來

上述各項措施讓我們逐漸提高自給的能力。就此，進行精心長期的規劃是十分重要的，因此我們正與其他政府部門和學界合作，以優化用水需求預測。在過去12個月，我們與有關部門緊密合作，研究住宅需求和相關用水要求的情況。在長遠規劃方面，繼續進行污水再造及構思興建第二間海水淡化廠是我們要鄭重考慮的事宜。

世界各國均個別及共同研究各項技術和有效方法，以應付在水資源方面不斷增加的壓力。在香港，我們與新加坡、馬來西亞及內地多個城市的代表分享最佳做法，亦與私營機構和香港及海外大學緊密合作，進行重要的研發項目，為香港特有的問題提供創新的解決方案。我們內部研發的方案包括利用斑馬魚作檢測水質異常情況的生物感應器，以及利用水力發電和波浪產生能源，供濾水廠及抽水站日常運作之用。此等方案均由我

Currently about 20 per cent of Hong Kong's fresh water needs are met through rainfall. To complement this, we are also actively exploring other water source schemes such as grey-water reuse and rainwater harvesting. Pilot schemes for the reuse of reclaimed water are producing positive results. General end uses for this non-potable water include cleansing in housing developments, landscaping and irrigation. We have also made good progress on the planning and initial design for a desalination plant to be located on 10 hectares of land at Tseung Kwan O. Once the current study is completed, we will undertake a public engagement exercise and prepare to put our case to the Legislative Council for funding. The plant is planned to be commissioned around 2020, producing initially a volume of fresh water equivalent to about 5 per cent of our demand. Once fully operational, it will be capable of producing the equivalent to 10 per cent of fresh water demand.

Meanwhile, we are piping seawater for toilet flushing to over 80 per cent of Hong Kong's population and the necessary seawater pumping stations and pipeline infrastructure are being upgraded and expanded.

MOVING INTO FUTURE

By degrees, these measures add up to a higher level of self sufficiency. However, careful long term planning is important and we are collaborating with Government departments and academia to refine forecast requirements. Over the past 12 months, we have worked closely with relevant departments on scenarios covering housing needs and associated water requirements. Ongoing water reclamation and a potential second desalination plant are important considerations in long term planning scenarios.

Countries are working individually and collaboratively on technologies and efficient practices to cope with the increasing stress on water resources. In Hong Kong, we have shared best practices with authorities from Singapore, Malaysia and representatives from cities on the Mainland. We have also worked closely with the private sector and universities in Hong Kong and overseas on important research and development projects that offer innovative solutions designed to meet challenges specific to Hong Kong. In-house initiatives include

署長的話
Director's Statement

們參予現場工作的同事構思及開發的，本人很高興告知大家，我們有不少創新方案均獲得國際獎項。

為了在所有日後規劃中充分反映供水的重要性，水資源及供水水質事務諮詢委員會已擴大其工作範疇，就水資源及水質等事為政府提供意見。委員會將研究替代水源，並優先處理擴大雨水收集的應用。

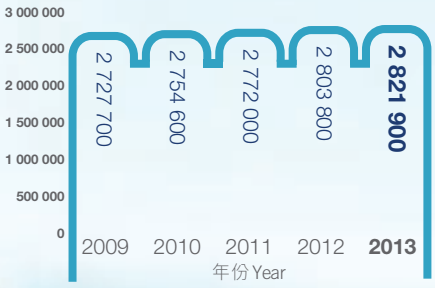
於162年前，政府鑽鑿首批官方水井，並開始修建公共供水系統。今天，我們擁有一個可靠和有效的供水系統，覆蓋全港。這穩固的基礎讓來自不同背景的新世代都放心知道，香港不會因水源短缺而限制經濟增長。不論水務署或是整個社會，對水的態度都有極大的轉變。我們認同及明白香港所處地區內在食水方面的競爭日益劇烈，因此有需要制訂一些確實及適當的管理策略，以迎接未來的挑戰。

solutions ranging from the use of zebrafish as biosensors alerting abnormalities in water quality to the use of hydro electricity and wave generated power for use in operational aspects of treatment works and pumping stations. These solutions have originated from ideas put forward and developed by on-site staff and I am pleased to say that a number of our innovations have been recognised with international awards.

In a move that signifies the importance of water in all future planning, The Advisory Committee on Water Resources and Quality of Water Supplies has been operating with an expanded remit to advise Government on matters relating to both water resources and quality. It will study alternative sources of water. A top priority is the expanded use of rain water harvesting.

It is now 162 years since the first official wells were sunk and the Government's public water supply system was launched. Today, we have a reliable and efficient supply system that covers the territory. This is a solid platform from which future generations across a spectrum of disciplines can ensure that water scarcity will not limit Hong Kong's economic growth. There has been a seismic level shift in attitudes towards water, both within the Water Supplies Department and throughout the community. We recognise and understand the increasing competition for water within our geographic region and the need for precise and appropriate management strategies to meet the challenges that lie ahead.

客戶數目（截至二零一三年三月三十一日）
Number of Accounts (as 31 March 2013)



二零一二年總平均日耗水量
2012 Total Average Daily Water Consumption
百萬公升／日 million litres per day

本署人員繼續在各個層面證明自己的實力，對內對外都把握創新及合作機會，務求改善水資源的管理。現在使用通用的管理術語而言，本署是一個「持續進修的機構」、一間「人才啟發機構」和一個「領袖培訓機構」，在鞏固的基礎上不斷開拓新領域。我們一直與社會的相關持份者、環保團體、非政府組織和學界建立良好溝通，以研究紓緩水資源壓力的新方案。本人感謝過去五年來支持本署的所有人士，同時祈望大家繼續通力合作，確保未來香港有安全和清潔的用水供應。

Members of staff continue to prove themselves at all levels, embracing opportunities to innovate and collaborating, both internally and externally, to improve water management practice. The Department is now a “learning institution”; a “manpower developer” and a “leader development organisation”, using the commonly-used management nomenclature, continuously exploring new frontiers above our solid foundations. We are building a strong dialogue with community stakeholders, green groups, NGOs and academia to develop solutions that lessen the stress on our water resources. I thank all who have supported the Department over the past five years and I appeal to all involved to continue to work together to secure supplies of safe, clean water for Hong Kong in the decades ahead.

馬利德工程師, SBS, JP
水務署署長
二零一三年十月三十一日

Ir MA Lee Tak, SBS, JP
Director of Water Supplies
31 October 2013

主要工作表現指標
Key Performance Indicators

指標 Indicators	財政年度 Financial Year（百分比 Percentage） 10/11	11/12	**12/13**
食水水質〔100%符合世界衛生組織在2008年制定的《飲用水水質準則》#〕 Fresh Water Quality [100% compliant with WHO's "Guideline for Drinking-water Quality"(2008)#]	100	100	**100**
鹹水水質〔96%符合水務署所定的水質指標〕 Salt Water Quality [96% compliant with WSD Water Quality Objectives]	符合指標 complied with	符合指標 complied with	**符合指標 complied with**
食水供水水壓（15至30米）λ Fresh Water Supply Pressure (15 – 30 metres)λ	100	100	**100**
鹹水供水水壓（15米）λ Salt Water Supply Pressure (15 metres)λ	100	100	**100**

指標 Indicators	財政年度 Financial Year（百分比 Percentage） 10/11	11/12	**12/13**
到場處理故障投訴所需的時間 Response Time for Attendance to Fault Complaints			
• 食水供應故障^（在半天內） Fresh Water Supply Fault^ (within half a day)	100	99.2	**99.97**
• 其他（在一個工作天內） Others (within a working day)	100	99.8	**99.97**
因預算進行的工程而暫停供水的時間長度（97%於八小時內） Duration of Suspension of Water Supply for Planned Works (97% within 8 hours)	符合指標 complied with	符合指標 complied with	**符合指標 complied with**
水錶準確程度@（偏差程度不超過 ± 3%） Accuracy of Water Meters@ (inaccuracy not exceeding ± 3%)	95	95.3	**96.0***
初步回覆市民的來信（十個曆日） Interim Reply to Correspondence from the Public (10 Calendar Days)	98.4	98.2	**99.9**

\# 二零一三／一四年度的目標提升至符合世界衛生組織在二零一一年制定的《飲用水水質準則》。
Target for 2013/14 is enhanced to 2011 version of WHO Guidelines for Drinking-water Quality.

^ 包括食水供應中斷、食水受污染及內部食水管爆裂而可能導致水浸的情況。
Including cases of no fresh water supply; polluted fresh water supply; and internal fresh water pipe burst likely to cause flooding.

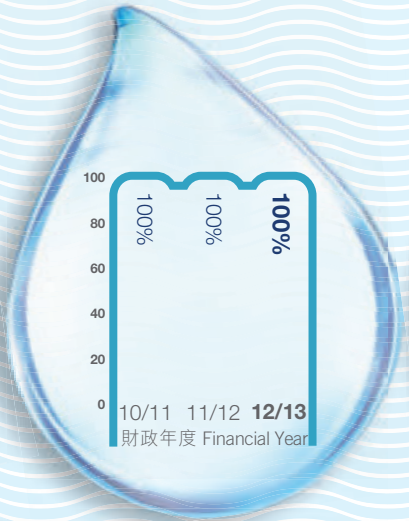
λ 配水系統的最小剩餘水壓（或水壓幅度），在系統的盡頭除外。
Minimum residual pressure (or pressure range) in the distribution systems except at their extremities.

@ 在驗錶時，如水錶的偏差程度不超過±3%，水錶即視作運作正常。
Water meters are deemed to register correctly if their inaccuracy does not exceed ± 3%.

* 二零一三／一四年度的目標為96.4%。
The target for 2013/14 is 96.4%.

食水水質
Fresh Water Quality

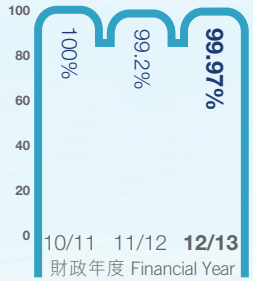
食水供水水壓
Fresh Water Supply Pressure

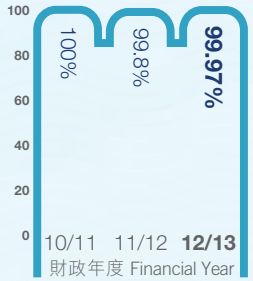


鹹水供水水壓
Salt Water Supply Pressure

到場處理故障投訴的時間
Response Time for Attendance to Fault Complaints

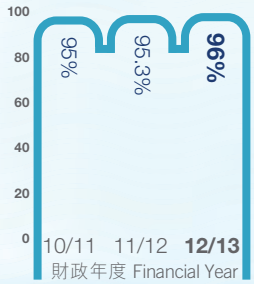
食水供應故障
（在半天內）
Fresh Water Supply Fault
(within half a day)



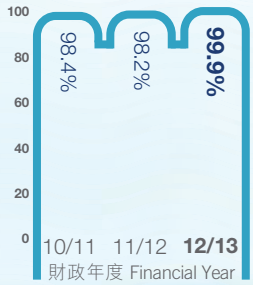


其他（在一個工作天內）
Others (within a working day)

水錶準確程度
Accuracy of Water Meters



初步回覆市民的來信
Interim Reply to Correspondence from the Public



雨水集蓄
Rainwater Harvesting

雨水集蓄包含從屋頂等表面收集雨水，儲存以備日後使用。實施雨水集蓄有助減少耗用食水，並減輕雨水排放系統的負擔。

Rainwater harvesting involves collection of rainwater from surfaces such as roofs and storage of the collected water for future use. It helps reduce fresh water consumption and relieve the loading on storm water drainage system.

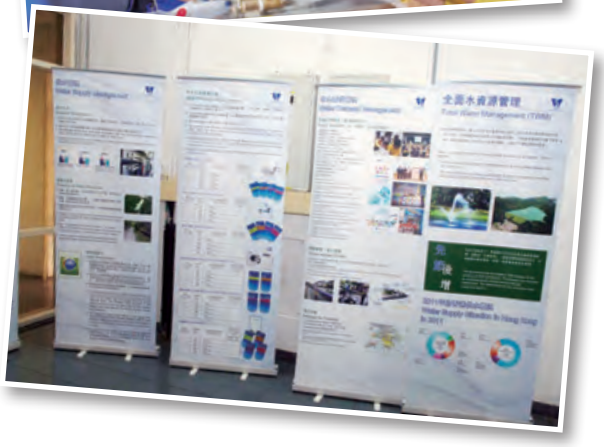
管理香港供水
Managing Hong Kong's Water Supplies

我們專注未來：優化供水、開發替代食水水源，以及投資現有及新基建設施。

全面水資源管理策略

作為國際商業及金融中心，香港的可持續發展有賴穩定的供水。雖然我們目前擁有可靠及持續的水資源供應，但我們仍意識到有需要為未來可能發生的極端情況作好準備。有關準備工作包括加強用水需求管理措施，以及探索新技術，以具成本效益的方式開發更多水資源。政府於二零零八年推出的《全面水資源管理策略》已為我們提供堅實的基礎。為配合該策略，我們已加強有關水資源使用及節約用水的公眾教育，抑制配水系統的用水流失量，以及擴大海水供應系統。我們將聘請顧問，檢討該策略的進展，並指出任何所需的新方向或改善工作。

We are focusing on the future: optimising water supplies, developing alternative sources of fresh water and investing in existing and new infrastructure.



TOTAL WATER MANAGEMENT STRATEGY

Hong Kong, as a global centre of business and finance, relies on secure water supplies for its sustainable development. Whilst we currently have reliable and consistent water resources to draw down, we recognise the need to prepare for extreme scenarios that may occur in the future. Preparations include strengthened demand management initiatives and the exploration of new technologies to develop additional water resources cost effectively. The Total Water Management Strategy, introduced by Government in 2008, has provided a firm foundation for us to build on. In line with the strategy, we have enhanced public education on water use and savings, limited water loss along the distribution system and extended the salt water supply system. We will appoint consultants to review the progress made under the strategy and to indicate any necessary new directions or refinements.

管理香港供水
Managing Hong Kong's Water Supplies

確保供水資源充足

廣東的東江和遍布本港郊野公園及鄉郊地區的降雨集水區網絡，繼續滿足本港的食水需求。為補充及節約食水資源，我們使用海水沖廁，並以小量的再造水作屋苑清潔、灌溉及景觀美化用途，再造水的用量會逐步予以增加。

於二零一二年，本港76%的食水經專用輸水管道由東江輸入，較去年錄得的89%為低。除了每年管道關閉作維修的期間，每日輸港的東江水量只是輕微低於本港的每日食水用量。輸入的東江水在滿足直接用水需求後，餘額會與本地收集所得的原水一同貯存在船灣淡水湖。

用於沖廁的海水抽取自香港沿海各處的抽水站，並供應給全港80%的人口。

本署正根據香港及鄰近珠三角洲的預計水資源需求，制訂一項可行的長期供水策略。因此，我們會繼續開拓飲用水及非飲用水的替代水源，將香港倚賴東江水的程度維持在適當的水平。

SECURING WATER RESOURCES

The Dongjiang (or East River) in Guangdong together with a network of domestic rainwater catchments located across Hong Kong's extensive country parks and rural areas, continues to meet fresh water requirements. We are supplementing and conserving our fresh water resources by using sea water for toilet flushing and through a small but growing amount of recycled water used in estate cleaning, irrigation and landscaping.

In 2012, 76 per cent of raw fresh water was transported by a dedicated aqueduct from the Dongjiang River. This is less than the 89 per cent take down from the Dongjiang recorded over the previous year. Apart from when the aqueduct is closed for annual maintenance, the daily supply from this source is only slightly less than the city's daily consumption. Imported Dongjiang water that is surplus to immediate needs is stored with locally collected raw water in Plover Cove impounding reservoir.

The seawater used in toilet flushing is extracted by pumping stations located at various points along Hong Kong's water front and distributed to 80 per cent of Hong Kong's population.

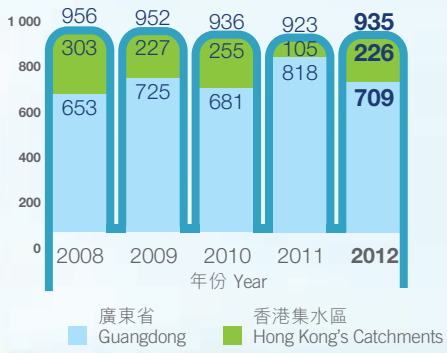
The Department is developing a viable long term supply strategy based on the predicted water resources needed by both Hong Kong and the neighbouring Pearl River Delta. As a result, we continue to explore alternative sources of both potable and non-potable water to maintain a suitable level of reliance on the Dongjiang.

管理香港供水
Managing Hong Kong's Water Supplies

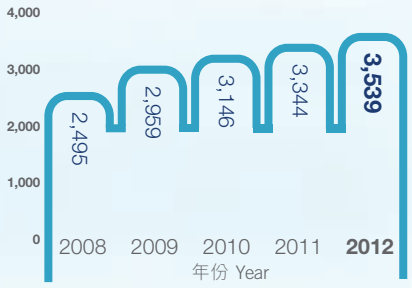
來自東江的食水

FRESH WATER FROM DONGJIANG

全年供水量
Annual Quantity of Water Supply
百萬立方米 million cubic metres

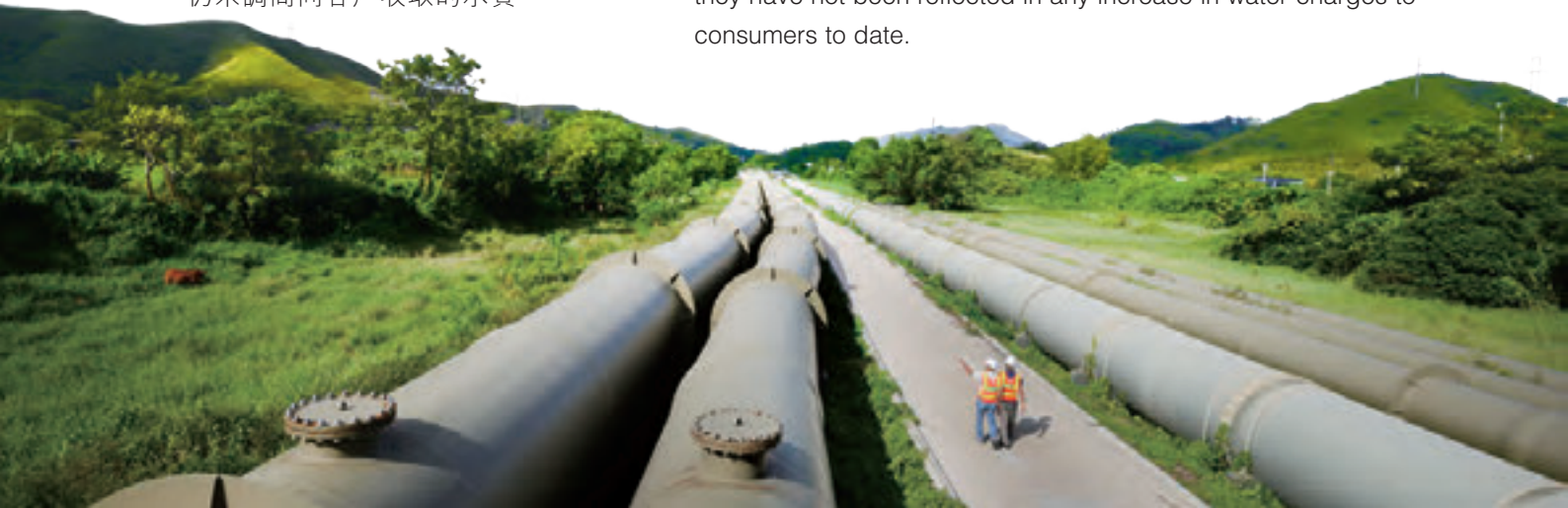


東江水價格
Price of Dongjiang Water
百萬港元 HK$million



有關東江的供水協議同時考慮到香港的需求和珠江三角洲內不斷增加的供水情況。只要珠三角地區沒有嚴重的食水短缺，目前本港與廣東簽署供水協議所訂明的最終供水量，足以應付至二零三零年及以後的本港預計用水需求。實際的供水量是參照每季雨水收集量按月而定，此舉能使水資源用得其所。於二零一一年年底簽署的現有三年供水協議，把二零一二年、二零一三年及二零一四年購買東江水所需支付的費用分別定為35.39億元、37.43億元和39.59億元。有關價格計算已考慮人民幣兌港元匯率大幅升值，以及兩地通脹率不斷上升所帶來的影響。雖然東江水的價格較二零零九年前有所增加，但截至目前為止我們仍未調高向客戶收取的水費。

The supply agreement that covers the Dongjiang takes into account both Hong Kong's needs and the ongoing water supply status within the Pearl River Delta. The ultimate quantity stipulated in the current water supply agreement with Guangdong means that the supply of water from the Dongjiang is sufficient to meet Hong Kong's estimated demand through to 2030 and beyond, as long as there is no acute water shortage in the Pearl River Delta area. Actual draw down is determined on a monthly basis taking into account seasonal rainfall. This optimises the overall use of water resources. The existing three-year agreement, signed at the end of 2011, sets the cost of the water at $3,539 million for 2012, $3,743 for 2013 and $3,959 for 2014. This price regime takes into account the substantial appreciation of China's RMB against the Hong Kong dollar and escalating rates of inflation in Guangdong and Hong Kong. Although the purchase costs are higher than pre-2009 charges, they have not been reflected in any increase in water charges to consumers to date.



