



培養節約用水文化
Fostering a Water
Conservation Culture

培養節約用水文化 Fostering a Water Conservation Culture



提倡節約用水

Making Water Conservation Count

用水效益標籤計劃

Water Efficiency Labelling Scheme (WELS)

本署於二零零九年開始實施自願參與的「用水效益標籤計劃」，鼓勵用戶使用節水裝置和器具。計劃現在涵蓋沐浴花灑、水龍頭、洗衣機、小便器具和節流器。

In 2009, WSD began implementing the voluntary “Water Efficiency Labelling Scheme” (WELS) to encourage consumers to use plumbing fixtures and appliances that conserve water. The scheme now covers showers for bathing, water taps, washing machines, urinal equipment and flow controllers.

本署亦正制訂策略，分階段強制用水效益標籤計劃（標籤計劃）。本署自二零一七年二月起推出首階段，強制住宅處所的廚房，以及所有處所的浴室及洗手間的擬建水管工程，均須採用已註冊標籤計劃的指定節水裝置。我們相信以上的強制措施，

WSD is also formulating strategies to mandate WELS in stages. In the first stage, we have already mandated the use of designated water-efficient devices registered under WELS in the proposed plumbing works for kitchens of domestic premises as well as for bathrooms and toilets of all premises since February 2017. We believe that the above mandatory

將有助已註冊標籤計劃的產品在指定處所的水管更換工程中得到更廣泛的使用，以進一步節約用水。

在政府大樓、學校及公共屋邨加裝節水裝置

由於節流器已證明能有效幫助用戶節約用水以減少耗水量，水務署繼續為公共屋邨租戶、政府大樓和學校安裝節流器。截至二零一七年三月底，本署已為58個公共屋邨約93,000名租戶安裝花灑和水龍頭節流器。此外，在政府大樓和學校加裝節水設備的第一及第二階段工程完成後，本署已於二零一七年三月繼續展開第三階段工程，為約2,930幢政府大樓和學校安裝48,700個節流器。

measures will promote more extensive use of WELS products in designated premises, which will help achieve greater water conservation.

Retro-fitting Government Buildings, Schools and Public Housing Estates with Water-saving Devices

With the proven effectiveness of flow controllers in helping users conserve water and thereby reducing water consumption, WSD has been continuing with flow controller installation works in public rental housing estates, government buildings and schools. By the end of March 2017, nearly 93,000 households at 58 public rental housing estates had flow controllers installed onto their taps and showers. Moreover, following completion of the first and second phases of retrofitting plumbing fixtures with water-saving devices in government buildings and schools, the third phase is now well underway with 48,700 flow controllers installed in nearly 2,930 government buildings and schools as of March 2017.



「齊來慳水十公升」運動

響應該運動，水務署鼓勵市民透過承諾宣言，與水務署一同加入節約用水的行列。截至二零一七年三月，已有約240個來自各行業和界別的機構參與，以支持及推廣運動。約14萬個參與的住宅用戶獲贈節流器。



“Let’s Save 10 Litres Water” Campaign

Under the Campaign, participants were encouraged to join forces with WSD to save water through declarations. By the end of March 2017, about 240 organisations from various trades and sectors had participated in the Campaign to show support and to help publicise the Campaign, while about 140,000 households participating in the Campaign had been provided with complimentary flow controllers.

提高公眾節水意識

節水教育與宣傳

從二零零九年一月起，水務署已為小學舉辦一系列節水教育活動，當中包括「保護水資源大使選拔賽」、「巡迴講座」及「校園用水考察」，培養學童養成良好的節水習慣，並鼓勵他們向朋友和家庭成員推廣節約用水。

於二零一五／一六學年，水務署繼而加強及整合校園活動，向小學推出「惜水學堂」節約用水教育計劃。「惜水學堂」理論與實踐相結合，旨在拓寬學生的水資源知識，並提高他們對節約用水及水資源可持續性的認識，以應對氣候變化的影響。截至二零一七年三月底，超過220間學校參與「惜水學堂」節約用水教育計劃。在這個成功的基礎上，我們將在二零一七／一八學年在幼稚園推行先導教育計劃。

Raising Public Awareness

Education and Promotion

Since January 2009, WSD has run a series of educational programmes for primary schools, including the “Water Conservation Ambassador Selection Scheme”, “School Roadshow” and “School Water Audit” to cultivate good water-saving habits amongst school children and encourage them to promote water conservation to their peers and family members.

Subsequently, in the 2015/16 school year, WSD enhanced and combined these school programmes by launching the “Cherish Water Campus” integrated education programme for primary schools. Integrating theory with practice, the programme aims to broaden students’ knowledge about water resources and raise their awareness of water conservation as well as water sustainability in order to address the effects of climate change. As at the end of March 2017, over 220 schools had joined the programme. Riding on this success, we will be launching a pilot education programme for kindergartens in the 2017/18 school year.