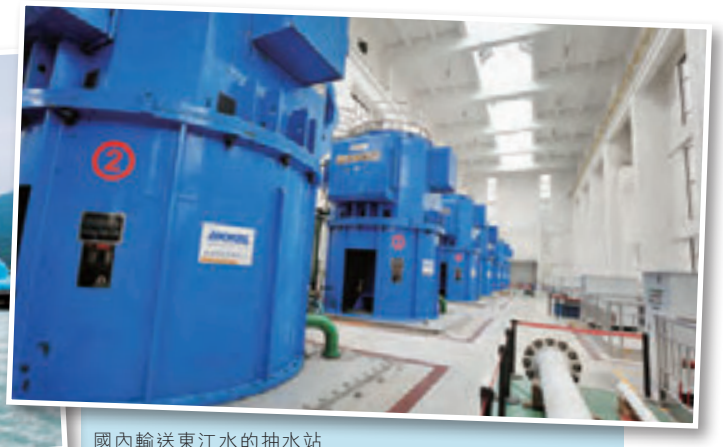
我們與廣東當局已建立強而有力的合作關係，並就兩地的用水需求保持緊密溝通。我們亦控制本港水塘的存水量，以盡量減少浪費食水及節省抽水成本。我們與廣東當局共同監察輸水的運作，確保有關運作維持高透明度，並在水質及穩定供水方面保持警覺。

We have developed a strong partnership and enjoy close communications with the Guangdong authorities regarding mutual water requirements. By controlling storage levels in Hong Kong's impounding reservoirs, we minimise local water waste and optimise pumping costs. Together with the Guangdong authorities, we oversee water transfer operations and ensure a high degree of transparency in these operations and vigilance in terms of water quality and security.

廣東當局推行多項措施，以保護東江的水環境，並確保輸港的原水水質符合《國家地表水環境質量標準》。有關措施包括按需要興建污水處理廠、遷走具污染性的工廠，以及在深圳水庫設立生物硝化廠。廣東已頒布相關法律及指令，以維持水質標準。

The Guangdong authorities have implemented measures to protect the Dongjiang's water environment and to ensure that the quality of water pumped to Hong Kong meets the relevant national environmental quality standards for surface water. These measures include new sewage treatment plants, removal of polluting factories and continual operating the bio-nitrification plant at the Shenzhen Reservoir as needed. Relevant laws and instructions have been enacted in Guangdong to maintain quality standards.

國內處理東江水的生物硝化廠
Bio-nitrification plant of Dongjiang water supply in mainland



國內輸送東江水的抽水站
Pumping station of Dongjiang water supply in mainland

專用輸水管道直接從東江取水口把東江水輸送到深圳水庫，避免了供水途中的潛在污染源，讓我們為消費者維持高品質食水的同時，亦節省處理食水的費用。

A dedicated aqueduct directly transfers river water from the Dongjiang intake to the Shenzhen Reservoir, bypassing possible pollution sources along the supply route. This also enables us to keep treatment costs for fresh water supplies low while maintaining a consistently high level of water quality for consumers.

此項工程由香港水資源及供水水質事務諮詢委員會的成員監督，有關成員負責考察東江集水區的水污染控制設施及東江供水系統。委員會成員來自學術界、醫學界、法律界、政府部門、區議會和環保團體，成員在新聞簡報會上匯報考察

These works are being overseen by members of Hong Kong's Advisory Committee on Water Resources and Quality of Water Supplies (ACRQWS) who undertake visits to water pollution control facilities within the Dongjiang catchment as well as the supply system itself. The findings and observations by the committee's members who are drawn from the fields

管理香港供水
Managing Hong Kong's Water Supplies

結果和觀察情況，以維持公眾對東江水水質的信心。在二零一二年十一月進行的考察中，成員親身視察從河源輸水至深圳的供港用水系統。

of academia, medicine and law as well as Government departments, district councils and green groups, are reported at media briefings and help to maintain public confidence. A visit conducted in November 2012 enabled members to see firsthand the supply system that takes our water from the city of Heyuan to Shenzhen.

本地集水區

指定集水區佔香港土地面積的30%，所收集雨水儲存在遍布全港的17個水塘。雖然收集的雨水大多不受污染，但本署仍在集水系統實施防污措施，包括進行定期巡查、維修和清除泥石等。

DOMESTIC CATCHMENTS

Designated water catchment areas cover 30 per cent of Hong Kong's land area. Rainwater collected from these catchments is stored in 17 impounding reservoirs across the territory. Although collected water is largely uncontaminated, the Department has undertaken protection measures along the collection system with regular inspections, maintenance and the removal of debris.

水質及健康標準

不論是源自東江或收集自本港集水區的原水，都會在收集、處理及供應食水的過程中，進行物理、化學、輻射、生物及細菌化驗的綜合性檢測。我們從供水系統中指定及隨機抽選的地點定期抽取樣本，並以先進及認可的技術，按嚴格品質保證指引進行分析。

自二零一二年八月起，本署採納世界衛生組織二零一一年更新的《飲用水水質準則》。香港完全符合有關指標。我們不斷強化及提升化驗室使用的分析技術和設備，亦運用多項先進技術，包括利用

QUALITY AND HEALTH STANDARDS

A comprehensive programme involving physical, chemical, radiological, biological and bacteriological testing is applied throughout the collection, treatment and supply processes of water, irrespective of whether it is sourced from the Dongjiang or is collected from within the territory's catchment areas. Samples are taken regularly from both pre-determined and randomly selected points along the supply chain and analysed using advanced and proven technologies with rigorous quality assurance protocols.

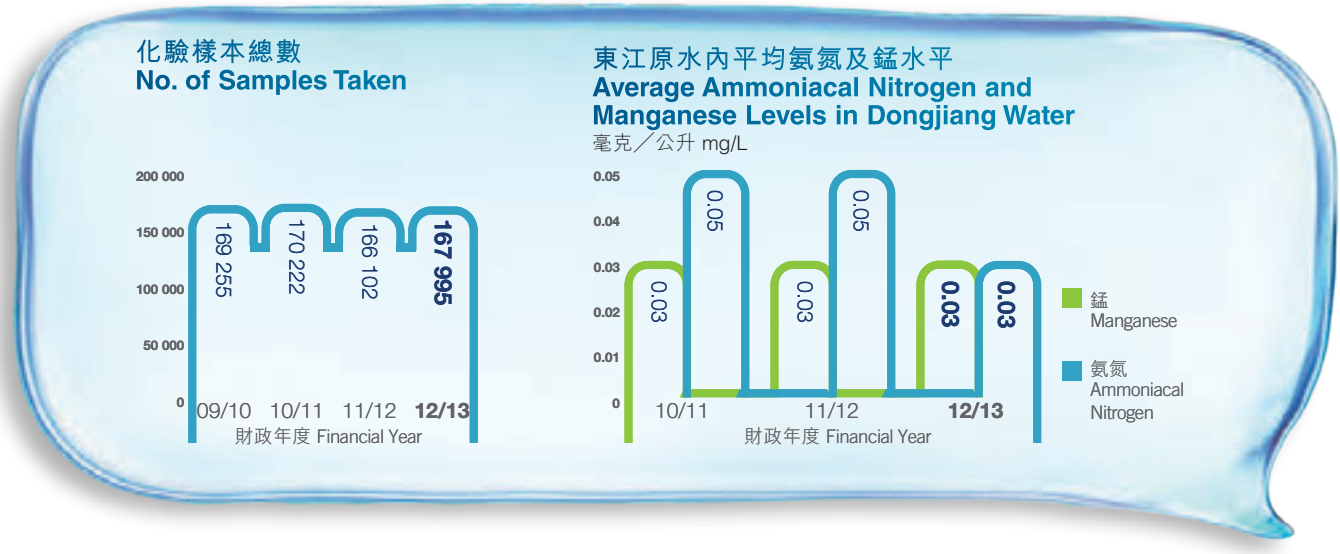
From August 2012, the Department applied the updated WHO Guidelines for Drinking-water quality (WHO 2011). Hong Kong is in full compliance. Analytical techniques and equipment used in our laboratories are continuously enhanced and upgraded.

碰撞反應池技術檢測水中的微量金屬，以及通過自動微粒影像分析系統，快速評估水藻數量，藉以提升監測水質的能力。

Advances, including a new collision cell technique used to detect trace metals in water and an automated imaging particle analysis system which quickly assess the algal population have enhanced water quality monitoring.

設置於木湖抽水站、船灣淡水湖、城門水塘和大欖涌水塘範圍的在線水質監察系統，持續測量東江水和水塘貯水的水質。此外，我們將擴大監控及資料收集系統，在其他水塘分階段設置在線水質分析儀，石壁水塘將率先試行運作。

On-line Water Quality Monitoring Systems at Muk Wu Pumping Station, Plover Cove Reservoir, Shing Mun Reservoir and Tai Lam Chung Reservoir continue to gauge the quality of the water we receive from the Dongjiang and the water we store in reservoirs. In addition, our Supervisory Control and Data Acquisition (SCADA) system will be extended to include an on-line water quality analyser being set up in phases at our impounding reservoirs. The first, Shek Pik Reservoir, is pending commission.



管理香港供水
Managing Hong Kong's Water Supplies

我們定期進行輻射監測，以確保供港的飲用水安全。於二零一二年四月，本署參與跨部門「大亞灣應變計劃」，以就應變行動、人員調配及支援方面進行測試。我們有信心所有輻射監測系統會繼續保障香港食水的水質及安全。

本署亦已開發一個創新及高效的生物感應警報系統，利用斑馬魚監測在供水過程中可能產生的有害物質。斑馬魚的基因與人類極為相似，因此我們將斑馬魚放在特製魚缸內，利用高端錄像機和電腦程式對其進行密切監測。通過分析斑馬魚的異常活動及分布位置，便可檢測到受污染的水域。該系統以手機短訊、電子郵件和電話自動通知負責人員，並採集水樣本，利用生物發光技術進行快速測試。這項準確度高及敏感的技術能在60分鐘之內識別出數千種不同的有害物質，而且成本低廉，每個樣本僅需約50元。

市民可登入本署網站（http://www.wsd.gov.hk），瀏覽有關東江水及全港食水水質的詳情。

Radiological monitoring is routinely carried out to ensure the safety of our supplies of drinking water. In April 2012, the department participated in an inter-departmental Daya Bay Contingency Plan (DBCP) excercise to test emergency response, staff deployment and support. We are confident that all radiological monitoring systems continue to protect the quality and safety of Hong Kong's fresh water.

The Department has also developed an innovative and highly efficient Biosensing Alert System using zebrafish to monitor hazardous materials that may appear in the water supply. Zebrafish have a genetic similarity to humans and are closely monitored in tanks with advanced video recorders and computer programmes. By analysing abnormalities in the activity and distribution of zebrafish, water contamination can be detected. The system alerts staff members automatically by SMS, emails and phone calls and collects water samples for rapid testing using bioluminescence technology. Highly accurate and sensitive, the technology can identify thousands of different hazardous materials within 60 minutes at a low cost of about $50 per sample.

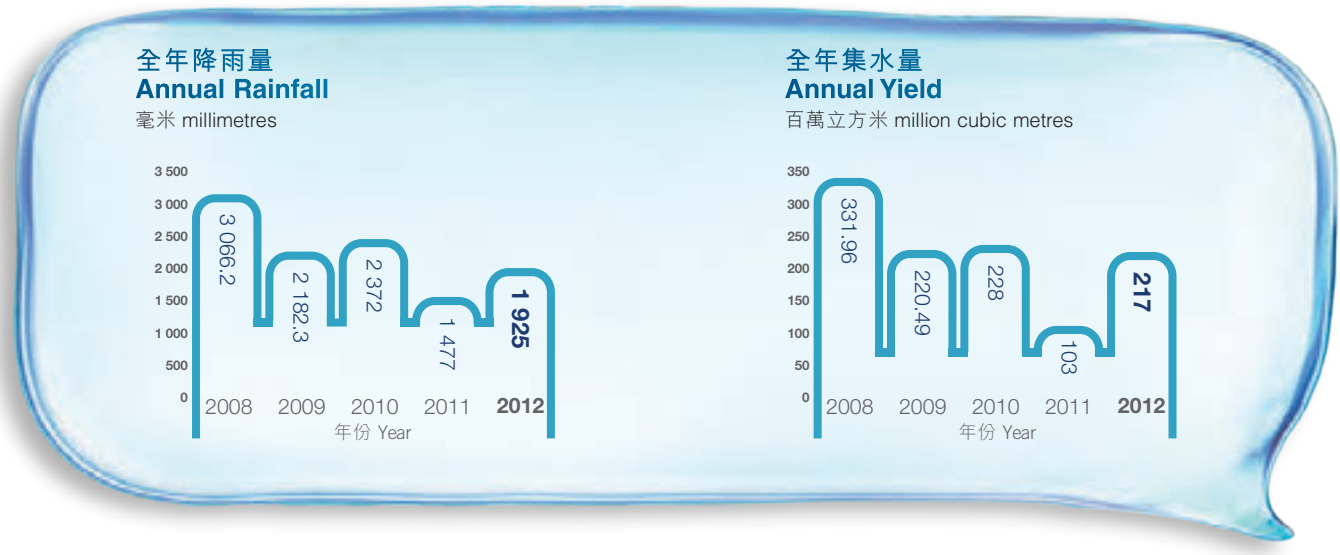
Details about the quality of both the Dongjiang water and our overall drinking water supply are available for public viewing on the Department's website http://www.wsd.gov.hk.

食水替代水源

為滿足長期的食水需求，我們必須開發符合經濟效益及可持續發展的替代水源，並在可能的情況下，減少我們對東江水的依賴。我們繼續探究各種方案，並採納不同方法，以紓緩區內的資源壓力，並盡可能節約食水。

FRESHWATER ALTERNATIVES

Economic and sustainable alternative water resources are required to meet long term demand and, if possible, reduce our draw down from the Dongjiang River. We continue to explore options and adopt solutions that will lessen the stress on regional resources and enable us to conserve as much fresh water as possible.



管理香港供水
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發展海水化淡

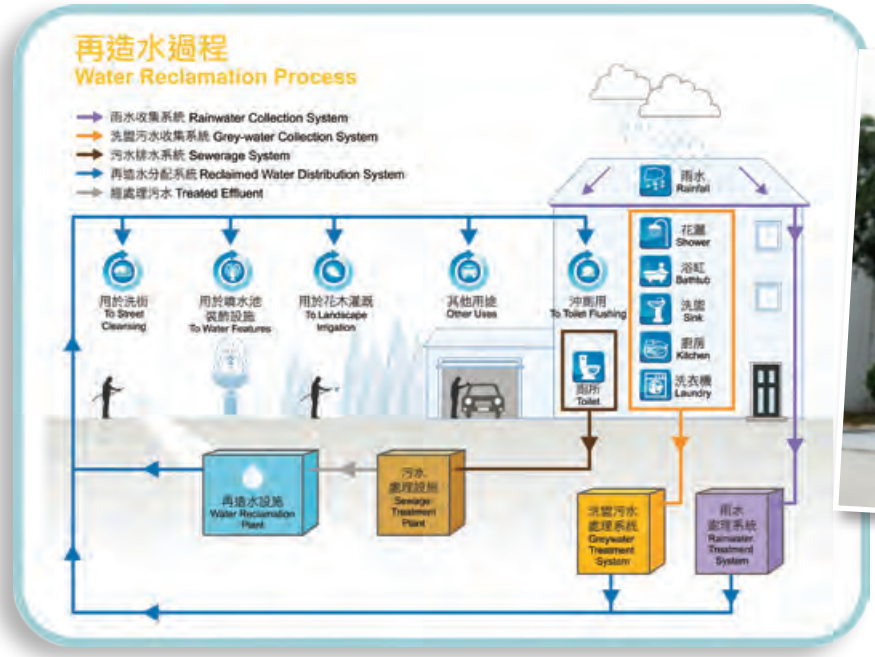
利用逆滲透技術進行海水化淡，生產符合世界衛生組織《飲用水水質準則》的飲用水，對香港而言是具有前景的方案。我們已在將軍澳第137區預留約10公頃土地，作興建海水化淡廠之用，年產量初步為5 000萬立方米。有關計劃包括於日後將年產量擴展至9 000萬立方米，以滿足本港約一成的食水需求量。

相關的策劃及勘測研究正在進行中，預計於二零一四年年底完成，當中涵蓋詳細的可行性研究、初步設計和成本效益分析。視乎研究結果和建議，我們計劃在供求趨勢顯示有需要時，就海水化淡廠的詳細勘測、設計和興建工程申請進一步撥款。我們亦會於明年舉行一項公眾參與活動。按照目前情況，我們預計海水化淡廠將於二零二零年投入服務。

Moving forward with Desalination

Desalination, using reverse osmosis technology to produce potable water that complies with WHO Guidelines for Drinking-water Quality, is a promising water resource for Hong Kong. We have reserved a site of about 10 hectares at Tseung Kwan O Area 137 for the construction of a desalination plant with an initial output capacity of 50 million cubic metres per annum. Plans include provisions for future expansion to an ultimate capacity of 90 million cubic metres per annum. This will meet about 10 per cent of Hong Kong's fresh water demand.

Planning and investigation studies are underway and scheduled for completion by the end of 2014. The studies cover detailed feasibility, preliminary design and a cost-effectiveness analysis. Subject to the findings and recommendations of the study, we plan to seek further funding for detailed investigation, design and subsequent construction of the desalination plant at a time that will be dictated by demand and supply trends. We will also undertake a public engagement exercise next year. Given the current situation, we envisage a commissioning date of 2020.



昂坪污水處理資訊中心
Ngong Ping Sewage Treatment Information Centre

使用再造水

在大嶼山昂坪及石湖墟污水處理廠進行循環再用經處理污水的試驗計劃證明，使用再造水作非飲用用途在技術上是可行的。跨部門工作小組現正研究生產及

Use of Recycled Water

Pilot schemes for the recycling of treated effluent in Ngong Ping, Lantau and She Wu Hui Sewage Treatment Works have demonstrated that the use of reclaimed water for non-potable applications is technically feasible. An inter-departmental

供應再造水的具體細節，我們正進行協調規劃工作，預期大概於二零二一年或之前，會向上水、粉嶺和新界東北新發展地區的居民供應再造水，作沖廁及其他非飲用用途。

洗盥污水再造及雨水收集

從浴室、洗手盆和廚房洗滌盆等地方收集得來質素較低的水稱為洗盥污水，洗盥污水與收集的雨水經處理後可予以重用，作沖廁及灌溉等非飲用用途。我們已就使用洗盥污水和收集的雨水，訂立技術及水質標準，以及應用守則和指引。

我們鼓勵私營發展商把洗盥污水再造及雨水收集系統加入開發項目中，政府項目亦會加入該等系統。

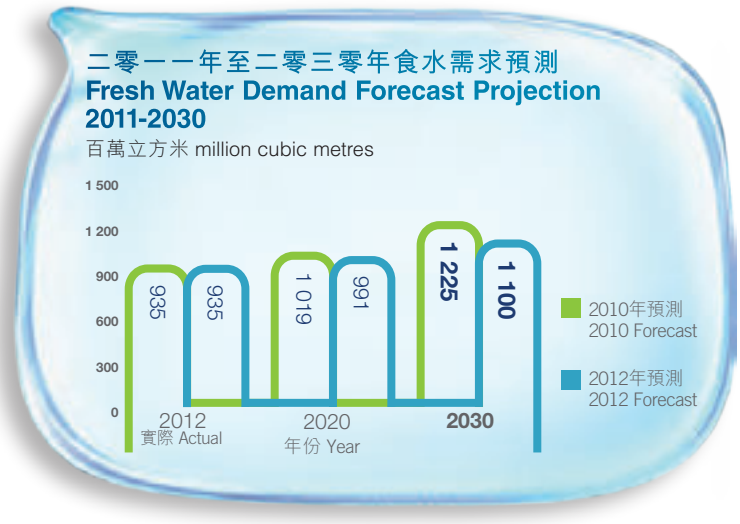
本署與香港機場管理局、香港科技大學和荷蘭代爾夫特理工大學合作研發一個創新的水資源管理系統，把食水、海水和再造污水納入成本低廉的「三水系統」中。該系統現正於香港國際機場使用，為機場減少52%的食水需求量。

working group is exploring the details of producing and supplying reclaimed water. Concerted planning work is underway and we anticipate providing recycled water to residents in Sheung Shui, Fanling and the North East New Territories New development Areas for toilet flushing and other non-potable uses by around 2021.

GREY WATER RE-USE AND RAINWATER HARVESTING

Lower quality water collected from baths, shower, wash basins and kitchen sinks is known as grey water. Along with harvested rainwater these supplies can be treated and reused as non-potable water for toilet flushing and irrigation. We have established technical and quality standards as well as a code of practice and guidelines for use of these supplies in Hong Kong.

We are encouraging private developers to implement grey water recycling and rain harvesting into their developments. Government projects will also incorporate grey water and rainwater harvesting systems.



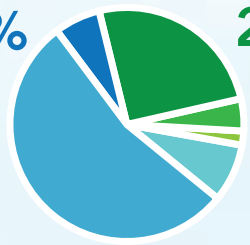
An innovative water resource management system that integrates freshwater, seawater and reclaimed grey water into a low-cost Triple Water Supply (TWS) system has been developed by the Department in partnership with the Airport Authority Hong Kong, the Hong Kong University of Science and Technology and Delft University in The Netherlands. The system is currently in use at Hong Kong International Airport and has reduced the airport's fresh water demand by 52 per cent.

管理香港供水
Managing Hong Kong's Water Supplies

東江輸水管 Dongjiang water pipes

二零一二年按用水類別劃分的食水用量（佔總量百分比）
Annual Fresh Water Consumption 2012 by sectors (percentage of total)

百萬立方米 million cubic metres (mcm)



工業用水 Industrial 59 百萬立方米 mcm **6.3%**

25.3% 服務業及商業用水 Service Trades 236 百萬立方米 mcm

4.4% 政府用水 Government Establishments 41 百萬立方米 mcm

1.9% 建築及船舶用水 Construction & Shipping 18 百萬立方米 mcm

8.0% 臨時淡水沖廁 Flushing 76 百萬立方米 mcm

住宅用水 Domestic 505 百萬立方米 mcm **54.1%**

食水總用水量 Total Fresh Water Consumption **935** 百萬立方米 mcm

全年食水用水量（按用水類別劃分）
Annual Fresh Water Consumption (by sectors)

百萬立方米 million cubic metres

年份 Year	2008	2009	2010	2011	**2012**
住宅用水 Domestic	519	524	509	498	**505**
工業用水 Industrial	59	55	57	58	**59**
服務業及商業用水 Service Trades	241	238	237	236	**236**
政府用水 Government Establishments	45	44	42	41	**41**
建築及船舶用水 Construction & Shipping	11	11	12	14	**18**
臨時淡水沖廁 Flushing	81	80	79	76	**76**
食水總用水量 Total Fresh Water Consumption	956	952	936	923	**935**

再造水
Water Reclamation

再造水是將污水處理循環再用，代替食水作非飲用用途，例如沖廁及園景灌溉等，旨在減少食水的消耗。

Water reclamation is to use recycled water to replace fresh water for non-potable purposes, such as toilet flushing and landscape irrigation. It aims at reducing fresh water consumption.

滿足用水需求
Meeting the Demand for Water

改善基建設施及加強配水網絡監察，讓香港享有更可靠的供水系統。

改善供水網絡

於二零一二至一三年度，接報的水管爆裂個案已由二零零零至零一年度的2 500宗下降至只有267宗。我們在15年內分階段開展更換及修復3 000公里水管的計劃，令供水服務更為可靠。香港擁有超過8 000公里的水管，許多已使用超過30年。該計劃目前重點處理3 000公里的水管，並已進入最後階段。截至二零一三年四月三十日，2 091公里的水管已完成施工，減少了水管爆裂、水壓驟降及其他事故的發生。該等事故不單會令供水中斷，在很多情況下，更會導致交通和運輸受阻。目前的「更換及修復水管計劃」將於二零一五年年底前大致完成，我們已計劃推出第二階段工作，更換及修復餘下5 000公里的部分水管。

大口徑水管修復工程
Pipe rehabilitation work of large diameter pipe

Hong Kong enjoys the benefits of a water supply that boasts greater reliability as a result of improved infrastructure and increased monitoring of distribution networks.

IMPROVING THE SUPPLY NETWORK

Annually, the number of reported cases of burst water mains has reduced from 2 500 in 2000/01 to just 267 in 2012/13. Our 15-year phased programme of replacing and rehabilitating 3 000 km of water mains has resulted in greater supply reliability. Hong Kong has over 8 000 km of water mains, many of which are more than 30 years old. The current replacement and rehabilitation programme has focused on 3 000 km. The programme has reached its final stage and, as at 30 April 2013, we had completed work on 2 091 km of water mains, reducing water mains bursts, sudden drops in pressure and other incidents that can disrupt water supplies and, in many cases, cause traffic and transport disruptions. The current replacement and rehabilitation programme will be completed by 2015 and plans are in hand to launch a second phases of replacement and rehabilitation involving some of the remaining 5 000 km of mains.

水管更換工程
Pipe replacement work

滿足用水需求
Meeting the Demand for Water

水管修復－內層噴霧塗搽技術
Pipe rehabilitation work – spray applied lining

測漏統計數字
Statistics on Leak Detection

食水 Fresh Water

各財政年度所進行的測漏工作
Tests Conducted Per Financial Year

	2008/09	2009/10	2010/11	2011/12	**2012/13**
最低晚間流量測試次數 No. of Minimum Night Flow Tests	278	276	241	174	**139**
分段流量測漏次數（或滲漏測試） No. of Step Tests (or Leakage Tests)	65	30	27	25	**13**
音聽視察次數 No. of Sounding & Visual Inspections	4 438	4 914	3 177	3 221	**3 282**
經發現的滲漏個案數目 No. of Leaks Detected	2 598	2 563	1 846	2 006	**1 432**
估計每日可節省的食水量（立方米／日） Estimated Quantity of Fresh Water Saved (cubic metres/day)	127 244	93 731	75 299	79 531	**57 128**

海水 Sea Water

各財政年度所進行的測漏工作
Tests Conducted Per Financial Year

	2008/09	2009/10	2010/11	2011/12	**2012/13**
最低晚間流量測試次數 No. of Minimum Night Flow Tests	0	0	0	0	**0**
分段流量測漏次數（或滲漏測試） No. of Step Tests (or Leakage Tests)	2	2	0	0	**0**
音聽視察次數 No. of Sounding & Visual Inspections	207	155	304	532	**516**
經發現的滲漏個案數目 No. of Leaks Detected	153	154	124	154	**127**
估計每日可節省的海水量（立方米／日） Estimated Quantity of Sea Water Saved (cubic metres/day)	113 201	18 204	29 918	21 719	**35 040**

該計劃採用了最先進的建造方法和技術。在有需要的情況下，我們使用了無坑建造方法，包括內喉緊貼法、原位內搪喉管法、水管推頂法和橫定向鑽挖法，以減少在路面施工及對公眾造成不便。

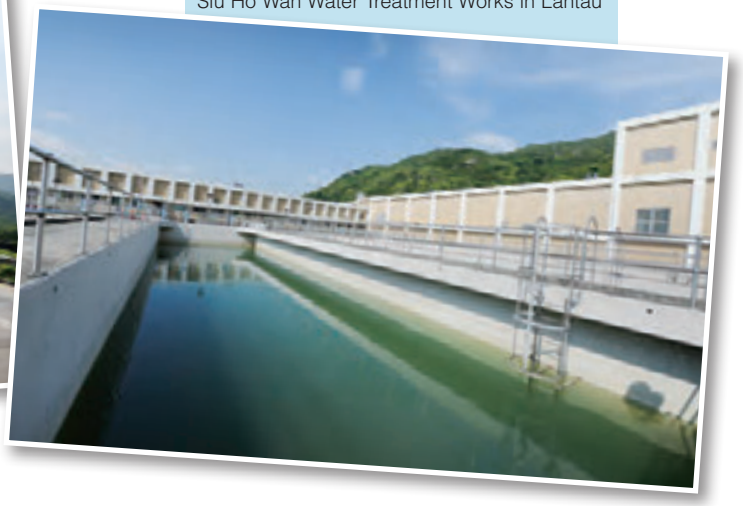
除目前在市區進行的工程外，我們將更換連接大嶼山與長洲的海底水管。我們會採用橫定向鑽挖法敷設新海底水管，以盡量減少工程對環境、鄰近海陸考古地點和海上交通的影響。此項目計劃於二零一三年九月展開，預計於二零一五年年底前竣工。

The programme involves advanced construction methods and technologies. Where necessary, we have used trenchless construction methods including close fit lining of existing mains, cure in-place pipes, pipe jacking and horizontal directional drilling to reduce on the ground construction and lessen inconvenience for the public.

In addition to the urban work currently being undertaken, we will replace a submarine pipeline from Lantau Island to Cheung Chau. A horizontal directional drilling method will be used to lay the new submarine pipeline to minimise the impact of the work on the environment, nearby marine and terrestrial archaeological sites and marine traffic. This project is scheduled to commence in September 2013 and should be completed by September 2015.

大嶼山石壁水塘
Shek Pik Reservoir in Lantau

大嶼山小蠔灣濾水廠
Siu Ho Wan Water Treatment Works in Lantau



善用基建設施

我們不斷尋求方法，以現有的資源和集水區收集更多原水。結合渠務署所制定的《西九龍防洪策略》，我們擬推出「水塘間轉運隧道計劃」，利用排洪隧道，把九龍區多個水塘與下城門水塘連接起來，溢流會經隧道和現有輸送系統傳送至沙田濾水廠處理，而非排放到維多利亞港。有關計劃預計每年可增加收集250萬立方米的原水。

MAXIMISING INFRASTRUCTURE

We are constantly looking at ways to generate more water from our existing resources and catchments. In conjunction with Drainage Services Department's flood control strategy for West Kowloon, we are planning an Inter-reservoirs Transfer Scheme which will connect the Kowloon Group of reservoirs with Lower Shing Mun Reservoir using a raw water transfer tunnel. Flood water, instead of being discharged into Victoria Harbour, will be carried through a tunnel and along an existing transfer system to the Sha Tin Water Treatment Works where it will be treated for supply. The project is expected to generate an additional 2.5 million cubic metres to the local yield annually.

滿足用水需求
Meeting the Demand for Water

為進一步確保安全和有效地收集地面水，我們將實施改善引水道的工程。首個項目涉及城門、筆架山、金山和大欖涌引水道系統內26公里長的引水道。

改善供水

我們不斷擴建及改善必要的基建設施，以確保香港有充足的食水及海水供應。新措施包括改善柴灣及小西灣的海水系統和抽水站。我們正敷設另外4.6公里的鹹水管，以滿足該區與日俱增的需求。為東涌提供沖廁用途的海水供應系統亦已進入詳細的設計階段。我們亦通過擴建半山的現有雅賓利配水庫，改善中環區的食水供水系統。

我們將會在古洞北興建一座新的食水配水庫，為落馬洲及古洞北的房屋發展地區提供食水。

Improvements will be made to catchwaters to further ensure the safe and efficient collection of surface water. The first of these projects will involve improvements to 26 kilometres of catchwaters in the Shing Mun, Beacon Hill, Golden Hill and Tai Lam Chung catchwater systems.

IMPROVING SUPPLIES

We are constantly expanding and improving the infrastructure needed to ensure Hong Kong has adequate supplies of both fresh water and seawater. New initiatives include improvements to salt water systems and pumping stations at Chai Wan and Siu San Wan. An additional 4.6 km of salt water mains are being laid to meet the growing demand in the area. A salt water supply system to be used for toilet flushing in Tung Chung has proceeded to detailed design stage. Fresh water supplies to areas of Central are being improved through the expansion of the existing Albany Reservoir in Mid-Levels.

New housing development areas at Lok Ma Chau and Kwu Tung North will be catered for by construction of a new fresh water reservoir at Kwun Tung North.

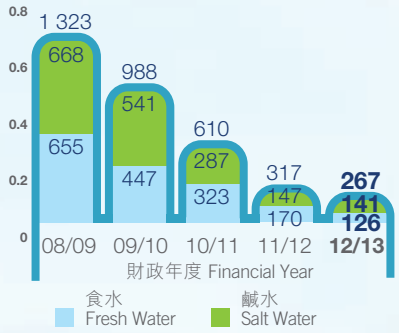
我們已於維多利亞港西面完成敷設一條直徑1 200毫米、長2.1公里的跨海食水海底水管，連接西九龍和西營盤。新的跨海水管不僅有助滿足港島更多的用水需求，在提高港島食水供應的可靠度方面亦發揮重要作用。

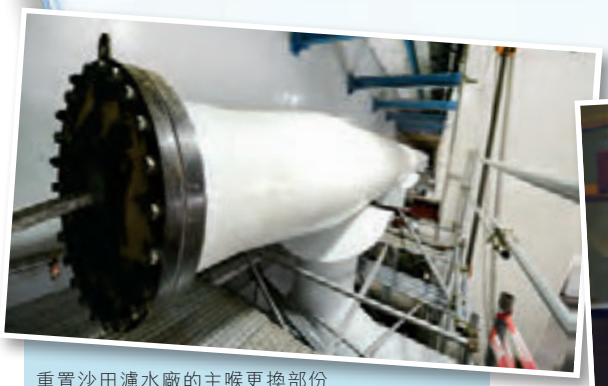
The installation of a cross-harbour fresh water submarine pipeline, 1 200 mm in diameter and 2.1 kilometres in length, under the western part of Victoria Harbour between West Kowloon and Sai Ying Pun, has been completed. The new cross-harbour main not only helps to cater for the increased water demand of Hong Kong Island, but also plays an important role in enhancing the reliability of the fresh water supply to Hong Kong Island.

資本投資
Capital Investment

百萬元 $million

水管爆裂修理個案統計數字
Statistics on Mains Bursts Repaired





重置沙田濾水廠的主喉更換部份
Replacement of delivery mains under reprovisioning of Sha Tin Water Treatment Works

提升濾水量

沙田濾水廠和大埔濾水廠工程正在規劃及興建中，這兩間濾水廠是處理原水的主要設施，原水經處理後會分配至全港。沙田濾水廠將進行原地重置工程，而大埔濾水廠則正進行大規模的擴建工程。兩間濾水廠在日後投入服務後，將確保我們有足夠能力把原水處理至符合目前的水質標準，甚至更高的標準。兩項工程的進展均經過審慎的規劃，以確保在工程的所有階段，兩間濾水廠的濾水量均能應付本港整體的用水需求。

UPGRADING TREATMENT CAPACITIES

Planning and construction work is underway at the Sha Tin Water Treatment Works and the Tai Po Water Treatment Works respectively – two major facilities used to treat raw water before it is distributed across Hong Kong. The Sha Tin plant is to be reprovisioned while the Tai Po plant is undergoing a significant expansion. Both will ensure that we have adequate capacity to treat raw water to current drinking water standards and to higher standards should they be introduced in the future. Careful phasing of work means that at all stages of construction, the treatment capacities of the two facilities will meet the required aggregate demand for water.

滿足用水需求
Meeting the Demand for Water

大埔濾水廠的擴建工程分兩期進行，濾水量將由每日25萬立方米增至80萬立方米，成本為56億元。第一期工程已於二零一一年竣工，濾水廠的濾水量獲提升至每日40萬立方米；第二期擴建工程於二零一三年二月展開，有關濾水量將提升至每日80萬立方米。大埔濾水廠將於二零一七年投入服務。沙田濾水廠南廠的原地重置工程正進行詳細設計，預期於二零二零年至二零三零年間投入服務。

其他主要的改良工程包括在沙田濾水廠北廠進行改裝工程。該濾水廠已安裝斜管，以提升濾水量。上水濾水廠的澄清池亦已加裝斜管，以達到類似效果。

荃灣及葵青的海水供應系統已引入食水增補安排，以確保有更可靠的沖廁水供應。基於安全原因，我們亦為下老圍海水配水庫加裝蓋板。

The capacity of the Tai Po Water Treatment Works will be increased from 250 000 cubic metres per day to 800 000 cubic metres per day in two parts at a cost of $5.6 billion. Part 1, taking the treatment capacity up to 400 000 cubic metres per day, was completed in 2011. Part 2 of the Tai Po Water Treatment Works expansion which began in February 2013 will increase the capacity of the works to 800 000 cubic metres per day. The plant is due to be commissioned in 2017. The detailed design of the in-situ reprovisioning of the south works of the Sha Tin plant is underway and is scheduled for commissioning by the 2020s.

Other major improvement works undertaken include the retrofitting of the North Works of the Sha Tin water Treatment Works. Inclined tubes have been installed to improve the plants' treatment capacities. A clarifier at the Sheung Shui Water Treatment works has also been retrofitted with inclined tubes to produce a similarly positive outcome.

Fresh water augmentation has been introduced at the salt water supply systems in Tsuen Wan and Kwai Tsing to enhance the reliability of flushing water supplies. We have also provisioned the decking over the Ha Lo Wai salt water reservoir for safety reasons.

上水濾水廠澄清池內的斜管
Inclined tubes at clarifier of
Sheung Shui Water Treatment Works

運作效率

我們已成功提升監控及資料收集系統，以提高全港供水網絡的運作效率。該系統由四個區域控制中心管理，用以監察抽水站和配水庫等設施。為使該系統更可靠，我們在本港四個運作地區分別設置後備控制中心。新界西的後備控制中心已投入運作，而其他三個新中心則正在建設中。

OPERATIONAL EFFICIENCIES

We have upgraded our SCADA system which is used to centrally oversee facilities such as pumping stations and service reservoirs from four regional control centres to improve the operational efficiency of territory-wide water supply networks. To further enhance reliability of the system, alternative control centres are being established at each of our four operational regions in Hong Kong. The alternative control centre for the New Territories West region is already operating whilst the remaining three new centres are under construction.

位於屯門的新界西區域控制中心
New Territories West regional control center at Tuen Mun

為確保供水系統能有效率、可靠及有成效地運作，我們已提升油柑頭、馬鞍山、北港、上水及荃灣濾水廠的監控系統，並正提升牛潭尾及屯門濾水廠和部分主要抽水站的監控系統。我們亦全面引入資訊科技基建設施及應用系統，以提升服務質素。

我們根據狀況監察研究，繼續提高濾水廠設備的效能。我們已成功測試用以監察抽水效率的網上管理系統，該系統將設於十個抽水站內。目前，部分海水配水庫只有單一間隔，我們正為這些配水庫加建分隔牆，使維修這些配水庫時不需中斷供水。

Control systems at water treatment works at Yau Kam Tau, Ma On Shan, Pak Kong, Sheung Shui and Tsuen Wan have been upgraded and similar upgrade programmes are underway at Ngau Tam Mei and Tuen Mun water treatment works and some key pumping stations to ensure efficient, reliable and effective operations. Across the board, IT infrastructure and application systems have been introduced to enhance the quality of services.

In line with on-condition monitoring studies, we are continuing to improve the performance of plant equipment. A web-based management system to monitor pumping efficiency has been successfully tested for rolling out at 10 pumping stations. To facilitate maintenance without causing supply interruption, we are adding compartment walls to sea water service reservoirs which currently operate with just single compartments.

滿足用水需求
Meeting the Demand for Water

在緊急情況下，例如水管爆裂，我們首先會盡可能轉移供水區，使供水不受影響。如果無法轉移供水區，而又預計客戶會因緊急情況而斷水三個小時以上，我們便會為客戶提供臨時食水，以滿足基本需要。臨時食水供應會經街喉、水車或水缸提供。為加強服務，我們已把水車數量增加一倍至十輛。

優化供水設施

我們致力妥善管理所有供水基建設施的使用周期，務求在可接受的風險框架內，使服務效能達至具成本效益的理想水平。

我們已於去年完成四項地面資產管理計劃，就約900個水務設施的表現及實際狀況進行評估。如發現有需要進行改善工程，有關工程計劃便會在未來數年優先實施。根據以可靠性為主的維修計劃，我們已就一間濾水廠和兩個主要抽水站完成檢討。因此，我們已有基礎制訂完善的機電設施維修策略。該計劃會於二零一三年在另一間濾水廠和另外兩個抽水站推行，以不斷改善我們的服務。

斜坡維修仍是重要的計劃。地政總署把近6 500個斜坡維修工程項目分派給本署，因此我們定期視察這些斜坡，並在有需要時對斜坡進行監察、維修及提升工程，以減少斜坡不穩定的情況。

When there is an emergency situation such as a mains burst, our first recourse is to maintain an uninterrupted supply by shifting the water supply zone wherever possible. If this is not possible, we will provide a temporary fresh water supply to customers to meet their basic need should they face a temporary suspension of supplies due to an emergency which is expected to last for more than three hours. Emergency temporary fresh water supplies are provided through standpipes, water wagons or water tanks. To enhance the service, we have doubled our fleet of water wagons to 10.

OPTIMISING ASSETS

We aim to manage the life cycle of all water services infrastructure so that we can achieve a desired level of service cost-effectively and within an acceptable risk framework.

Over the past year we have completed four surface assets management plans. These plans identify the performance and physical condition of some 900 waterworks installations. Once improvement works have been identified, they are prioritized for implementation over the coming years. Under a Reliability-Centred Maintenance programme we have completed the review at a water treatment plant and two key pumping stations. As a result, we have the basis for a comprehensive model of maintenance strategies for mechanical and electrical assets. The programme will be rolled out at another water treatment works and two more pumping stations in 2013 for continuous improvement of services.

Slope maintenance remains an important programme. The maintenance of almost 6 500 slopes has been assigned to the Department by the Lands Department. In turn, we routinely inspect these slopes and, where necessary introduce monitoring, maintenance and upgrading measures to reduce any deterioration in stability.

大亞灣應變計劃中水質監察實地／演習
Water quality monitoring during field exercise for Daya Bay Contingency Plan

危機管理

我們持續識別和管理整個供水系統的風險。處理危機，以及能否在不尋常事故發生時維持無間斷供水，是本署長久以來面對的挑戰。我們實施了危機管理計劃和多個應變計劃，以隨時準備快速調配資源及協調各個緊急行動。

於二零一二年四月，本署參加了政府「大亞灣應變計劃」的跨部門演習。是次演習模擬廣東核電站發生的場外事故，成功進行了案上和實地演習，以測試「大亞灣應變計劃」的成效，並監察我們在處理發電廠緊急事故時與其他部門協調的能力。

CRISIS MANAGEMENT

We are constantly identifying and managing risks across the entire supply system. Crisis management and the ability to maintain an uninterrupted water supply should any extraordinary event occur are ongoing challenges. A crisis management plan and various contingency plans are in place to maintain a state of preparedness for the rapid mobilisation of resources and the co-ordination of emergency actions.

In April 2012, the Department participated in an inter-departmental exercise involving the Government's Daya Bay Contingency Plan. The exercise simulated an off-site incident at the Guangdong Nuclear Power Station. Both desktop and field exercises were successfully conducted to test the effectiveness of our Daya Bay Contingency Plan and to monitor the level of coordination achieved with other departments in handling an emergency at the power plant.

水力發電站
Hydropower Plant

在屯門濾水廠興建的水力發電站與電力公司的高壓供電網絡連接，為廠內設施提供部分電力，預計每年產電約300萬度，既可節省電費，同時亦削減約2,000公噸因燃燒化石燃料而排放的二氧化碳。

The hydropower plant at Tuen Mun Water Treatment Works is grid-connected to the high voltage electricity supply network of the power company to supplement part of the electricity use in the water treatment works. It is estimated that the project will generate 3 million kWh of electricity a year. Apart from saving electricity cost, it also slashes almost 2,000 tonnes of carbon dioxide emissions from burning fossil fuels.

財務及水費
Finance and Water Charges

維持低廉水費

世界其他主要城市相比，香港市民為優質食水所繳付的費用相對低廉，而水費自一九九五年二月至今亦一直維持不變。

KEEPING WATER CHARGES LOW

People in Hong Kong pay less for high quality fresh water than their counterparts in most major cities around the world. The water charges have not been changed since February 1995.

收費幅度

住宅用戶的食水水費（沖廁用水除外）按以下四級制，每四個月收費一次：

SCALE OF CHARGES

Fresh water for domestic use (other than flushing) is charged per four-month period at rates set out in a four-tier system as follows.

	每單位收費* Charging rate per unit*
第一級－首12個單位 Tier 1 for the first 12 units	免費 Free
第二級－繼後的31個單位 Tier 2 for the next 31 units	$4.16
第三級－再繼後的19個單位 Tier 3 for the next 19 units	$6.45
第四級－餘下單位 Tier 4 for the remainder	$9.05

* 1個單位 = 1立方米

* One unit = one cubic metre

作其他用途的食水，會根據其用途按下表所列收費：

Fresh water for other uses is charged at other rates as follows according to the purposes of consumption.

用途 Purpose	每單位收費 Charging rate per unit
沖廁水每四個月的收費率 Flushing per 4 month period	
— 首30個單位 for the first 30 units	免費 Free
— 餘下單位 for the remainder	$4.58
商業Trade	$4.58
建築 Construction	$7.11
航運（非本地船隻）Shipping (Non-local Vessels)	$10.93
航運（本地船隻）Shipping (Local Vessels)	$4.58
航運以外用途（非本地船隻），並以預付票繳交水費 Any purpose other than Shipping (Non-local Vessels) where payment is made against a prepaid ticket	$4.58

鹹水沖廁費用全免。

Sea water for flushing is supplied free of charge.

財務及水費
Finance and Water Charges

為配合政府定期檢討各項收費的整體政策，由財經事務及庫務局常任秘書長（庫務）擔任主席的「水務帳目委員會」每年均會檢討水務帳目，檢討範圍涵蓋水費制度及收費水平，過程中亦會考慮多項因素，包括：水務設施的財政狀況、公眾接受程度及承擔能力、立法會議員的意見，以及其他相關政策目標。任何修訂水費制度及／或收費水平的建議，必須呈交行政會議，並在獲批准後經由立法程序通過。

除水費外，水務設施規例（第102A章）亦列明25項法定收費項目。我們一直遵照政府的「用者自付」原則檢討這些收費項目，以符合有關原則下收回一切服務供應成本的目標。於年內，我們已修訂24項法定收費項目，有關修訂自二零一二年八月一日起生效。我們會進一步修訂這些法定收費項目，有關修訂將會自二零一三年十二月一日起生效，目前有待立法會批准。

水費收入總覽

於二零一二至一三年度，約14%住宅用戶毋須支付任何水費；41%達到第二級用水量而繳付最多每單位4.16元水費；21%最多繳付第三級，即每單位6.45元水費；餘下24%最多繳付第四級，即每單位9.05元的水費。於二零一二至一三年度，250萬住宅用戶（包括無須繳付水費之用戶）每月平均水費為47元，約相等於住戶每月平均開支的0.3%。

In line with the Government's general policy to review fees and charges periodically, the Waterworks Accounts Committee, chaired by the Permanent Secretary for Financial Services and the Treasury (Treasury), reviews the Waterworks Operating Accounts annually. The review covers both the water tariff structure and the charging level, taking into consideration a number of factors including the financial performance of waterworks operations, public acceptance and affordability, views of Legislative Council members and any other policy objectives to be pursued. Any proposal for a change of the water tariff structure and/or charging level must be taken to the Executive Council and, if approved, to the Legislative Council to go through the legislative process.

Other than water charges, there are 25 statutory fees items stipulated in the Waterworks Regulations (Cap. 102A). We have been periodically reviewing these fee items in accordance with the Government-wide "user pays" principle which aims at recovering the full cost of providing the services. During the year, 24 statutory fee items have been revised effective from 1 August 2012. With approval by the Legislative Council, these statutory fee items will be further revised effective from 1 December 2013.

PROFILES OF THE REVENUE FROM WATER CHARGES

During the year 2012-13, some 14 per cent of domestic customers were not required to pay water charges, 41 per cent were paying up to the tier 2 rate of $4.16 per unit, 21 per cent were paying up to the tier 3 rate of $6.45 per unit and only 24 per cent were paying up to the tier 4 rate of $9.05 per unit. For the 2.5 million domestic customers, the average water charge in 2012-13, including those not required to pay any charge, was $47 per month. This was equal to about 0.3 per cent of the average monthly household expenditure.

過去五年按用戶類別劃分的水費收入分析如下：

An analysis of the water charges by sectors over the past five years is as follows.

百萬元 $M	08/09	09/10	10/11	11/12	**12/13**
商業 Trade	866	876	896	913	**905**
住宅 Domestic	1,407	1,443	1,408	1,414	**1,437**
政府 Government	159	150	163	155	**156**
其他# Others#	155	157	160	175	**185**
總收入 Total	2,587	2,626	2,627	2,657	**2,683**

包括沖廁用淡水

including fresh water for flushing

二零一二／一三年收入及開支分析水費收入（按用戶類別劃分，以百分比顯示）
Water Charge (% by Sectors) 2012/13 Analysis of revenue and expenditure

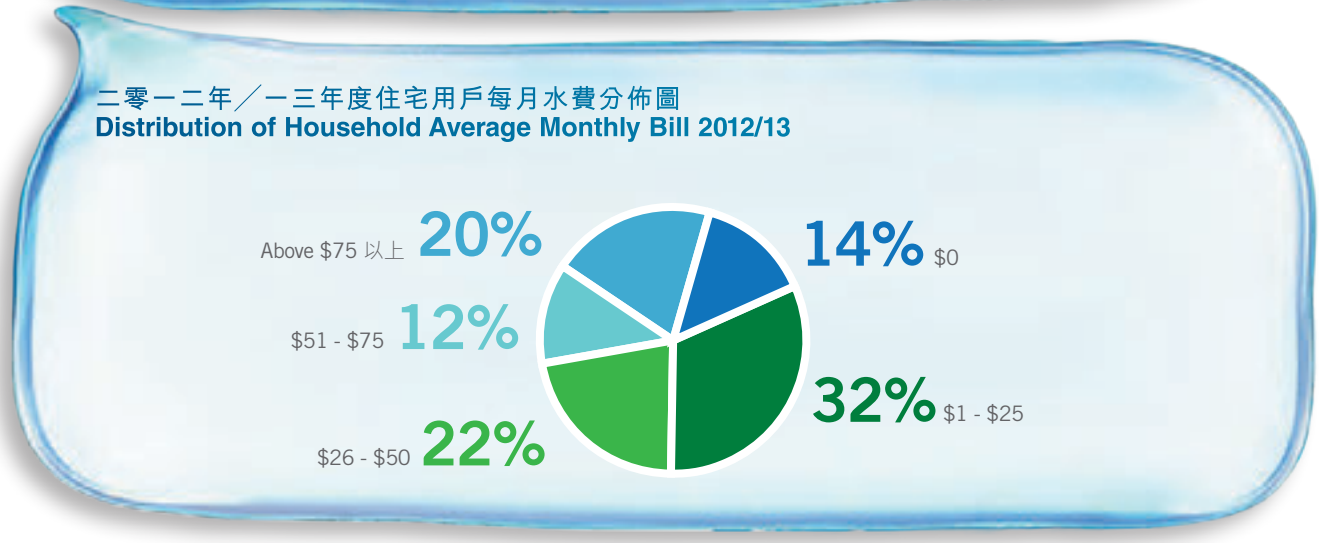
財務及水費
Finance and Water Charges

收入及開支分析

水費收入包括一般水費、各項收費、牌費，以及代客戶進行工程的收費。在編製水務賬目時，會以應計賬目基準呈列財務表現及狀況，其中包括各項非現金收入項目，主要為差餉補貼、免費用水補貼及政府用水。總運作成本主要包括員工費用、購買東江水支出、折舊、運作、行政及其他費用。過去五年的收入及開支分析如下：

ANALYSIS OF REVENUE AND EXPENDITURE

The revenue collections include chargeable water supplies, fees, licences, and reimbursable work. In preparing the Waterworks Operating Accounts which present the financial results and positions on an accrual accounts basis, the revenue includes non-cash items, mainly contribution from rates, contribution from free allowance, and water supplies for government uses. The total operating costs include mainly staff cost, purchase cost of Dongjiang water, depreciation, operating, administration and other expenses. An analysis of the revenue and expenditure over the past five years is as follows.



開支 Expenditure

百萬元 $million

本署致力以符合成本效益的方式提供服務，並大力投資在固定資產、設備、資訊科技及人力資源方面，藉此提高運作效益及員工生產力，務求滿足市民對更優秀服務的期望。社會大眾以及我們的用戶可以放心，我們會實行嚴謹的財務紀律，在提供優質服務滿足用戶需要之餘，不忘提升成本效益，而這項目標正是我們的抱負，更是我們的首要使命。

The Department is committed to providing services as cost effectively as possible. We have made substantial investment in fixed assets, equipment, information technology and human resources to improve the operating efficiency and staff productivity, and to meet the demand for higher quality of services by the public. Our customers and the public at large can be rest assured that we will exercise strict financial discipline and we will be cost conscientious in delivering our quality service to meet the demand of customers, a target which is our vision and accorded the first priority among our missions.

海水化淡廠
Desalination Plant

為使香港能更有效地應付未來難測的變化，例如氣候劇變及雨量下降等，我們正就位於將軍澳的海水化淡廠進行策劃及勘查研究，務求在有需要時能適時引入另類供水水源。

To better prepare Hong Kong for uncertainties such as acute climate changes and low rainfall, we are carrying out the planning and investigation study of the desalination plant at Tseung Kwan O so that an alternative water source could be readily tapped in good time when needed.

有效推動節約用水
Making Conservation Count

節約用水對於控制用水需求至為重要。我們從多方面實踐節約用水，包括減少水管因滲漏而導致用水流失，以及呼籲社會為節約用水作出貢獻。

用水流失管理措施

本署採用廣泛的測漏方法和一系列全區域監控及水壓管理技術，以減少配水系統的用水流失。我們定期進行最低晚間流量測試、分段流量測漏和音聽視察，以檢測漏水情況及確定漏水位置。全新的滲漏噪音相關設備採用經改良的計算法和數據分析，以確定滲漏點，特別適用於較大型口徑水管，這個設備讓檢測隊能更快速確定幹管的滲漏點。

When it comes to controlling the demand for water, conservation is a key tool. We exercise this tool in many ways – along the supply pipeline to stem water loss through system leaks and by using community conservation that calls for contributions from consumers.

WATER LOSS MANAGEMENT INITIATIVES

The Department applies an extensive range of water leak detection methods as well as a suite of district-wide monitoring and pressure management technologies to reduce water loss along the distribution system. Minimum night flow tests, step tests, sounding and visual inspections are carried out on a routine basis to detect and locate leaks. New leak noise correlating equipment with a refined algorithm and improved data analysis locates leak points, particularly in large diameter pipes. This equipment has strengthened the ability of detection teams to quickly source water leaks in trunk mains.

電磁流量計 Electromagnetic flowmeters

水管滲漏檢測
Leak detection

我們繼續在區域檢測區內沿水管安裝電磁流量計和噪聲記錄儀，以監察水管的狀況，並偵測滲漏點及其他異常情況，從而迅速採取補救行動。

We have continued to set up electromagnetic flowmeters and noise loggers along water mains in the district metering areas to monitor performance, identify leaks and source other irregularities enabling rapid remedial action.

香港有17個供水區，我們已完成或正在進行當中12個供水區的水壓管理設備及儀器安裝工程，以降低水壓、減少水管故障及抑制用水流失。我們正就其餘五個供水區進行調查研究，預計於二零一四年年中完成。

In 12 of Hong Kong's 17 major supply zones, we have either completed or commenced the installation of pressure management equipment and instrumentation to lower water pressure, reduce pipe failures and control water losses. Investigative studies are underway in the five outstanding zones. These should be completed by the middle of 2014.

有效推動節約用水
Making Conservation Count

推廣節水器具

「用水效益標籤計劃」於二零零九年推出，旨在鼓勵消費者使用節水器具及設備。該計劃的標籤初期只涵蓋節水花灑，其後推行至水龍頭、洗衣機和小便器具。

本署鼓勵私營發展商在發展新項目和翻修或改裝工程中，優先使用這些節水器具和其他節約用水設施。我們與香港綠色建築議會緊密合作，並參照「建築環境評審法計劃」，對包含節水特色的設計給予正式評分，評分將根據全年節水量及採用的節水設計而定。去年，我們繼續推行在政府大樓和學校加裝節水設備的計劃。

提高公眾節水意識

去年，我們就1 000多個住戶進行家居用水研究，研究結果讓我們更了解住戶的用水習慣和節水計劃的成效。儘管自二零一零年起人口增長了十萬人，但食水需求仍維持在同一水平。去年，我們根據調查結果制訂新措施，以提高節約用水的意識。

PROMOTING WATER EFFICIENT APPLIANCES

The Water Efficiency Labelling Scheme (WELS) was introduced in 2009 to encourage consumers to use appliances and equipment that conserve water. The scheme began with labels for water efficient showers for bathing and has since been extended to include labels that identify water efficient taps, washing machines and urinal equipment.

Private developers have been encouraged to prioritise the use of these devices and other water conservation features in both new developments and buildings that are being renovated or retrofitted. The Department has worked closely with the Hong Kong Green Building Council and the Building Environmental Assessment Method Plus Scheme to formally recognise designs that contain conservation features. The number of credits awarded are determined by the annual water saving and water conservation features adopted. Our own programme of retrofitting plumbing fixtures with water saving devices in existing government buildings and schools has continued over the past year.

RAISING PUBLIC AWARENESS

Last year we launched a domestic water consumption study that involved more than 1 000 homes. The study results gave us a clearer understanding of consumption habits in households and the effectiveness of our water conservation programmes. Despite a population growth of 100 000 people since 2010, the demand for fresh water remains at the same level. New conservation awareness initiatives launched over the past year have been based on survey findings.

我們在旺角辦事處設立臨時水資源教育中心，主要加強學生對水資源的興趣及理解。該中心亦開放給公眾，並設有特色展覽、即場示範和互動遊戲，全部均強調節約用水的重要性。該中心及其展品將會遷往天水圍新界西分區辦事處的永久地址。

年內，本署舉行濾水廠開放日，繼續讓公眾認識香港供水系統的運作情況，並在不同學校舉行巡迴講座，重點講解有關水循環、食水處理方案和世界部分地區水資源匱乏的資訊。

宣傳活動的主要對象是學生，因為我們認為年青人會向家人傳遞有力的節水信息。在許多活動上，我們都會舉辦比賽，而在去年為成人及學生所舉辦的各項比賽均以家居可採用的實用節水方法為主題。我們在頒獎典禮上頒發獎項和獎狀，並在西貢賽馬會大會堂、長青社區中心和禮頓山社區會堂展覽得獎作品。我們亦融入藝術及設計理念，舉辦校際特別運動帽設計比賽，邀請學生以「珍惜點滴為未來」的主題設計運動帽，是次比賽收到超過5 000份設計作品。

We have established the temporary Water Resources Education Centre at our offices in Mong Kok, primarily to foster interest and understanding about water amongst students. The centre is also open to the general public and features exhibitions, live demonstrations and interactive games, all of which focus on the importance of water conservation. The Centre and its exhibits will move to a permanent location at our New Territories West regional office in Tin Shui Wai.

Open days at water treatment facilities during the year continued to help people understand the operational aspects of Hong Kong's supply system while travelling road shows to schools focused on the water cycle, water treatment options and the scarcity of water in parts of the world.

Publicity campaigns deliberately target students and school children, working on the principle that a youngster will take strong water conservation messages home to his or her family. Competitions are used in many of our campaigns and the main themes used over the past year for both adult and school competitions alike focused on practical water saving ideas that can be adopted for homes. Awards and citations were announced at ceremonies and winning entries were exhibited at the Sai Kung Jockey Club Town Hall, the Cheung Ching Estate Community Centre and the Leighton Hill Community Centre. Art and design also featured in a special cap design competition for schools. Students were invited to use the "Save Drops for Tomorrow" theme to decorate sports caps. More than 5 000 design submissions were received.

有效推動節約用水
Making Conservation Count

用水效益檢討

本署進行用水效益檢討，研究所選定公用設施的用水情況，並就該些設施制訂最佳的用水效益實務指引，旨在減少該等設施的整體用水量。我們先檢討本署的裝置，隨後再把檢討工作擴展至康樂及文化事務署轄下的公園及游泳池。有關檢討工作既有助我們制訂節約用水指引，亦可維持向公眾提供服務的水平。

非法取水

根據《水務設施條例》，未經水務監督的水錶量度而從水務設施取水即屬違法。本署負責執行有關條例，並對違例者採取執法行動。我們在一些現有大型屋村和鄉郊村落安裝總錶，以監察用水量及偵測滲漏和非法取水的情況。在過去12個月，本署的檢控組就63宗非法取水個案作出檢控，全部個案都能成功入罪。此外，我們已完成下列所有工作表現目標：

WATER EFFICIENCY REVIEW

The Department conducts water efficiency reviews to study water use in selected public facilities and develop best water efficiency practice guidelines for those facilities. The objective is to reduce overall water consumption. The review process began with our own installations and has been extended to the parks and swimming pools operated by the Leisure and Cultural Services Department. The process enables us to develop water saving guidelines without compromising the level of services provided to the public.

ILLEGAL WATER USE

It is an offence under the Waterworks Ordinance (WWO) to draw water illegally from the waterworks without a metered measurement by the Water Authority. The Department is responsible for administering the Ordinance and for taking enforcement action against infringements. Bulk meters have been installed at some existing large housing estates and in rural villages to monitor consumption and identify leakage and unauthorised use. Over the past 12 months, the Department's Prosecution Unit instituted 63 prosecutions against illegal use of water, resulting in convictions in all cases. We have also achieved all the following performance targets:

工作 Actions	目標 Targets	二零一二／一三年度的成績 Achievement in 2012/13
接獲懷疑非法取水投訴後能夠在一個工作天內展開調查行動 Initiating an investigation after receiving a complaint on suspected unauthorised water consumption within 1 working day	80%	達致目標 Target Achieved
為打擊非法取水舉辦宣傳活動和講座的數目 Conducting publicity campaigns and seminars for promotion of combating unauthorised water consumption	60次 60 numbers	達致目標 Target Achieved
為水務署及其他部門人員提供偵察和舉報非法取水活動的培訓環節 Conducting training sessions for officers of WSD and other departments on detecting and reporting unlawful water taking activities	15次 15 numbers	達致目標 Target Achieved

海浪推動刷網裝置
Wave-powered Cleaning Device

海浪推動刷網裝置利用海浪和潮汐的動力，帶動鋼絲刷在進水口隔濾網表面上下擦動，有效地防止海洋生物依附在隔濾網上滋生，大大減省了繁重的人手清理隔濾網工作，從而提升工作效率。

Wave-powered Cleaning Device uses the power of waves and tides to make the wired brushes scrub up and down on the intake screens, which effectively prevents marine organisms from growing on the screens. It enhances operation efficiency by substantially lessens heavy labor on screen cleaning.

可持續運作
Sustainable Operations

歷史、經驗及準確理解供水所需的條件是我們維持可持續運作的重要元素。

本署致力：

- 嚴格遵守環保規例
- 善用能源和燃料
- 限制氣體排放
- 盡量減少辦公室用品的消耗
- 盡量減少處理食水過程中使用的化學品
- 盡量減少供水系統的用水流失量
- 盡量減少建築工程對環境造成的影響
- 減少化驗室、工場和濾水廠的固體、液體及化學廢物
- 盡量減少污水排放，並盡可能將污水循環再用
- 減少抽水站發出的噪音
- 提倡安裝綠化屋頂
- 提倡使用再造紙

History, experience and a precise understanding of what is required in terms of viable water supplies are key elements that enable us to operate in a sustainable manner.

The Department is committed to:

- working in strict compliance with environmental regulations
- optimising the use of energy and fuel consumption
- limiting gaseous emissions
- minimising the consumption of glossary items in offices
- minimising the use of chemicals in the water treatment process
- minimising water loss across the distribution system
- minimising environmental impacts that can arise from construction work
- reducing the quantities of solid, liquid and chemical wastes generated by our laboratories, workshop and treatment works
- minimising the discharge of effluent and where possible recycle effluent as reclaimed water
- reducing noise generated from pumping stations
- encouraging the setting up of green roofs
- encouraging the use of recycle paper

位於欣澳海水抽水站的太陽能板及風力發電裝置
Solar panels and wind turbine at Sunny Bay Salt Water Pumping Station

使用及節約能源

作為香港電力的最大用戶之一，本署致力盡量減少能源消耗，並在所有運作中引入各項可再生能源措施。去年，我們改善電力消耗的管理，成功把用電量降低4%，這主要是因為我們採用了辦公室環保內務管理、根據使用周期成本分析購置供水設施，以及使用節能設備。

本署與私營公司和大學建立強而有力的合作關係，共同開發創新的能源方案，以應用於供水鏈。我們最近研發在一系列運作上使用水力、風力、海浪及太陽能發電。

屯門濾水廠有兩部水輪發電機，第一部於二零一三年三月投入服務，全天候運作，生產180至210千瓦電力。這史無前例的水力發電廠達到環境及成本效益，成績令人鼓舞。因此，第二部發電機現

ENERGY USE AND SAVINGS

As one of the largest single consumers of electricity in Hong Kong, the Department works to minimise energy consumption and introduce renewable energy initiatives across the spectrum of its operations. Over the past year, by improving the management of power consumption we have succeeded in reducing electricity use by 4 per cent. This is largely the result of green housekeeping in offices, procuring assets based on life-cycle costing methodology and using energy efficient equipment.

The Department forms strong partnerships with private sector companies and universities to develop innovative energy solutions for use along its supply chain. Recent research and development work has resulted in hydropower, wind, wave and solar energy being used to drive a range of operations.

At Tuen Mun Water Treatment Works, the first of its two water turbine generators was commissioned in March 2013 to produce 180 to 210 kW of electricity round the clock. Encouraged by the environmental and cost benefits achieved in this pioneering hydropower plant, the design of the second generator is being

可持續運作
Sustainable Operations

正進入最後的設計階段，以盡量擴展發電廠的運作範疇，並進一步減少碳排放。本署亦裝設了與香港理工大學合作研發而獲獎的內聯閉式水力發電裝置，以提供電力給用以監控地下水管作區域檢測和水壓管理的設備。該項發明大大增加了數據傳輸的次數，從而提升了數據分析的質素。

finalised to optimise the plant operating range and to enhance the reduction of carbon emissions. Award winning in-line hydroelectric power harnessing devices, developed by the Department in partnership with the Hong Kong Polytechnic University, have been installed to supply electrical power to equipment that monitors underground pipes for district metering and pressure management. The invention has greatly increased the frequency of data transmission, enhancing the quality of data analysis.

屯門濾水廠水力發電站
Tuen Mun Water Treatment Works Hydropower Plant

水力發電站控制系統和模型
Control system and model of hydropower plant

我們利用監控及資料收集系統測試高端技術，善用在供水及配水系統操作水泵所需的能源。本署與英國艾克斯特大學水系統中心和本地工程界合作，繼續改良北港濾水廠的網上水泵控制方法。這個試驗計劃根據實時水力模型，測試「遺傳基因演算法」，以安排食水泵的運作，並會擴展至海水系統。

We have used our SCADA system to test state-of-the-art technologies that optimise the energy needed to operate pumps along the supply and distribution network. In partnership with the Centre for Water Systems at the University of Exeter in the United Kingdom and the local engineering sector, we are continuing to refine the methodology of on-line pump control at Pak Kong Water Treatment Works. Testing of genetic algorithm to schedule the operation of fresh water pumps based on a real-time hydraulic model in this pilot project will be extended to the salt water system.

最新設計的虹吸進水管試用成功後，將安裝在新的配水庫中，從而減低抽水水壓，以達致節約能源的效果。在部分現有及新建抽水站中，使用變速抽水亦可降低能源消耗量。現有長沙灣及小西灣海水抽水站將分別展開試驗計劃，把11千伏特及380伏特水泵轉換成變速抽水裝置，新建的紅棉路食水抽水站亦會採用類似的設計。

Siphon inlet pipes are being installed at new service reservoirs following successful trials of the latest design that offered an opportunity for energy saving by reducing the pumping head. Variable speed pump operation in some of the existing and new pumping stations will also reduce energy consumption. Pilot schemes that convert 11kV and 380V pumps into variable speed operation are about to commence at the existing Cheung Sha Wan and Siu Sai Wan salt water pumping stations respectively and a similar design is being adopted for the new Cotton Tree Drive Fresh Water Pumping Station.

直立式風力發電裝置
A vertical wind turbine

海浪推動刷網裝置及其操作示範模型
Wave-powered Cleaning Device and its operational model

我們的保養隊亦成功開發海浪推動清潔裝置，以防止海旁抽水站的海水進水口濾隔有海洋生物依附生長。進水口濾隔能防止泥石進入抽水站、阻塞水管及妨礙水泵有效率地運作。此項由本署人員研發的新清潔裝置，利用海浪推動一排鋼絲刷，不停洗擦進水口濾隔，以防止海洋生物黏附其上。此裝置經測試證實有效，將安裝於全部20個海水抽水站，以節省清潔濾水隔所需的人力、用水和能源。

Our maintenance team has successfully developed a wave-powered cleaning device to prevent marine growth on the salt water intake screens at seafront pumping stations. Intake screens stop debris from entering pumping stations, blocking water pipes and impeding the efficient operation of the pumps. The new cleaning device developed by in-house staff uses the waves from the sea to drive a chain of wire brushes that continually scrub the intake screens, preventing the attachment of marine organisms. The device has been tested, proven to be effective and will be installed at all 20 seawater pumping stations to save manpower, water and energy for screen cleaning.

可持續運作
Sustainable Operations

人均耗電量（食水及原水）
Per Capita Electricity Consumption (Fresh Water and Raw Water)
千瓦時／每人／每年 kWh/head/year

每單位耗電量（食水及原水）
Unit Electricity Consumption (Fresh Water and Raw Water)
千瓦時／立方米 kWh/m³

人均耗電量（海水）
Per Capita Electricity Consumption (Sea Water)
千瓦時／每人／每年 kWh/head/year

每單位耗電量（海水）
Unit Electricity Consumption (Sea Water)
千瓦時／立方米 kWh/m³

辦公室每單位樓面面積的耗電量
Office Electricity Consumption Per Unit Floor Space
千瓦時／平方米 kWh/m²

人均住宅食水耗用量
Per Capita Domestic Fresh Water Consumption
公升／日 Litres/day

人均沖廁水耗用量（食水及海水）
Per Capita Flushing Water Consumption (Fresh Water & Sea Water)
公升／日 Litres/day

耗紙量
Paper Consumption
令 Reams

23 206 = 15 383 再造紙 recycle paper + 7 823 非木製紙 woodfree paper

通用表格及部門表格的用量
GF and Departmental Forms Consumption
千張 1 000 Sheets

信封用量
Envelopes Consumption
個信封 Envelopes

可持續運作
Sustainable Operations

關注環境

公眾可享用集水區內及沿靠多個水塘的康樂遠足徑和郊遊區。本署通過全面的樹木管理計劃，主要在具有歷史意義的水務設施內及附近種植本土樹木，以協助美化這些地方。為配合政府指引，我們每年對密集使用的地方進行全面的樹木風險評估，以識別可能存在結構或健康問題的樹木。我們會對這些樹木和被視為珍貴的物種進行監察，並在有需要時推行紓緩措施。

我們已在各辦事處和部分水務設施安裝綠化屋頂，以改善環境美感及提高有關大樓的能源效益。綠化屋頂不僅能營造一個園林環境，亦能在炎熱的日子減少陽光熱能的吸收。

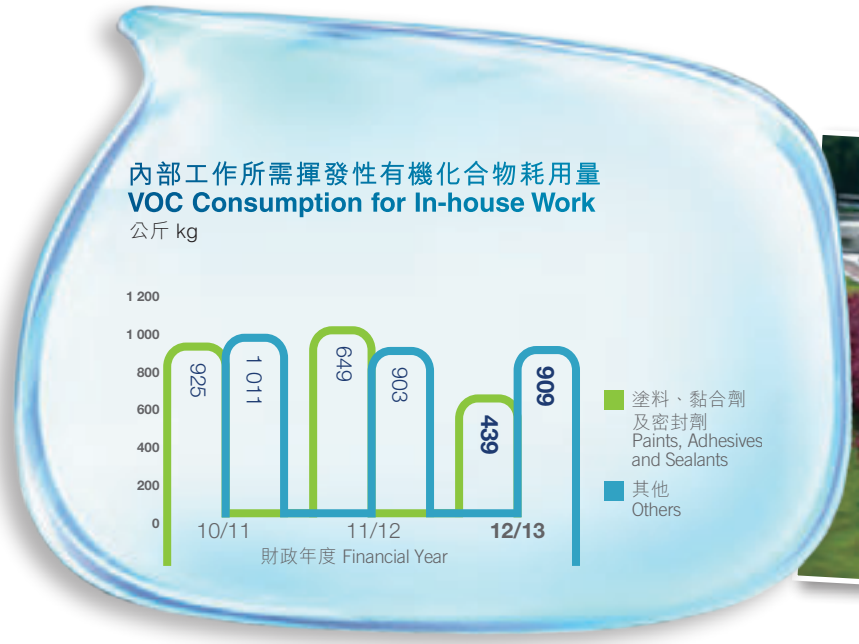
我們所有辦事處在日常運作中，均以電子方式溝通及處理文件，反映了愛護環境的文化及意識。這種文化及意識亦體現於供水鏈上，我們廣泛使用數據記錄儀及其他電子設備，從而建立一個方便可靠的無紙化資訊系統。

ENVIRONMENTAL FOCUS

Recreational hiking trails and picnic areas in water catchment areas and alongside many water reservoirs are enjoyed by the public. The Department assists in the beautification of these areas through a comprehensive tree management programme with an emphasis on the planting of native trees in and around historic waterworks facilities. In line with Government guidelines, we have undertaken an annual comprehensive tree risk assessment in areas of intensive use to identify trees with possible structural or health problems. These trees, along with species regarded as valuable, are monitored and mitigation measures have been implemented when required.

We have installed green roofs over our network of offices and some of the water works to improve environmental aesthetics and to boost the energy performance of buildings. The green roofs create a garden atmosphere and help reduce heat absorption from sunlight on hot days.

All offices reflect a culture of environmental care and awareness in day to day business by using electronic communications and documentation. Similar care and awareness levels are in place along the supply chain where the extensive use of data loggers and other electronic devices have resulted in an information system that is reliable, easily accessible and paperless.



抽水站的綠化屋頂
Green roof of a pumping station

公用集調車輛資料
INFORMATION ON POOL TRANSPORT

	公務用車數量 No of Government Vehicles in Operation			總燃料耗用量（公升） Total Fuel Consumption (Litres)			總車程（公里） Total mileage (km)		
	10/11	11/12	**12/13**	10/11	11/12	**12/13**	10/11	11/12	**12/13**
柴油 Diesel	19	18	**18**	33 756	30 619	**28 121**	227 977	209 738	**138 193**
汽油 Petroleum	205	196	**201**	517 113	461 144	**533 795**	3 605 776	3 255 439	**3 538 662**
混合（汽油／電力） Hybrid (Petrol/ Electric)	20	21	**20**	50 450	53 834	**15 897**	351 783	376 407	**260 951**
液化石油氣 LPG	8	8	**8**	29 184	36 171	**36 167**	90 403	115 208	**109 775**
電力 Electricity	1	3	**4**	–	–	**–**	5 709	16 437	**32 900**

廢氣排放
EMISSIONS

（以公噸計） (Figures in Tonnes)	二氧化碳 CO_2			二氧化硫 SO_2			氮氧化物 NO_x			可吸入懸浮粒子 RSP		
直接廢氣排放 Direct Emissions	10/11	11/12	**12/13**	10/11	11/12	**12/13**	10/11	11/12	**12/13**	10/11	11/12	**12/13**
公務用車（柴油） Vehicle fleet (Diesel)	88	80	**74**	–	–	**–**	1	1	**1**	–	–	**–**
公務用車（汽油） Vehicle fleet (Petrol)	1 220	1 215	**1 297**	–	–	**–**	1	1	**1**	–	–	**–**
公務用車（液化石油氣） Vehicle fleet (LPG)	49	61	**61**	–	–	**–**	–	–	**–**	–	–	**–**
間接廢氣排放 Indirect Emissions												
耗用電（九龍及新界） Electricity Consumed (Kowloon and New Territories)	324 992	368 802	**351 277**	220	181	**204**	313	363	**398**	16	14	**13**
耗用電（港島） Electricity Consumed (Hong Kong Island)	51 179	56 179	**55 910**	95	27	**26**	70	58	**62**	2	1	**1**
總量 Total	**377 528**	**426 337**	**406 619**	**315**	**208**	**230**	**385**	**423**	**462**	**18**	**15**	**14**

生物感應預警系統
Biosensing Alert System

創新自動化的斑馬魚水質監察系統能更早預警水質污染，進一步保障供水的水質安全和市民的健康。

The novel automated Zebrafish Water Quality Monitoring System could forewarn contamination of water quality earlier to further safeguard the water supply for protection of public health.

專注客戶服務
Focusing on Customer Service

作為一個以客為本的機構，我們盡量提供不同渠道，確保用戶能迅速與我們聯絡，從而清楚得知各區水務工作的進展情況。

保持溝通

我們繼續進行多項意見調查，旨在從調查結果深入了解客戶的需要。

一項樓宇水質意見調查顯示，92.8%的住宅用戶滿意自來水的水質，而受訪的私人物業管理公司則認為97.9%的住宅樓宇住戶和94.1%的非住宅樓宇用戶對食水水質有類似的滿意程度。絕大部分住宅用戶均了解定期清洗水缸的重要性，以及更換損壞供水裝置和設施的需要。這些調查有助我們制訂政策和守則，以配合不同區域及用戶的增長和需求。

As a customer focused organisation, we make ourselves as accessible as possible, ensuring that consumers can reach us quickly and, in turn, are clearly informed of any water-related developments in their districts.

STAYING IN TOUCH

We continue to be guided by the outcomes of a range of opinion surveys aimed at enhancing our understanding of customer needs.

A survey on the quality of water in buildings revealed that 92.8 per cent of domestic customers are satisfied with the quality of tap water while private property management companies surveyed believe that 97.9 per cent and 94.1 per cent of their clients and residents in residential and non-residential buildings respectively have similar levels of satisfaction. Almost all domestic customers understood the importance of cleaning water tanks regularly and the need to replace deteriorating water supply installations and facilities. These surveys help us develop policies and practices that specifically meet the growth and needs of different districts and consumers.

專注客戶服務
Focusing on Customer Service

馬鞍山濾水廠開放日
Open Day at Ma On Shan Water Treatment Works

我們根據公眾意見調查結果，舉辦多個以客為本的重點活動，集中教育及節約用水事宜，其中一項宣傳活動的目標為每名用戶每日節約十公升食水，有關目標可通過縮短淋浴時間及避免不必要地長開水龍頭而達到。此項「齊來慳水十公升」活動初期只涉及1 000名用戶，隨後將推廣至全港市民。我們亦在旺角設立水資源教育中心，並在各區舉辦「惜水愛地球」巡迴展覽。我們亦以不同語言印製節約用水貼士，並派發予家庭傭工。

我們設有客戶聯絡小組，與客戶直接聯繫。該小組於20年前成立，持續就公眾的期望為我們提供有用的資訊。小組去年召開三次會議，成員來自社會不同界別。該小組曾就多項措施與本署合作，其成員曾參觀馬鞍山濾水廠，並聽取有關當前問題的講解及計劃，包括經改善的水費單、擬建的海水化淡廠、水錶更換工作，以及水質監控的事宜。

Key consumer oriented initiatives launched as result of public opinion surveys focused on education and conservation. They included a publicity campaign aimed at each consumer saving 10 litres of water a day. This can be achieved by quicker showers and not running tap water unnecessarily. The 'Let's Save 10L Water' campaign initially involves 1 000 consumers, but will be extended to the entire population. A Water Resources Centre has been established in Mong Kok and a roving exhibition 'Save Water; Cherish the World' is being shown in different districts. Water saving tips have been published in various languages and distributed amongst domestic helpers.

We have engaged directly with customers through The Customer Liaison Group – a communication channel established 20 years ago which continues to provide us with useful information on public expectations. The group met three times over the past year. Drawn from a cross section of the community, the Group has worked with the Department on a number of initiatives. Members visited the Ma On Shan Treatment Works and studied presentations and plans covering current issues such as enhanced water bills, the proposed desalination plant, meter replacement work and progress made in monitoring water quality.

我們亦繼續與其他政府部門和私營發展商緊密合作，確保新建住宅及商業樓宇有適當的供水服務，以及用水需求事宜已納入日後的規劃中。

方便用戶繳費

年內，本署共處理150萬宗客戶查詢及服務申請，一般都經由我們的熱線或客戶諮詢中心接獲。雖然大多數市民仍親身前往繳交水費，但越來越多人已通過電子方式收取水費單及繳付水費。我們已改善電子帳單，向用戶提供帳單摘要。截至二零一三年三月三十一日，有7 900名用戶以電子方式收取帳單。來年，我們將拓展電子服務範圍，經智能手機的移動應用程式，提供帳戶摘要，以及發出催繳通知和詳盡的暫停供水通告，以增加通過電子方式收取帳單的用戶數目。

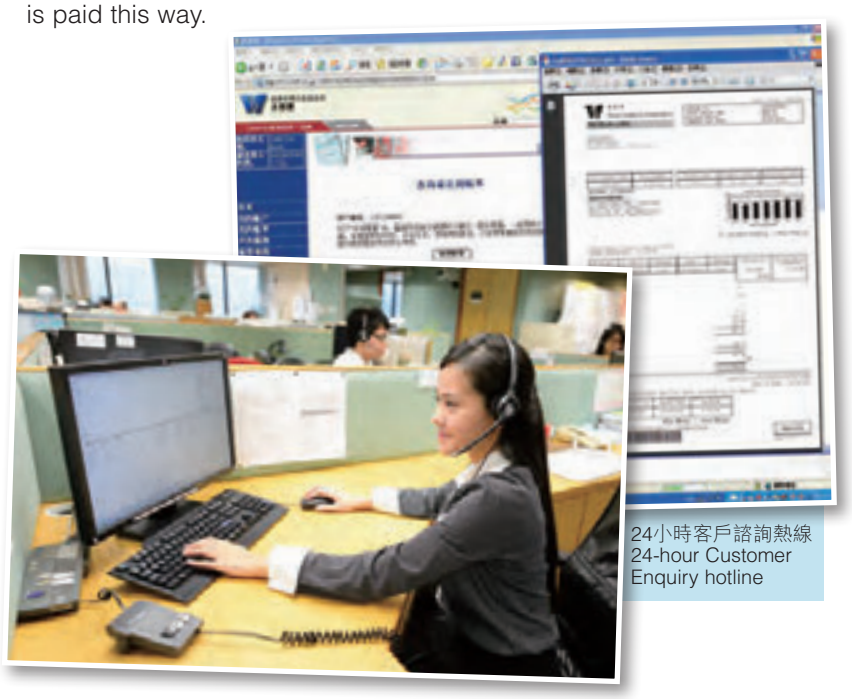
於二零一二年，我們為方便市民繳交水費，已授權7-11、OK及VanGO便利店，以及華潤萬家超級市場，代表本署收取水費。目前，有超過1 000間便利店提供全天候的繳費渠道，平均每月有13萬個水費帳戶通過這方式繳費。

Similarly, we have continued to work closely with other Government departments as well as private sector developers to ensure that appropriate water supplies and services are in place for new residential or commercial buildings and that water supply needs are an integral part of future planning.

FACILITATING BILL PAYMENTS

The Department handled 1.5 million customer inquiries and service requests during the year. These were generally received via our hotline or customer inquiry centres. Whilst most people continue to pay their water bills in person an increasing number are receiving invoices and making payments electronically. We have enhanced e-bills by providing customers with bill summaries. As at 31 March 2013, 7 900 customers received their bills electronically. Over the coming year, we will broaden our range of e-services to boost this figure. Account summaries, reminders and comprehensive water suspension notices will be made available through mobile applications for use on smart phones.

Water account payments were facilitated in 2012 when convenience stores 7-Eleven, Circle K and VanGO, along with China Resources Vanguard Supermarkets, were named as able to accept payments on behalf of the Department. Payment channels are now available round the clock at more than 1 000 convenience stores. An average of 130 000 accounts per month is paid this way.



24小時客戶諮詢熱線
24-hour Customer Enquiry hotline

專注客戶服務
Focusing on Customer Service

家用水質

在用水供應給住宅及商業設施之前，我們於每個階段都會檢測水質。食水由我們的水廠網絡，經過水管配水網絡，輸送到最終用戶，整個過程都依照國際水質指引。然而，用水輸送到處所後，水質的問題便由用戶及業主負責。為了在這方面協助樓宇業主及向用戶保證用水是安全的，我們推出「大廈優質食水認可計劃」。這項計劃覆蓋住宅用戶、商業及工業樓宇，並已頒發3 600張金、銀、藍證書，以表揚有關大廈內部的優質供水系統。

WATER QUALITY IN THE HOME

We test the quality of water we supply to homes and businesses at every stage before it reaches taps. The fresh water that travels from our network of treatment stations, along the mains distribution network to the end consumer is in accordance with international quality guidelines. However, consumers and building owners are responsible for quality once the water reaches their premises. To help building owners and to reassure consumers that the water they use is safe, we have developed a Quality Water Recognition Scheme for Buildings. This scheme covers domestic households as well as commercial and industrial buildings, 3 600 gold, silver and blue certificates have been awarded in recognition of the quality of their quality plumbing systems.

除了這項食水認可計劃外，我們正展開一項新計劃，覆蓋沖廁供水管系統。我們有信心此項計劃能有助避免因沖廁系統保養欠佳而出現的停止供水情況。我們亦向水喉匠及其他負責安裝樓宇供水設備的業界人士派發宣傳資料及指引。

In addition to this fresh water recognition scheme, we are developing a new scheme that will cover plumbing systems used for the supply of flushing water. We are confident that this will help avoid failures in flushing water supplies as a result of systems that are poorly maintained. Publicity material and guidelines have also been issued for plumbers and other trades responsible for the installation of building services related to water supplies.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專注客戶服務
Focusing on Customer Service

水錶及讀數

我們繼續按計劃更換臨近最佳使用年期的水錶。於二零一二至一三年度，本署分別更換了66%和42%的小型及大型水錶，這些水錶將在年底前超逾最佳使用年期。因此，於本年年底仍在使用的小型及大型舊水錶的比例分別只有2.6%和19%，正在使用而讀數準確度符合理想水平的水錶比例則增至96%。

METERS AND READINGS

We have continued our programme of replacing water meters that are close to reaching their optimal service life. During the year 21012/13, WSD has replaced 66% and 42% respectively of the old small and large meters that would be beyond their optimal serviceable life before the end of the year. As a result, the percentages of old small and large meters remained in service at the end of the year are just 2.6% and 19% respectively. As a result, the percentage of meters now operating within desired accuracy levels has increased to 96 per cent.

我們亦推出一項新措施，在元州村的住宅樓宇和上水紀律部隊宿舍實施自動抄錶試驗計劃。該計劃的實地安裝工程將於二零一三年九月完成。本署亦在龍翔道工場推行小規模計劃，於未來數月仔細評估工場內不同製造商的自動抄錶裝置。

雖然我們的「更換及修復水管計劃」使供水系統更可靠，但我們總會遇上緊急或預先安排的暫停供水情況。為迅速把用水運往暫停供水的地區，我們新增了五輛水車，使現有水車數目增至十輛。

In a new initiative, a pilot scheme for automatic meter reading has been launched in residential buildings on Un Chau Estate and at the Sheung Shui Disciplined Services Quarters. Site installation works for the project were due to be completed by September 2013. A small scale scheme has also been set up within the Department's Lung Cheung Road workshop where automatic meter reading machines from various manufacturers will be carefully evaluated over the coming months.

Whilst our water mains replacement and rehabilitation programme continues to improve the reliability of all water supplies, there are times when we face emergency or planned suspension of water services. To enable us to quickly get water to areas that face suspended services, we added five new water wagons to our fleet, taking the number of wagons to 10.

讓用戶取得最新資訊

本署提供一系列通訊渠道及刊物，讓用戶持續地了解供水情況。我們出版季度簡訊，重點講述本港及全球水資源的發展情況。本署的五個客戶諮詢中心提供超過20款單張及小冊子，供發展商及其他相關行業人士參考。

我們亦為中小學提供一套全面的資料，這些教材都是經特別設計的，以培養學生對水資源「從取水到用水」整個過程的興趣。

年內，我們繼續在向用戶提供的電子及互聯網服務方面作出各種改善，包括為殘疾人士建立無障礙網站、讓用戶查看水費單摘要，以及便利公眾瀏覽暫停及恢復供水的通告。

KEEPING CUSTOMERS INFORMED

Consumers are kept informed of water supply developments through a range of communication tools and publications that are made readily available. Quarterly newsletters are published highlighting local and global developments in the world of water resources. More than 20 leaflets and booklets, including guides for commercial developers and relevant trades, are available at our five Customer Enquiry Centres.

A full suite of information is also available for primary and secondary schools to access. These education materials have been created specifically to foster an interest in water 'from source to tap'.

During the year, we have continued to make various enhancements in providing electronic and internet services to our customers, including building no barrier websites for the people with disabilities, enabling customers to view their water bill summary, and facilitating the public to browse water suspension and resumption notices.

內聯閉式水力發電系統
Inline Hydroelectric Generating System

內聯閉式水力發電系統是通過善用資源，利用水管內的剩餘水壓，為持續監察供水網絡提充足的綠色電力。

By making good use of resources, Inline Hydroelectric Generating System achieved to generate sufficient green power to sustain continuous monitoring of our water supply network through harnessing surplus head in water mains.

開創未來
Shaping Our Future

我們積極培育出色的管理領袖，並在各個供水範疇推行多項工作能力計劃。

培育一支盡心盡力的工作隊伍

本署各部均擁有能幹而盡心盡力的工作隊伍，我們加強對全體4 396名員工的培訓，以確保能繼續有效地滿足客戶需求。本署的訓練組集中在濾水、安全性及處理緊急事故方面，提供共12 528個工日的培訓，成本達210萬元。在工作地點發生意外的統計數字顯示，水務工程合約意外率一直處於較低水平，而且遠低於政府就公共工程合約所定的安全上限。

本署管理層繼續與各級員工建立強而有效的溝通。部門協商委員會及轄下小組委員會提供多個有效平台，供員工就共同關心的事項交換意見。我們定期與工

We are actively developing strong managerial leadership and rolling out work place competency programmes that cover all aspects of water supplies provision.

FOSTERING A COMMITTED WORKFORCE

The Department boasts a capable and committed workforce across all disciplines. In depth training programmes for our (4 396) staff ensure we continue to meet the needs of customers effectively. Our in-house training unit focused on areas of water treatment, safety and emergency handling, producing a total of 12 528 training man days at a cost of $2.1 million. Workplace accident statistics show that we are achieving a consistently low accident rate on water works contracts – well below the safety limit set by Government for public works contracts.

Strong and effective communications continue to grow between management and staff at all levels. The Departmental Consultative Committee and its sub committees provide useful forums for the exchange of ideas on issues of common

會舉行會議，而高級人員亦定期到訪各辦事處及工作場地，以了解相關項目及激勵員工。本署鼓勵所有主管人員思考如何提高生產力及改善服務，就此我們獲得多項可改善運作的創新建議，這些建議經考慮、試行及實施後，明顯提升了我們的服務質素和運作效率。

concern. Regular meetings have been held with staff unions and senior officers regularly visit individual offices and work sites to familiarise themselves with projects and to motivate staff. All supervisors are encouraged to consider productivity enhancement and service delivery improvements. As a result, a number of innovative ideas that assist our operations have been considered, trialled and implemented with impressive service and operational improvements.

開創未來
Shaping Our Future

向合作伙伴學習

我們與學術機構和私營公司一同研究及發展多個項目，從而加強了雙方在技術發展和新技術應用方面的合作。我們鼓勵創新的文化，加強了各級員工的信心。年內，我們的員工提出很多改善工作的建議，有關建議在可行情況下都得以付諸實行。其中一個能顯示我們創新能力的出色例子，就是本署人員研發了一項以海浪推動的洗刷裝置，使海旁抽水站的海水進水口濾隔暢通無阻，得以全天候運作。

為促進員工理解彼此在不同組別及單位的工作，我們就抄錶、安全作業方法、客戶私隱和防止貪污事宜，舉辦了一系列的經驗分享會。

LEARNING FROM PARTNERSHIPS

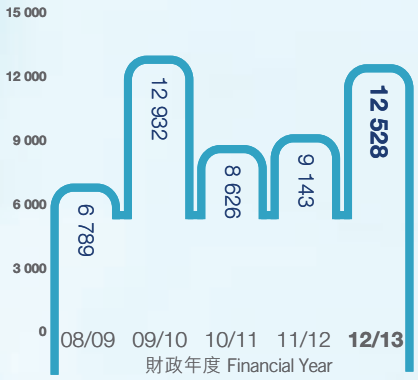
Our partnerships with academic institutions and private sector companies on research and development projects has led to strong collaboration on technological developments and newly created applications. Our culture of innovation has strengthened confidence at all levels and many ideas proffered by staff during the year to improve aspects of our work have been explored and, where practical, introduced. An outstanding example of our home grown ability to innovate is the development by staff of a wave-powered cleaning device for keeping the salt water intake screens operational round the clock and free from blockage at seafront pumping stations.

To facilitate staff understanding of the work of different sections and units within the Civil Service, a series of experience sharing sessions were organised on meter reading, safe practices, customer privacy and corruption prevention.

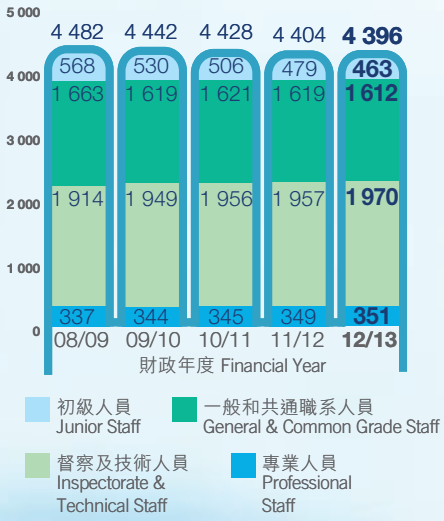
本署於二零一零年設立技術轉移工作坊及培訓小組，主要是為提高員工對水處理的認識，就濾水廠的設計、濾水程序和運作舉辦研討會，小組成員共50人。年內，有關成員已互相分享技術知識，部分成員亦曾五次到本地及海外濾水廠進行技術訪問。本署的工程顧問亦繼續向員工傳授技術知識。

A technology transfer workshop and training group, formed in 2010 to focus on increasing knowledge of water treatment, conducted seminars, design, treatment processes and the operation of the treatment plants. Technological knowledge has been shared and five technical visits to local or overseas water treatment works were made by some of the 50 group members during the year. The Department's engineering consultants have also continued to transfer technical knowledge to staff.

培訓工日
Training Man-days



員工編制
Staff Establishment



部門職位互調計劃

「職位互調計劃」已踏入第四年，在該計劃下，本署的工程師會獲調派至其他政府部門，以擴闊他們的眼界及豐富其工作經驗。所有範疇的工程師都可申請職位互調，一般為期兩年。本署相信該計劃有助進行員工繼任的規劃，並讓員工有機會在另一個環境展現決斷行事的能力和才能。

我們於二零一二年年初檢討這項計劃，參與的工程師及其同僚的回應一般都是相當正面的。

DEPARTMENTAL CROSS POSTINGS

A cross-posting scheme that sends engineers from the Department to other Government departments to broaden exposure and give staff a richer experience has continued into its fourth year, Engineers from all areas can apply for a cross posting position which normally lasts for a two year term. The Department believes that the scheme helps staff succession planning and offers an alternative environment for people to demonstrate initiative and capabilities.

A review of the programme was conducted early in 2012 and feedback from participating engineers and their peers was generally positive.

開創未來
Shaping Our Future

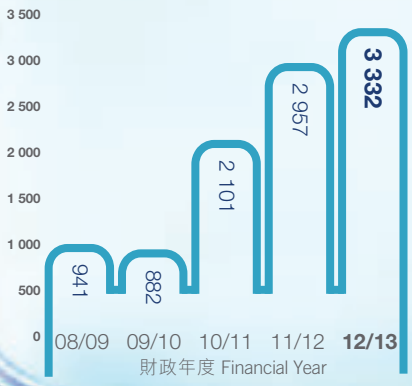
建立團隊

就員工福利而言，平衡工作與生活及提升署內的團隊精神是我們的明確目標。年內，我們舉行了各色各樣的體育賽事，有超過500名員工參與其中，包括乒乓球比賽、籃球比賽、足球比賽，以及為員工及其親屬而設的「家庭同樂日」。其他政府部門及私營公司亦有一同參與多項賽事。

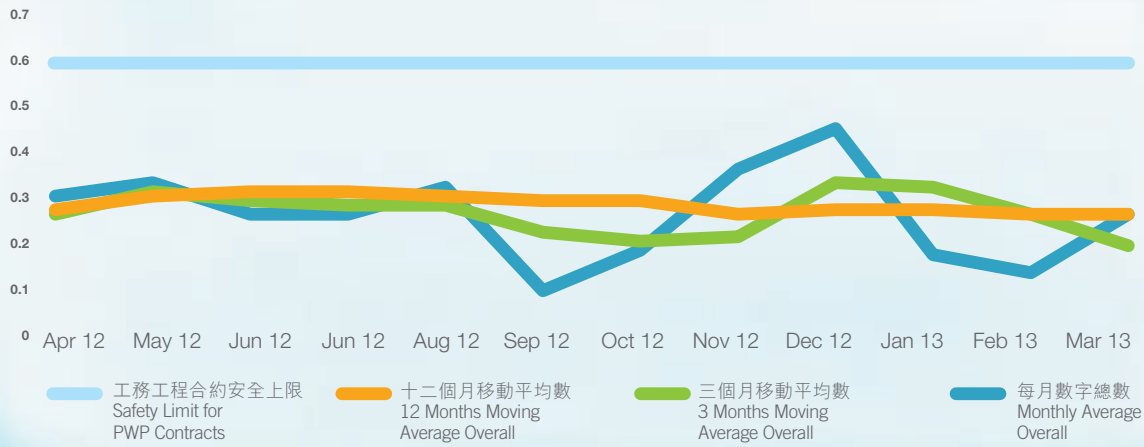
TEAM BUILDING

Work-life balance and the deepening of a team spirit across the organisation are clear targets in terms of staff welfare. A series of diversified sports events were arranged during the year. More than 500 staff members participated in events which ranged from table tennis, basketball, soccer and fun days designed for staff and their families. Many events involved other Government departments and private sector companies.

水務署義工工時數目
No. of Man-hours for WSD Volunteers



二零一二／一三年度水務工程合約意外率
Accident Rates for Waterworks Contracts 2012/13



義務工作

本署人員繼續積極參與義務工作，履行對社會的承諾。於年內，我們的義工參加了超過166個慈善活動，當中包括籌款活動、探訪老人院及協助殘疾人士，服務時數更打破以往紀錄，有15名員工獲得個人金、銀、銅嘉許狀，表揚他們以社區為本的工作。

VOLUNTARY WORK

Staff volunteers continued to show their commitment to the community by participating in more than 166 charitable events during the year including fund raising, visits to homes of the elderly and assisting the disabled. A record number of service hours were recorded and 15 staff members received individual gold, silver and bronze awards in recognition of their community-focused work.

開創未來
Shaping Our Future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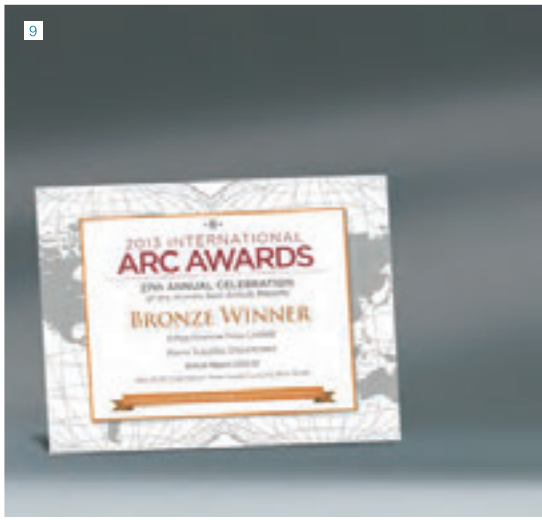
9

獎項和嘉許

本署最近在本港及國際均獲得多個獎項，以認同我們在服務、創新及人力發展方面的成就。水務署於二零一二至一三年度獲得的獎項包括：

1. 由申訴專員頒發的「公營機構嘉許獎」，以表彰我們的員工態度積極，以及客戶服務較以往進步。

2. 由國際水協頒發的「全球及東亞地區榮譽大獎」和「可持續專家組別大獎」，以及在「世界智能城市大獎」中的決賽獎，以表揚香港海水沖廁系統的創新項目。

3. 由香港工程師學會頒發的「21世紀香港十大傑出工程項目」榮譽，以表揚我們開發的巖洞配水庫。

4. 由香港工程師學會頒發的二零一二至二零一三年度「工程創意大獎」，以嘉許我們與香港理工大學合作研發的內聯閉式水力發電裝置。

5. 由僱員再培訓局頒發的二零一三至一五年度「人才企業」榮譽，以肯定我們在人才培訓及開發方面的貢獻。

6. 由社會福利署頒發的「義務工作嘉許狀」（團體）金狀。

7. 由互聯網專業協會頒發的「無障礙優異網站獎」鑽石獎，以嘉許我們致力維持水務署網站的無障礙瀏覽功能。

8. 二零一二至一三年度香港公益金「僱員募捐計劃」：

    - 傑出獎
    - 「僱員樂助計劃」政府部門最高籌款獎第三名

9. 2013年國際年報比賽銅獎（非牟利機構：供水公司）－水務署年報2011/12

AWARDS AND RECOGNITION

The Department has received a number of awards recently, both locally and globally, that recognise our work in the areas of service, innovation and manpower development. Awards received by the Water Supplies Department in 2012-2013 include:

1. The Ombudsman's Awards for Public Organisations in recognition of the positive attitude of staff members and improved customer services.

2. Global Honour and an East Asia Regional Honour – both awarded by the IWA for project innovation on Hong Kong's sea water flushing system. The system was also recognised with an award in the IWA Sustainability Specialist Group prize and received a Finalist Award at the World Smart Cities Awards.

3. TEN Hong Kong People Engineering Wonders in the 21st Century, awarded by the Hong Kong Institution of engineers (HKIE) for the development of cavern reservoirs.

4. Innovation Award for the Engineering Industry 2012/2013 from the HKIE for the in-line hydro power harness device developed jointly with the Hong Kong Polytechnic University.

5. Manpower Developer 2013-15 by the Employees Retraining Board in recognition of our contribution to manpower training and development.

6. Social Welfare Department's Gold Award for Volunteer Service (Organisation).

7. Webcare – Diamond Award from the Internet Professional Association recognising efforts to maintain barrier free access to WSD website.

8. The Community Chest's Employee Contribution Programme 2012/13:

    - Outstanding Award
    - CARE Scheme, Civil Service Category – 3rd Highest Donation

9. 2013 International ARC Awards Bronze Winner (Non-Profit Organization: Water Supply Company) – WSD Annual Report 2011/12

附錄及附件
Appendices and Annexes

附錄 APPENDICES

附件 ANNEXES

附錄
Appendices

附錄一
APPENDIX I

全年食水耗用量及人均用水量*
Annual Fresh Water Consumption and Per Capita Consumption*

全年食水耗用量
Annual fresh water consumption
百萬立方米 million cubic metres

人均用水量
Per Capita Consumption
立方米／每年 cubic metres per year

* *根據二零一一年人口普查統計結果得出的人口基準，二零零七年年中至二零一一年年中的人口數字已予以修訂，該修訂已採用計算先前人口數字時還未備妥的人口變動數字。從二零零七年起的人均耗水量及獲供水人口數字亦已相應作出修訂。*

* *Based on the population benchmark from the results of the 2011 Population Census, the population figures from mid-2007 to mid-2011 have been revised. The revision has incorporated more estimates of population changes that were not yet available at the time when the pervious population figures were prepared. Consequently, the per capita consumption figures and population served as from 2007 onwards have been revised as well.*

附錄二
APPENDIX II

全港人口及獲食水供應人口
Population in HK and Population Served with Fresh Water

全港人口
Population in Hong Kong
百萬 million

獲食水供應人口
Population Served with Fresh Water
百萬 million

附錄三
APPENDIX III

全年海水耗用量及獲海水供應人口
Annual Sea Water Consumption and Population Served with Sea Water

全年海水耗用量
Annual Sea Water Consumption
百萬立方米 million cubic metres

獲海水供應人口
Population Served with Sea Water
百萬 million

附錄
Appendices

附錄四
APPENDIX IV

客戶查詢及申請服務的統計數字
Statistics on Customer Enquires and Requests for Services

	2008	2009	2010	2011	**2012**
書面查詢／申請 Letter	280 055	261 347	279 676	318 986	**295 016**
電話查詢／申請 Telephone	826 043	902 314	888 857	901 758	**896 956**
親身查詢／申請 Counter	360 747	384 348	348 988	398 985	**395 238**
總數 Total	1 466 845	1 548 009	1 517 521	1 619 729	**1 587 210**

客戶查詢及申請服務個案
Statistics on Customer Enquiries and Request for Services

個案數目number of requests

附錄五
APPENDIX V

客戶投訴的統計數字
Statistics on Customer Complaints

與帳戶有關的投訴#
Account-Related#

投訴個案數目 number of complaints

與帳戶無關的投訴
Non-Account-Related

投訴個案數目 number of complaints

	2008	2009	2010	2011	**2012**
與帳戶有關的投訴# Account-Related#	58	71	78	92	**135**
與帳戶無關的投訴 Non-Account-Related	9 179	8 517	7 763	7 169	**6 546**
總數 Total	9 237	8 588	7 841	7 261	**6 681**

 # 由區議會、立法會和申訴專員轉介與帳戶有關的投訴。
Account-related complaints from District Councils, LegCo and Ombudsman.

附錄六
APPENDIX VI

繳費方式的統計數字
Statistics on Mode of Payment

繳費方式 Mode of Payment	交易數目 No. of cases	% 百分比
親身繳費 In person	3 465 200	48.6
郵遞 By-post	109 900	1.5
自動轉帳 Autopay	831700	11.7
繳費靈 PPS	861 200	12.1
自動櫃員機 ATM	463 000	6.5
網上繳費 Internet	1 405 000	19.7
總數 Total	**7 136 100**	**100**

附件 Annexes

附件一 ANNEX I

水務署向公眾提供的刊物目錄

除另有註明外，所有刊物均可在水務署網頁瀏覽，並備有中英文本。

刊物

可在網上政府書店購買的刊物

- 《香港水務》
- 《香港水務設施條例》及《水務設施規例》

小冊子及單張

在各客戶諮詢中心免費派發的小冊子或單張

- 緊記僱用持牌水喉匠
- 清洗食水水箱指引
- 正確使用大廈消防喉轆
- 如何申請供水
- 安裝家庭用貯水式電熱水器須知
- 私人屋村／樓宇的供水問題及內部供水系統的維修保養
- 服務承諾
- 水務簡訊
- 用戶指南
- 釣魚樂
- 大廈優質食水認可計劃簡介
- 食水系統維修指引
- 電子服務
- 紅潮對沖廁海水水質的影響
- 切勿非法取水
- 水務署部門單張
- 水錶測試實驗所
- 耗水量偏高用戶須知

LIST OF WSD PUBLICATIONS AVAILABLE TO THE PUBLIC

All publications are available on the WSD homepage and in both English and Chinese except where indicated.

PUBLICATIONS

Available at the online Government Bookstore

- Hong Kong's Water
- Waterworks Ordinance and Regulations

PAMPHLETS/LEAFLETS/BOOKLETS

Available free at all Customer Enquiry Centres

- Employment of Licensed Plumbers
- A Guide to Cleansing of Fresh Water Storage Tanks
- Proper Use of Fire Fighting Hose Reels in Buildings
- How to Apply for Water Supply
- Installation of Electric Thermal Storage Type Water Heater for Domestic Purpose
- Maintenance of Water Supply Systems in Private Housing Estates/Buildings
- Performance Pledge
- Waterlink Newsletter
- Consumer Guide Book
- Fun of Fishing
- Quality Water Recognition Scheme for Buildings Brief Introduction
- Fresh Water Plumbing Maintenance Guide
- Electronic Services
- Effect of Red Tides on Seawater for Toilet Flushing
- Unlawful Taking of Water Is Prohibited
- Departmental Leaflet
- Meter Testing Laboratory
- Advice for Consumers on High Consumption

- 香港的食水處理及水質控制
- 供水故障投訴
- 用戶責任
- 飲食業（食肆）廚房申請供水指引

可要求索取或在水務署總部提供的小冊子或單張

- 香港的全面水資源管理
- 水務便覽
- 凹頭濾水廠
- 沙田濾水廠
- 馬鞍山濾水廠
- 北港濾水廠
- 牛潭尾濾水廠
- 大埔濾水廠
- 小蠔灣濾水廠
- 大潭水務文物徑
- 大潭篤原水抽水站
- 香港便覽－水務、電力及氣體燃料供應
- 「小水點的奇妙旅程」單張
- 「沖廁用水嚴禁作其他用途」警告字樣標貼紙
- 「消防用水嚴禁作其他用途」警告字樣標貼紙
- 「珍惜每點滴」標貼
- 「節約用水　從家開始」海報（以中文、英文、印尼文、菲律賓文和泰文五種語言印製）
- 「定期檢查維修慎防食水滲漏」海報
- 「大廈優質食水認可計劃」海報
- 「珍惜點滴　積聚未來」海報
- 「參與節約用水一齊縮短沐浴時間」海報
- 發給業界的「用水效益標籤計劃－沐浴花灑」單張
- 發給公眾的「用水效益標籤計劃－沐浴花灑」單張
- 發給業界的「用水效益標籤計劃－水龍頭」單張

- Water Treatment and Quality Control in Hong Kong
- Water Supply Technical Fault Complaints
- Consumer's Responsibility
- Guidelines on Water Supply Application for Food Business (Restaurant/Kitchen)

AVAILABLE UPON REQUEST OR AVAILABLE AT WSD HEADQUARTERS

- Total Water Management in Hong Kong
- Key Facts
- Au Tau Water Treatment Works
- Sha Tin Water Treatment Works
- Ma On Shan Water Treatment Works
- Pak Kong Water Treatment Works
- Ngau Tam Mei Water Treatment Works
- Tai Po Water Treatment Works
- Siu Ho Wan Water Treatment Works
- Tai Tam Waterworks Heritage Trail
- Tai Tam Tuk Raw Water Pumping Station
- Hong Kong: The Facts (Water, Power and Gas Supplies)
- Leaflet on "Little Drop's Marvellous Journey"
- Warning Sticker – Misuse of Flushing Water
- Warning Sticker – Misuse of Fire Services Water
- Sticker – "Treasure every drop"
- Poster on "Water Conservation Starts from Home" in 5 Languages (Chinese/English/Indonesian/Tagalog/Thai)
- Poster on "Inspect and maintain plumbing regularly to prevent water leaks"
- Poster on "Quality Water Recognition Scheme for Buildings"
- Poster on "Save Water for the Future Every Drop Counts"
- Poster on "Save Water Take Shorter Showers"
- Leaflet to Trade on "Water Efficiency Labelling Scheme – Showers for Bathing"
- Leaflet to Public on "Water Efficiency Labelling Scheme – Showers for Bathing"
- Leaflet to Trade on "Water Efficiency Labelling Scheme – Water Taps"

附件
Annexes

- 發給公眾的「用水效益標籤計劃－水龍頭」單張
- 發給業界的「用水效益標籤計劃－洗衣機」單張
- 發給公眾的「用水效益標籤計劃－小便器用具」單張*
- 「節約用水　從家開始」單張（以中文、英文、印尼文、菲律賓文和泰文印製）
- 《水務署年報2011 – 2012》
- 《水務署年報2010 – 2011》
- 《水務署年報2009 – 2010》
- 《水務署年報2008 – 2009》
- 《水務署年報2007 – 2008》
- 《水務署年報2006 – 2007》
- 《水務署年報2005 – 2006》
- 《水務署年報2004 – 2005》
- 《水務署年報2003 – 2004》
- 《水務署年報2002 – 2003》
- 《水務署年報2001 – 2002》
- 《水務署年報2000 – 2001》
- 《水務署年報1999 – 2000》
- 《水務署年報1998 – 1999》
- 《水務署年報1997 – 1998》*

* *仍未在水務署網頁提供*

只在水務署網頁提供的刊物

- 《樓宇內部供水設備防銹蝕喉管物料－一般資料》
- 《樓宇內部供水設備防銹蝕喉管物料－安裝須知》
- 《香港水務標準規格－樓宇內水管裝置適用》
- 各水務署通函
- Handbook on Plumbing Installation for Buildings（只備有英文本）

- Leaflet to Public on "Water Efficiency Labelling Scheme – Water Taps"
- Leaflet to Trade on "Water Efficiency Labelling Scheme – Washing Machines"
- Leaflet to Public on "Water Efficiency Labelling Scheme – Urinal Equipment"*
- Leaflet on "Water Conservation Starts from Home" (Chinese/English/Indonesian/Tagalog/Thai)
- Annual Report – Water Supplies Department 2011 – 2012
- Annual Report – Water Supplies Department 2010 – 2011
- Annual Report – Water Supplies Department 2009 – 2010
- Annual Report – Water Supplies Department 2008 – 2009
- Annual Report – Water Supplies Department 2007 – 2008
- Annual Report – Water Supplies Department 2006 – 2007
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- Annual Report – Water Supplies Department 2000 – 2001
- Annual Report – Water Supplies Department 1999 – 2000
- Annual Report – Water Supplies Department 1998 – 1999
- Annual Report – Water Supplies Department 1997 – 1998*

* *Not yet available on WSD homepage*

AVAILABLE ON WSD HOMEPAGE ONLY

- General Information on the Use of Different Types of (Corrosion Resistant Pipe) Materials as Inside Service in Buildings
- Installation Notes of Different Types of Corrosion Resistant Pipe Materials as Inside Service in Buildings
- Hong Kong Waterworks Standard Requirements for Plumbing Installation in Buildings
- WSD Circular Letters
- Handbook on Plumbing Installation for Buildings

附件二
ANNEX II

客戶諮詢中心

港島

- **灣仔客戶諮詢中心**
  灣仔告士打道7號入境事務大樓1樓

九龍

- **旺角客戶諮詢中心**
  旺角洗衣街128號地下

新界

- **大埔客戶諮詢中心**
  大埔墟汀角路1號大埔政府合署4樓
- **沙田客戶諮詢中心**
  沙田上禾輋路1號沙田政府合署3樓
- **屯門客戶諮詢中心**
  屯門屯喜路1號屯門政府合署7樓

CUSTOMER ENQUIRY CENTRES

Hong Kong

- **Wan Chai Customer Enquiry Centre**
  1/F Immigration Tower, 7 Gloucester Road, Wan Chai

Kowloon

- **Mong Kok Customer Enquiry Centre**
  G/F 128 Sai Yee Street, Mong Kok

New Territories

- **Tai Po Customer Enquiry Centre**
  4/F Tai Po Government Offices, 1 Ting Kok Road, Tai Po Market
- **Sha Tin Customer Enquiry Centre**
  3/F Sha Tin Government Offices, 1 Sheung Wo Che Road, Sha Tin
- **Tuen Mun Customer Enquiry Centre**
  7/F Tuen Mun Government Offices, 1 Tuen Hi Road, Tuen Mun

附件
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附件三
ANNEX III

二零一二年四月至二零一三年三月的食水水質
DRINKING WATER QUALITY FOR THE PERIOD OF APRIL 2012 – MARCH 2013

甲部. 微生物含量
Part A. Microbiological quality

一般事項
General Points

- 香港是世界上享有最安全食水的地區之一。自二零一二年八月起，水務署已按照世界衛生組織在二零一一年制定的《飲用水水質指引》（世衛2011），監測香港的食水水質。世衛就食水內所含物質建議一套準則值，即使體重達60公斤的用戶在70年內每日飲用兩公升載有準則值物質含量的食水，亦不會對健康構成重大影響。

- 如發生嚴重污染的情況，水務署會聯同衛生署採取行動。如有需要，我們會通知公眾採取適當的措施。

- 我們在濾水廠、配水庫、供水接駁位置和用戶水龍頭抽取食水樣本，並由合資格的水務署人員在現場和水務署轄下的化驗室進行分析。

- 在這段期間，水務署抽取了逾26 000個經處理的食水樣本作微生物含量分析。

- 這段期間內的食水水質完全符合世衛在二零一一年制定的《飲用水水質指引》。

- 按國際慣例，達標與否是根據水質監測數據的全年平均值而定。

- Hong Kong enjoys one of the safest water supplies in the world. Since August 2012, we have commenced to monitor the quality of our drinking water according to the World Health Organization's (WHO) Guidelines for Drinking-water Quality (2011). The WHO recommends a set of Guideline Values (GVs) representing the concentration of constituents in drinking water that will not result in any significant health risk to a consumer weighing 60 kg over a lifetime consumption of 2 litres per day for 70 years.

- In extreme cases of contamination, we will take concerted actions with the Department of Health. The public will be informed to take appropriate measures if necessary.

- Samples were taken at water treatment works, service reservoirs, connection points and consumer taps and analysed at site and in WSD's laboratories by WSD's qualified staff.

- During this period, over 26 000 treated water samples were taken for microbiological analyses.

- The drinking water quality for this period fully complied with the World Health Organization's Guidelines for Drinking-water Quality (2011).

- Compliance is based on the annual average of monitoring data in accordance with international practice.

參數 Parameter	單位 Unit	監測數據 Monitoring Data (04/2012 – 03/2013)			世衛2011 準則值 WHO 2011 Guideline Value	達標 Compliance
		最低值 Minimum	最高值 Maximum	平均值 Average		
埃希氏大腸桿菌 E. coli	菌落數／100毫升 cfu* per 100 mL	0	0	0	0	✓
總大腸桿菌群# Total Coliforms#	菌落數／100毫升 cfu* per 100 mL	0	0	0	–	–
隱孢子蟲@ Cryptosporidium@	卵囊數量／公升 no. of oocyst per L	0.00	0.00	0.00	–	–
賈第蟲@ Giardia@	孢囊數量／公升 no. of cyst per L	0.00	0.00	0.00	–	–

* *菌落數*
colony forming unit (cfu)

\# *世衛2011並沒有為總大腸桿菌群制訂與健康有關的準則值。*
WHO 2011 has not established health-related GV for Total Coliforms.

@ *雖然世衛沒有就食水所含的隱孢子蟲或賈第蟲制訂與健康有關的準則值，但水務署亦有監測隱孢子蟲及賈第蟲於食水中的含量。每公升0.00的監測數據代表在不少於100公升經處理的食水樣本中，檢測不到卵囊或孢囊。*
Although the WHO has not established any health-related GV for Cryptosporidium or Giardia in drinking water, we also monitor Cryptosporidium and Giardia in our drinking water. The monitoring data of 0.00 per litre represents no oocyst or cyst detected in a volume of not less than 100 litres of treated water sample.

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乙部. 世界衛生組織在二零一一年制定的《飲用水水質指引》中所列對健康有影響的化學物質

Part B. Chemicals of health significance as described by World Health Organization's Guidelines for Drinking-water Quality 2011

一般事項
General Points

- 香港是世界上享有最安全食水的地區之一。自二零一二年八月起，水務署已按照世界衛生組織在二零一一年制定的《飲用水水質指引》（世衛2011），監測香港的食水水質。世衛就食水內所含物質建議一套準則值，即使體重達60公斤的用戶在70年內每日飲用兩公升載有準則值物質含量的食水，亦不會對健康構成重大影響。

- 如某些物質對健康影響的資料有限，世衛會就該些物質建議臨時準則值。

- 即使食水中某些物質含量偶爾比世衛所定的準則值為高，亦不反映食水不適宜飲用，因為準則值在制定時，已預留了很大的安全容差。

- 如發生嚴重污染的情況，水務署會聯同衛生署採取行動。如有需要，我們會通知公眾採取適當的措施。

- 我們在濾水廠、配水庫、供水接駁位置和用戶水龍頭抽取食水樣本，並由合資格的水務署人員在現場和水務署轄下的化驗室進行分析。

- 這段期間內的食水水質完全符合世衛在二零一一年制定的《飲用水水質指引》。

- 按國際慣例，達標與否是根據水質監測數據的全年平均值而定。

- Hong Kong enjoys one of the safest water supplies in the world. Since August 2012, we have commenced to monitor the quality of our drinking water according to the World Health Organization's (WHO) Guidelines for Drinking-water Quality (2011). The WHO recommends a set of Guideline Values (GVs) representing the concentration of constituents in drinking water that will not result in any significant health risk to a consumer weighing 60 kg over a lifetime consumption of 2 litres per day for 70 years.

- Some GVs are recommended by WHO as provisional GVs where available health effect information is limited.

- Occasional deviations above the WHO GVs do not mean that the water is unsuitable for consumption. Large safety margins have been allowed for in the derivation of the GVs.

- In extreme cases of contamination, we will take concerted actions with the Department of Health. The public will be informed to take appropriate measures if necessary.

- Samples were taken at water treatment works, service reservoirs, connection points and consumer taps and analysed at site and in WSD's laboratories by WSD's qualified staff.

- The drinking water quality for this period fully complied with the World Health Organization's Guidelines for Drinking-water Quality (2011).

- Compliance is based on the annual average of monitoring data in accordance with international practice.

項目 Parameter	單位 Unit	監測數據 Monitoring Data (04/2012 – 03/2013) 最低值 Minimum	最高值 Maximum	平均值 Average	世衛2011準則值 WHO 2011 Guideline Value	達標 Compliance
丙烯酰胺 Acrylamide	微克／公升 µg/L	< 0.4	< 0.4	< 0.4	0.5	✓
草不綠 Alachlor	微克／公升 µg/L	< 5.0	< 5.0	< 5.0	20	✓
涕滅威 Aldicarb	微克／公升 µg/L	< 2.5	< 2.5	< 2.5	10	✓
艾氏劑和異艾氏劑 Aldrin and Dieldrin	微克／公升 µg/L	< 0.008	< 0.008	< 0.008	0.03	✓
銻 Antimony	毫克／公升 mg/L	< 0.001	< 0.001	< 0.001	0.02	✓
砷 Arsenic	毫克／公升 mg/L	< 0.001	< 0.001	< 0.001	0.01 (A,T)	✓
莠去津和其氯均三秦代謝物 Atrazine and its chloro-s-triazine metabolites	微克／公升 µg/L	< 25	< 25	< 25	100	✓
鋇 Barium	毫克／公升 mg/L	0.004	0.033	0.019	0.7	✓
苯 Benzene	微克／公升 µg/L	< 2.5	< 2.5	< 2.5	10	✓
苯并(a)芘 Benzo(a)pyrene	微克／公升 µg/L	< 0.0020	< 0.0020	< 0.0020	0.7	✓
硼 Boron	毫克／公升 mg/L	< 0.02	0.04	0.02	2.4	✓
溴酸鹽 Bromate	微克／公升 µg/L	< 2.5	< 2.5	< 2.5	10 (A,T)	✓
一溴二氯甲烷 Bromodichloromethane	微克／公升 µg/L	< 15	19	< 15	60	✓
溴仿 Bromoform	微克／公升 µg/L	< 25	< 25	< 25	100	✓
鎘 Cadmium	毫克／公升 mg/L	< 0.001	< 0.001	< 0.001	0.003	✓
夫喃丹 Carbofuran	微克／公升 µg/L	< 1.2	< 1.2	< 1.2	7	✓

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項目 Parameter	單位 Unit	監測數據 Monitoring Data (04/2012 – 03/2013) 最低值 Minimum	最高值 Maximum	平均值 Average	世衛2011準則值 WHO 2011 Guideline Value	達標 Compliance
四氯化碳 Carbon tetrachloride	微克／公升 µg/L	< 0.50	< 0.50	< 0.50	4	✓
氯酸鹽 Chlorate	微克／公升 µg/L	< 175	< 175	< 175	700 (D)	✓
氯丹 Chlordane	微克／公升 µg/L	< 0.050	< 0.050	< 0.050	0.2	✓
氯 Chlorine	毫克／公升 mg/L	< 0.1	1.5	0.7	5 (C)	✓
亞氯酸鹽 Chlorite	微克／公升 µg/L	< 50	< 50	< 50	700 (D)	✓
氯仿 Chloroform	微克／公升 µg/L	< 50	< 50	< 50	300	✓
綠麥隆 Chlorotoluron	微克／公升 µg/L	< 7.5	< 7.5	< 7.5	30	✓
毒死蜱 Chlorpyrifos	微克／公升 µg/L	< 7.5	< 7.5	< 7.5	30	✓
鉻 Chromium	毫克／公升 mg/L	< 0.001	< 0.001	< 0.001	0.05 (P)	✓
銅 Copper	毫克／公升 mg/L	< 0.003	0.032	< 0.003	2	✓
青乙酰胂 Cyanazine	微克／公升 µg/L	< 0.15	< 0.15	< 0.15	0.6	✓
2,4-滴 2,4-D (or 2,4-dichlorophenoxyacetic acid)	微克／公升 µg/L	< 7.5	< 7.5	< 7.5	30	✓
丁基-2,4-二氯酚羥基醋酸 2,4-DB (or 4-(2,4-dichlorophenoxy) butyric acid)	微克／公升 µg/L	< 22	< 22	< 22	90	✓
滴滴涕和代謝物 DDT and metabolites	微克／公升 µg/L	< 0.50	< 0.50	< 0.50	1	✓
二(2-乙基己基)鄰苯二甲酸鹽 Di(2-ethylhexyl)phthalate	微克／公升 µg/L	< 2	< 2	< 2	8	✓
二溴乙腈 Dibromoacetonitrile	微克／公升 µg/L	< 25	< 25	< 25	70	✓

項目 Parameter	單位 Unit	監測數據 Monitoring Data (04/2012 – 03/2013) 最低值 Minimum	最高值 Maximum	平均值 Average	世衛2011準則值 WHO 2011 Guideline Value	達標 Compliance
二溴一氯甲烷 Dibromochloromethane	微克／公升 µg/L	< 25	< 25	< 25	100	✓
1,2-二溴-3-氯丙烷 1,2-Dibromo-3-chloropropane	微克／公升 µg/L	< 0.25	< 0.25	< 0.25	1	✓
1,2-二溴乙烷 1,2-Dibromoethane	微克／公升 µg/L	< 0.10	< 0.10	< 0.10	0.4(P)	✓
二氯乙酸鹽 Dichloroacetate	微克／公升 µg/L	< 12	17	< 12	50 (D)	✓
二氯乙腈 Dichloroacetonitrile	微克／公升 µg/L	< 5.0	< 5.0	< 5.0	20 (P)	✓
1,2-二氯苯 1,2-Dichlorobenzene	微克／公升 µg/L	< 250	< 250	< 250	1000 (C)	✓
1,4-二氯苯 1,4-Dichlorobenzene	微克／公升 µg/L	< 75	< 75	< 75	300 (C)	✓
1,2-二氯乙烷 1,2-Dichloroethane	微克／公升 µg/L	< 7.5	< 7.5	< 7.5	30	✓
1,2-二氯乙烯 1,2-Dichloroethene	微克／公升 µg/L	< 12	< 12	< 12	50	✓
二氯甲烷 Dichloromethane	微克／公升 µg/L	< 5.0	< 5.0	< 5.0	20	✓
1,2-二氯丙烷 1,2-Dichloropropane	微克／公升 µg/L	< 5.0	< 5.0	< 5.0	40 (P)	✓
1,3-二氯丙烯 1,3-Dichloropropene	微克／公升 µg/L	< 5.0	< 5.0	< 5.0	20	✓
2,4-滴丙酸 Dichlorprop (or 2,4-DP)	微克／公升 µg/L	< 25	< 25	< 25	100	✓
樂果 Dimethoate	微克／公升 µg/L	< 1.5	< 1.5	< 1.5	6	✓
1,4-二噁烷 1,4-Dioxane	微克／公升 µg/L	< 12.5	< 12.5	< 12.5	50	✓
乙二胺四乙酸 Edetic acid (EDTA)	微克／公升 µg/L	< 50	< 50	< 50	600	✓
異狄氏劑 Endrin	微克／公升 µg/L	< 0.15	< 0.15	< 0.15	0.6	✓

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項目 Parameter	單位 Unit	監測數據 Monitoring Data (04/2012 – 03/2013) 最低值 Minimum	最高值 Maximum	平均值 Average	世衛2011準則值 WHO 2011 Guideline Value	達標 Compliance
表氯醇 Epichlorohydrin	微克／公升 µg/L	< 0.4	< 0.4	< 0.4	0.4 (P)	✓
乙苯 Ethylbenzene	微克／公升 µg/L	< 75	< 75	< 75	300 (C)	✓
2,4,5-涕丙酸 Fenoprop (or 2,4,5-TP)	微克／公升 µg/L	< 2.2	< 2.2	< 2.2	9	✓
氟化物 Fluoride	毫克／公升 mg/L	< 0.10	0.67	0.49	1.5	✓
六氯丁二烯 Hexachlorobutadiene	微克／公升 µg/L	< 0.15	< 0.15	< 0.15	0.6	✓
羥基化莠去津 Hydroxyatrazine	微克／公升 µg/L	< 50	< 50	< 50	200	✓
異丙隆 Isoproturon	微克／公升 µg/L	< 2.2	< 2.2	< 2.2	9	✓
鉛 Lead	毫克／公升 mg/L	< 0.001	0.002	< 0.001	0.01 (A,T)	✓
林丹 Lindane	微克／公升 µg/L	< 0.50	< 0.50	< 0.50	2	✓
2-甲基-4-氯苯氧基乙酸 MCPA (or 4-(2-methyl-4-chlorophenoxy) acetic acid)	微克／公升 µg/L	< 2.0	< 2.0	< 2.0	2	✓
2-甲基-4-氯丙酸 Mecoprop (or MCPP)	微克／公升 µg/L	< 2.5	< 2.5	< 2.5	10	✓
汞 Mercury	毫克／公升 mg/L	< 0.00005	< 0.00005	< 0.00005	0.006	✓
甲氧滴滴涕 Methoxychlor	微克／公升 µg/L	< 5.0	< 5.0	< 5.0	20	✓
甲氧毒草安 Metolachlor	微克／公升 µg/L	< 2.5	< 2.5	< 2.5	10	✓
微囊藻毒素-LR（總） Microcystin-LR (total)	微克／公升 µg/L	< 0.5	< 0.5	< 0.5	1 (P)	✓
禾草特 Molinate	微克／公升 µg/L	< 1.5	< 1.5	< 1.5	6	✓

項目 Parameter	單位 Unit	監測數據 Monitoring Data (04/2012 – 03/2013) 最低值 Minimum	最高值 Maximum	平均值 Average	世衛2011準則值 WHO 2011 Guideline Value	達標 Compliance
一氯胺 Monochloramine	毫克／公升 mg/L	< 1.0	< 1.0	< 1.0	3	✓
一氯醋酸鹽 Monochloroacetate	微克／公升 µg/L	< 10	< 10	< 10	20	✓
鎳 Nickel	毫克／公升 mg/L	< 0.001	0.015	0.003	0.07	✓
硝酸鹽（以NO_3^-計） Nitrate (as NO_3^-)	毫克／公升 mg/L	< 2.5	13	5.6	50	✓
次氨基三乙酸 Nitrilotriacetic acid	微克／公升 µg/L	< 50	< 50	< 50	200	✓
亞硝酸鹽（以NO_2^-計） Nitrite (as NO_2^-)	毫克／公升 mg/L	< 0.004	0.023	< 0.004	3	✓
N-亞硝基二甲胺 N-Nitrosodimethylamine	微克／公升 µg/L	< 0.025	< 0.025	< 0.025	0.1	✓
二甲戊樂靈 Pendimethalin	微克／公升 µg/L	< 5.0	< 5.0	< 5.0	20	✓
五氯酚 Pentachlorophenol	微克／公升 µg/L	< 2.2	< 2.2	< 2.2	9 (P)	✓
硒 Selenium	毫克／公升 mg/L	< 0.003	< 0.003	< 0.003	0.04 (P)	✓
西瑪三嗪 Simazine	微克／公升 µg/L	< 0.50	< 0.50	< 0.50	2	✓
二氯異氰尿酸鈉（以氰尿酸計） Sodium dichloroisocyanurate (as cyanuric acid)	毫克／公升 mg/L	< 10	< 10	< 10	40	✓
苯乙烯 Styrene	微克／公升 µg/L	< 5.0	< 5.0	< 5.0	20 (C)	✓
2,4,5-涕 2,4,5-T (or 2,4,5-trichlorophenoxy acetic acid)	微克／公升 µg/L	< 2.2	< 2.2	< 2.2	9	✓
特丁律 Terbuthylazine	微克／公升 µg/L	< 1.8	< 1.8	< 1.8	7	✓
四氯乙烯 Tetrachloroethene	微克／公升 µg/L	< 10	< 10	< 10	40	✓

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項目 Parameter	單位 Unit	監測數據 Monitoring Data (04/2012 – 03/2013) 最低值 Minimum	最高值 Maximum	平均值 Average	世衛2011準則值 WHO 2011 Guideline Value	達標 Compliance
甲苯 Toluene	微克／公升 µg/L	< 175	< 175	< 175	700 (C)	✓
三氯乙酸鹽 Trichloroacetate	微克／公升 µg/L	< 25	< 25	< 25	200	✓
三氯乙烯 Trichloroethene	微克／公升 µg/L	< 18	< 18	< 18	20 (P)	✓
2,4,6-三氯酚 2,4,6-Trichlorophenol	微克／公升 µg/L	< 50	< 50	< 50	200 (C)	✓
氟樂靈 Trifluralin	微克／公升 µg/L	< 5.0	< 5.0	< 5.0	20	✓
鈾 Uranium	毫克／公升 mg/L	< 0.0002	0.0012	< 0.0002	0.03 (P)	✓
氯乙烯 Vinyl chloride	微克／公升 µg/L	< 0.2	< 0.2	< 0.2	0.3	✓
二甲苯 Xylenes	微克／公升 µg/L	< 125	< 125	< 125	500 (C)	✓

註：

（一）以上是有關食水水質的摘要報告。

（二）各數值是根據水務署水質科學部現行品質保證指引所訂的要求而編製。

（三）水務署已就每個重金屬及微量有機化合物項目進行了100至300個樣本分析。

（四）根據世衛2011：

P = 暫定準則值，因為有關物質對健康影響的資料有限。

T = 暫定準則值，因為計算所得準則值低於通過實際處理方法或保護水源等方式所能達到的水平。

A = 暫定準則值，因為計算所得準則值低於所能達到的定量水平。

D = 暫定準則值，因為消毒程序可能令物質含量超過準則值。

C = 如該物質的含量等於或低於以健康為本的準則值，便有可能影響食水的外觀、味道或氣味，引起消費者投訴。

Note:

(1) This is a summary report on drinking water quality.

(2) All values are compiled in accordance with requirements stipulated by the current quality assurance protocol of the Water Science Division of WSD.

(3) For heavy metals and trace organics, 100-300 samples per parameter have been analysed.

(4) According to WHO 2011:

P = provisional guideline value, the available information on health effects is limited.

T = provisional guideline value as calculated guideline value is below the level that can be achieved through practical treatment methods, source protection, etc.

A = provisional guideline value as calculated guideline value is below the achievable quantification level.

D = provisional guideline value as disinfection may result in the guideline value being exceeded.

C = concentrations of the substance at or below the health-based guideline value may affect the appearance, taste or odour of the water, leading to consumer complaints.

丙部. 輻射水平
Part C. Radiological quality

一般事項
General Points

- 香港是世界上享有最安全食水的地區之一。水務署按照世界衛生組織在二零一一年制定的《飲用水水質指引》（世衛2011），監測香港的食水水質。

- 根據世衛的建議，食水的總α及總β活度的篩查水平分別為每公升0.5貝可和每公升1.0貝可。如食水的放射性活度低於篩查水平，便無須對個別放射性核素作進一步調查或詳細分析。

- 我們在濾水廠、分配網絡和用戶水龍頭抽取食水樣本，並由合資格的水務署人員在化驗室進行分析。

- 在這段期間，食水的放射性活度遠低於世衛在二零一一年建議的總α及總β活度篩查水平，有關食水可供安全飲用。

- Hong Kong enjoys one of the safest water supplies in the world. The Water Supplies Department (WSD) monitors the quality of drinking water supply according to the World Health Organization's (WHO) Guidelines for Drinking-water Quality (2011).

- According to the recommendation of the WHO, the screening levels for drinking water are 0.5 Bq/L for gross alpha activity and 1.0 Bq/L for gross beta activity respectively, below which no further investigation or detailed analysis for specific radionuclides is required.

- Samples were taken at water treatment works, distribution networks and consumer taps and analysed in WSD's laboratories by WSD's qualified staff.

- During this period, the radioactivity level of drinking water was well below the screening levels for gross alpha and gross beta activities recommended by the WHO 2011 and was safe for consumption.

參數 Parameter	單位 Unit	監測數據 Monitoring Data (04/2012 – 03/2013)			世衛2011篩查水平 WHO 2011 Screening Level	低於篩查水平 Below Screening Level
		最低值 Minimum	最高值 Maximum	平均值 Average		
總α活度 Gross alpha activity	貝可／公升 Bq/L	< 0.1	< 0.1	< 0.1	0.5	✓
總β活度 Gross beta activity	貝可／公升 Bq/L	< 0.2	< 0.2	< 0.2	1.0	✓

註：
（一）以上是有關食水水質的摘要報告。
（二）總α及總β活度的報告值設定為世衛篩查水平的20%。
（三）水務署對逾150個樣本作總α及總β活度的分析。

Note:
(1) This is a summary report on drinking water quality.
(2) Reporting values for gross alpha and gross beta activities are set at 20% of their respective WHO screening levels.
(3) Over 150 samples have been analysed for gross alpha and gross beta activities.

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丁部. 其他參數
Part D. Other parameters

參數 Parameter	單位 Unit	監測數據 Monitoring Data (04/2012 – 03/2013)		
		最低值 Minimum	最高值 Maximum	平均值 Average
pH值（水溫為25℃時） pH at 25℃	pH	6.7	9.1	8.5
色度 Colour	Hazen unit	< 3	< 3	< 3
混濁度 Turbidity	NTU	< 0.1	2.9	0.3
導電率（水溫為25℃時） Conductivity at 25℃	μS/cm	55	197	143
溫度 Temperature	℃	15.5	33.7	24.3
總鹼度（以$CaCO_3$計） Total alkalinity (as $CaCO_3$)	毫克／公升 mg/L	7	70	23
總硬度（以$CaCO_3$計） Total hardness (as $CaCO_3$)	毫克／公升 mg/L	5	68	36
鈣 Calcium	毫克／公升 mg/L	1.1	20	12
鎂 Magnesium	毫克／公升 mg/L	0.36	2.2	1.4
氯化物 Chloride	毫克／公升 mg/L	< 5	18	10
硫酸鹽 Sulphate	毫克／公升 mg/L	4	24	14
正磷酸鹽（以PO_4計） Ortho-phosphates (as PO_4)	毫克／公升 mg/L	< 0.01	0.03	< 0.01
鐵 Iron	毫克／公升 mg/L	< 0.01	0.13	< 0.01
鋁 Aluminium	毫克／公升 mg/L	< 0.01	0.12	0.02
二氧化硅（以SiO_2計） Silica (as SiO_2)	毫克／公升 mg/L	2.5	19	10

註：
（一）以上是有關食水水質的摘要報告。
（二）各數值是根據水務署水質科學部現行的品質保證指引所訂的要求而編製。

Note:
(1) This is a summary report on drinking water quality.
(2) All values are compiled in accordance with requirements stipulated by the current quality assurance protocol of the Water Science Division of WSD.

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水務監督－經營帳目
WATER AUTHORITY – OPERATING ACCOUNTS

二〇一二／一三年度回顧 REVIEW OF THE YEAR 2012-13

截至二〇一三年三月三十一日止的財政年度 For the year ended 31 March 2013

工作方面	ACTIVITIES
按照水錶記錄的淡水耗水量上升0.8%至6.31億立方米	Metered fresh water consumption increased by 0.8% to 631 million cubic metres
財務表現	**FINANCIAL PERFORMANCE**
收入上升5.6% 開支上升4.6% 虧損由二〇一二年度的10.253億元減至二〇一三年度的10.077億元 按固定資產平均淨值計算的回報率改善至-2.1%	Revenue increased by 5.6% Expenditure increased by 4.6% The deficit decreased from $1,025.3 million in 2011-12 to $1,007.7 million in 2012-13 Return on Average Net Fixed Assets improved to -2.1%

經營帳目 OPERATING ACCOUNT

截至二〇一三年三月三十一日止的財政年度 For the year ended 31 March 2013

		註 Note	**2013 （百萬元） $M**	2012 （百萬元） $M
收入	Revenue	2	**7,187.8**	6,806.9
開支	Expenditure	3	**8,195.5**	7,832.2
稅前虧損	**Deficit before taxation**		**(1,007.7)**	(1,025.3)
稅項	Taxation	1(e) & (f) and 4	**–**	–
稅後虧損	**Deficit after taxation**	1(j)	**(1,007.7)**	(1,025.3)

附註為這帳目的一部份。

The annexed notes form part of these accounts.

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衡量財務表現的指標 FINANCIAL PERFORMANCE MEASURES

截至二〇一三年三月三十一日止的財政年度 For the year ended 31 March 2013

		註 Note	**2013 （百萬元） $M**	2012 （百萬元） $M
固定資產平均淨值	Average net fixed assets (ANFA)	1(i) and 5	**46,941.6**	44,235.0
實際回報額	Actual return		**(1,007.7)**	(1,025.3)
目標回報額	Target return		**1,596.0**	2,875.3
按固定資產平均淨值計算的實際回報率	Actual return as % of ANFA	1(h)	**(2.1%)**	(2.3%)
按固定資產平均淨值計算的目標回報率	Target return as % of ANFA		**3.4%**	6.5%

附註為這帳目的一部分。 *The annexed notes form part of these accounts.*

資產負債表 BALANCE SHEET

二〇一三年三月三十一日結算 As at 31 March 2013

		註 Note	**2013 （百萬元） $M**	2012 （百萬元） $M
可動用淨資產	**Net assets employed**			
固定資產	**Fixed assets**	1(b) & (c) and 5	**48,304.5**	45,578.6
流動資產	Current assets	1(d) and 6	**2,307.9**	2,218.9
流動負債	Current liabilities	7	**(2,123.9)**	(2,039.0)
流動資產淨值	Net current assets		**184.0**	179.9
			48,488.5	45,758.5
財政來源	**Financed by**			
公共資本帳目	**Public capital account**	1(j) and 8	**48,488.5**	45,758.5

附註為這帳目的一部分。 *The annexed notes form part of these accounts.*

帳目附註

1. 會計政策

(a) 會計基礎

此帳目是根據歷史成本基礎來制定，並略加修訂以包括名義的收支。

(b) 固定資產

(i) 除政府收回的土地外，固定資產不包括水務設施和集水區位處的土地。至於政府收回的土地，其收回成本會包括在有關的工程成本內。

(ii) 至於工程項目，成本包括實際直接開支，和施工期間有關設計、規劃和監督等的員工費用。

(iii) 所有其他固定資產，除了建造中的資產以成本值計算外，均以其成本值減去累積折舊列出。

(c) 折舊

(i) 折舊是根據資產原值減去使用期末的剩餘值，採用直線攤銷法按其預計使用年期分期註銷。每年折舊率為：－

隧道、堤壩、收回土地及造林等	1%
土木工程	2%
喉管－淡水	2%
－鹹水	5%
機電工程、機器及設備	4%-14.29%
水錶	8.33%
電腦硬件、軟件及系統	10%
車輛	10%-20%

(ii) 建造中的資產並沒有折舊撥備。

NOTES ON THE ACCOUNTS

1. Accounting Policies

(a) Basis of Accounting

The accounts have been prepared on the historical cost basis of accounting modified to include notional receipts and payments.

(b) Fixed Assets

(i) No cost is included for land which is occupied by installations or sterilised by catchment areas except that, where it has been resumed, the cost of resumption has been included in the capital cost of the project concerned.

(ii) For capital projects, the costs include the actual direct expenditure and staff costs for design, planning and supervision during the construction period.

(iii) All other fixed assets are stated at cost less accumulated depreciation except assets under construction which are stated at cost.

(c) Depreciation

(i) Depreciation is provided on a straight-line basis calculated to write off the cost of assets less residual value over their estimated useful lives. The annual rates of depreciation used are:–

Tunnels, dams, resumption and afforestation, etc.	1%
Civil engineering works	2%
Water mains – fresh	2%
– salt	5%
Mechanical/electrical works, plant and machinery	4%-14.29%
Meters	8.33%
Computer hardware, software and system	10%
Motor vehicles	10%-20%

(ii) No depreciation is provided on assets under construction.

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(d) 存貨

存貨是以加權平均法，按成本值和可變賣淨值兩者中較低者列出。

(e) 稅項

名義利得稅乃按年度預期的應課溢利，以資產負債表結算日的現行稅率，及過往年度的應付稅項調整而作出所需要的撥備。由於水務監督於本年度沒有應課稅溢利，因此無需在帳目上作出名義利得稅的撥備。

(f) 遞延稅項

遞延稅項指就資產及負債帳面值與計算應課稅溢利所用相應稅基間之所有重大暫時差額而作出的適當確認。遞延稅項資產則於應課稅溢利有可能抵銷可扣稅暫時差額時予以確認。由於水務監督沒有應課稅溢利可用作抵銷可扣稅暫時差額，因此無需在帳目上就所有重大暫時差額作出遞延稅項撥備。

(g) 僱員福利

僱員福利包括薪金、酬金、退休金、房屋津貼和年假會被確認為對僱員當年度所提供之相關服務而列作的應計開支。

(h) 按固定資產平均淨值計算的實際回報率

按稅後溢利或虧損與固定資產平均淨值的比率計算。

(i) 固定資產平均淨值

這淨值是指總固定資產值減去累積折舊在期初及期末兩項數值的簡單平均數。

(d) Stocks

Stocks are stated at the lower of cost and net realisable value, using the weighted average cost method to the extent that it is material.

(e) Taxation

Notional profits tax is provided, where necessary, based on the expected taxable surplus for the year, using the tax rates prevailing at the balance sheet date, and any adjustments to tax payable in respect of previous years. No provision for notional profits tax has been made in the accounts as the Authority has no taxable surplus for the year.

(f) Deferred Tax

Deferred tax is recognised, where appropriate, for all material temporary differences between the tax bases of assets and liabilities and their carrying amounts in the accounts. Deferred tax assets are recognised to the extent that it is probable that taxable surplus will be available against which the temporary differences can be utilised. No provision for deferred tax in respect of all material temporary differences has been made in the accounts as the Authority has no taxable surplus against which the temporary differences can be utilised.

(g) Employee Benefits

Employee benefits including salaries, gratuities, pensions, housing benefits and annual leave are accrued and recognised as an expense in the year in which the associated services are rendered by employees.

(h) Actual Return on ANFA

This is calculated as a percentage of surplus/deficit after taxation to average net fixed assets (ANFA).

(i) Average Net Fixed Assets

The average net fixed assets (ANFA) represents the simple average of the opening and closing value of total fixed assets less aggregate depreciation.

(j) 虧損

由於水務監督沒有獨立的法定身份，其財政資源或虧損均視為政府一般收入的一部分。而有關虧損亦會於公共資本帳目中調節。

(j) Deficit

Since the Water Authority does not have a separate legal identity, its financial resources form part of the General Revenue. All deficits are deemed to be financed by the General Revenue and adjusted to the Public Capital Account of the Authority.

2. 收入

2. Revenue

		2013 （百萬元） $M	2012 （百萬元） $M
收費供水	Chargeable supplies	**2,527.2**	2,502.6
差餉的津貼	Contribution from rates	**1,680.4**	1,458.1
政府對寬免計劃的津貼	Contribution from Government on concessions	**1,880.6**	1,489.3
政府為用戶提供免費用水的津貼	Contribution from Government on free allowance to consumers	**912.4**	1,173.4
政府樓宇用水	Supplies to Government establishments	**156.2**	154.5
收費、牌照及可收回支出的工程	Fees, licences and reimbursable works	**25.1**	24.2
存款利息	Interest from deposits	**5.9**	4.8
		7,187.8	6,806.9

政府對寬免計劃的津貼是為彌補因該年度所作出差餉寬免措施所引至的差額。

The contribution from Government on concessions is to cover the shortfall in contribution from rates resulting from the concession of rates granted during the years.

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3. 開支 3. Expenditure

		2013 （百萬元） $M	2012 （百萬元） $M
員工支出	Staff costs	**1,486.0**	1,401.3
經營及行政支出	Operating and administration expenses	**1,698.3**	1,680.3
購買東江水支出	Purchase cost of Dongjiang water	**3,594.5**	3,397.1
折舊	Depreciation	**1,416.7**	1,353.5
		8,195.5	7,832.2

4. 稅項 4. Taxation

		2013 （百萬元） $M	2012 （百萬元） $M
名義利得稅	Notional profits tax charge for the year	**0.0**	0.0
以下項目的遞延稅項資產／（遞延稅項負債）未被確認：—	Deferred tax assets/(liabilities) not recognized in respect of:–		
未使用的稅項虧損	Unused tax loss	**24,626.6**	22,476.6
由折舊免稅額所產生的重大暫時差異	Material temporary difference arising from depreciation allowances	**(16,998.6)**	(15,855.2)

5. 固定資產 5. Fixed Assets

		樓宇、過濾器、喉管等 Buildings, Filters, Mains, etc. （百萬元） $M	機器及設備 Plant and Machinery （百萬元） $M	電腦硬件、軟件及系統 Computer Hardware, Software & System （百萬元） $M	沖廁鹹水設施 Salt Water Flushing （百萬元） $M	船灣淡水湖 Plover Cove （百萬元） $M	萬宜水庫 High Island （百萬元） $M	水錶 Meters （百萬元） $M	車輛 Motor Vehicles （百萬元） $M	建造中的資產 Assets Under Construction （百萬元） $M	**總額 Total （百萬元） $M**
成本	**Cost**										
二〇一二年四月一日	At 1 April 2012	43,539.7	275.4	329.3	8,558.5	702.0	1,661.2	398.9	68.3	6,093.8	**61,627.1**
添置	Additions	–	6.6	10.1	–	–	–	41.2	14.8	4,075.7	**4,148.4**
轉撥	Transfers	1,504.5	–	0.4	358.0	–	–	–	–	(1,862.9)	**–**
處置／註銷	Disposals /Write off	(22.5)	(2.2)	–	(9.4)	–	–	(18.8)	(7.1)	–	**(60.0)**
二〇一三年三月三十一日	**At 31 March 2013**	45,021.7	279.8	339.8	8,907.1	702.0	1,661.2	421.3	76.0	8,306.6	**65,715.5**
累積折舊	**Aggregate Depreciation**										
二〇一二年四月一日	At 1 April 2012	11,262.4	104.9	214.1	2,839.2	402.1	1,012.7	177.7	35.4	–	**16,048.5**
該年折舊	Charge for the year	934.2	23.7	30.7	347.1	9.3	29.3	34.9	7.5	–	**1,416.7**
處置／註銷後轉回	Written back on Disposals/Write off	(17.8)	(1.5)	–	(9.5)	–	–	(18.8)	(6.6)	–	**(54.2)**
二〇一三年三月三十一日	**At 31 March 2013**	12,178.8	127.1	244.8	3,176.8	411.4	1,042.0	193.8	36.3	–	**17,411.0**
帳面淨值	**Net Book Value**										
二〇一三年三月三十一日	**At 31 March 2013**	32,842.9	152.7	95.0	5,730.3	290.6	619.2	227.5	39.7	8,306.6	**48,304.5**
二〇一二年三月三十一日	At 31 March 2012	32,277.3	170.5	115.2	5,719.3	299.9	648.5	221.2	32.9	6,093.8	**45,578.6**

6. 流動資產 6. Current Assets

		2013 （百萬元） $M	2012 （百萬元） $M
存貨	Stocks	**105.3**	101.0
應收帳項	Debtors	**520.9**	510.0
與庫務署的往來帳	Current account with Treasury	**1,681.7**	1,607.9
		2,307.9	2,218.9

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7. 流動負債 7. Current Liabilities

		2013 （百萬元） $M	2012 （百萬元） $M
用戶和承建商的按金	Consumers' and contractors' deposits	**1,774.1**	1,709.5
應付帳項	Creditors	**349.8**	329.5
		2,123.9	2,039.0

8. 公共資本帳目 8. Public Capital Account

公共資本帳目指政府在這項公用事業的投資。

The Public Capital Account represents Government's investment in this utility.

		2013 （百萬元） $M	2012 （百萬元） $M
四月一日結餘	Balance as at 1 April	**45,758.5**	43,073.1
本年度的虧損	Deficit for the year	**(1,007.7)**	(1,025.3)
政府的額外現金投資	Additional cash investment by the Government	**3,737.7**	3,710.7
三月三十一日結餘	Balance as at 31 March	**48,488.5**	45,758.5

9. 資本承擔 9. Capital Commitments

於二〇一三年三月三十一日，水務監督未於經營帳目作出撥備的資本承擔如下：

As at 31 March 2013, the Authority had capital commitments, so far as not provided for in the Operating Accounts, as follows:

		2013 （百萬元） $M	2012 （百萬元） $M
已簽約	Contracted for	**11,708.1**	8,625.6
已批准但未簽約	Authorised but not contracted for	**3,076.6**	4,289.1
		14,784.7	12,914.7

財政年度：由每年四月一日起至翌年三月三十一日止
年份：由每年一月一日起至十二月三十一日止

匯率
除另有説明外，本年報所用「元」均指港元。自一九八三年十月十七日起，政府透過一項有關發行紙幣的措施，將港元與美元聯繫，以7.8港元兑1美元為固定匯率。

Financial Year: April 1 to March 31
Year (Calendar Year): January 1 to December 31

Exchange Rates
When dollars are quoted in this report, they are, unless otherwise stated, in Hong Kong dollars. Since October 17, 1983, the Hong Kong dollar has been linked to the US dollar, through an arrangement in the note-issue mechanism, at a fixed rate of HK$7.80 = US$1.

水務署
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