校園用水考察
School Water Audit



「惜水學堂」頒獎典禮（二零一五／一六學年）
“Cherish Water Campus” Award Ceremony (School Year 2015/16)

二零一二年，水務署在旺角辦事處設立臨時水資源教育中心，旨在提高年輕一代對水資源和節約用水的認識。截至二零一七年三月，臨時水資源教育中心已接待約五萬名主要來自小學及非牟利機構的訪客。由於旺角辦事處計劃於二零一八年搬遷至天水圍，水務署已著手策劃在水天圍新辦事處設立永久水資源教育中心。永久水資源教育中心預計將於二零一八／一九年啟用，屆時將會增加展覽面積，以便向學生及不同年齡的社會各階層人士介紹更多關於節水及水資源的新措施及深入資訊。



節約用水週2016

匯聚各種向市民推廣節約用水活動的「節約用水週2016」於二零一六年十一月十七日至二十一日假香港理工大學圓滿舉行。在「節約用水 你我都得」的活動主題下，水務署借助貫穿五天的大型展覽—「點滴香港•探古惜今創未來」和一系列豐富活動，向社會各個界別推廣全民節約用水，讓市民認識氣候變化為水資源帶來的重重危機，在社會構建惜水文化。

在主題為「全城啟動 同惜點滴」的「節約用水週2016」開幕典禮上，一眾來自學術界、教育界、商界、環保界的嘉賓和政府代表以匯聚「小水點」方式進行亮燈儀式，寓意眾志成城，將社會各界的努力集腋成裘，與大會主題「節約用水 你我都得」互相呼應，共創節水都市。

In 2012, WSD set up a temporary Water Resources Education Centre (WREC) at our Mong Kok Office with the aim of enhancing knowledge about water resources and water conservation among the younger generation. As at March 2017, the temporary WREC had received some 50,000 visitors since its opening, mainly from primary schools and non-profit organisations. With the Mong Kok Office scheduled to be relocated to Tin Shui Wai in 2018, WSD has embarked on a project to establish a permanent WREC in the new Tin Shui Wai office. The permanent WREC, expected to be commissioned in 2018/19, will have an expanded exhibition area to introduce more new initiatives and display in-depth materials covering various aspects of water conservation and water resources to cater for a wider spectrum of visitors of all ages from students to the general public.



Water Conservation Week 2016

Publicity and outreach activities on water conservation culminated in “Water Conservation Week 2016” (WCW), which was successfully held at The Hong Kong Polytechnic University from 17th to 21st November 2016. Under the event theme “Save Water We Can”, a large-scale “Water Conservation – Past • Present • Future” Exhibition took place throughout the five days of WCW and was complemented by a series of activities to promote water conservation to every community sector and also to enhance public understanding of the challenges brought by climate change on water resources, thereby helping to build a water-saving culture within the community.

At the “Let’s Get Started! Make Every Drop Count” WCW Opening Ceremony, guests from the academic, education, business, and environmental sectors, along with Government representatives, performed a “droplet accumulation” lighting ceremony to signify the build-up of concerted efforts from across every sector in the community to echo “Save Water We Can” and pledge to build a water-saving city together.

第二天的主題是「惜水學堂 由你做起」，為表揚一眾積極參與及支持「惜水學堂」節約用水教育計劃的學校及辦學團體於二零一五／一六學年的傑出表現，我們舉行了「惜水學堂」頒獎典禮。當天，合共56間學校及27間辦學團體獲頒發獎項。在典禮上，「滴惜仔」與「大咗鬼」聯同水務署同事，透過生動有趣的「惜水學堂」話劇表演與台下觀眾互動，強調在日常生活中節約用水的重要性。話劇以節約用水為主題，並分段穿插於頒獎典禮當中，使整個頒獎典禮兼具教育意義和趣味。

Under the theme “Put Cherish Water Campus into Action”, the “Cherish Water Campus” Award Ceremony was held on the second day of WCW to commend schools and sponsoring bodies for their outstanding participation in the integrated education programme during the 2015/16 school year. Awards were presented to 56 schools and 27 sponsoring bodies. A lively “Cherish Water Campus” Drama was also staged with a cast including Water Save Dave, Big Waster and several WSD colleagues conveying water conservation messages and highlighting the importance of water-saving practices in everyday life. The drama was divided into several acts which mingled with sessions for award presentations, to make the whole award ceremony educationally significant and interesting.

第三及第四天的主題分別是「小點滴 大意義」和「環保聯盟 共創節水香港」。市民可以參加探索米埔和大潭的生態導賞團，加深市民對香港的水資源和水務歷史的認識。節約用水Go Go Run、週日嘉年華和「滴惜•DIY」工作坊等活動可以讓孩子明白水資源稀少，從而了解節約用水的重要性。在「點滴傳承—邁步向前」水資源研討會上，多位環保團體的專業人士分享了氣候變化對水資源的保育、可持續性及其管理帶來的挑戰。

On the third and fourth days respectively “A Small Drop for a Big Difference” and “Green Alliance for a Water-wise Hong Kong”, there were specially arranged eco-tours to Mai Po and Tai Tam Reservoir to strengthen public understanding of Hong Kong’s wetland resources and waterworks history. There were also “Save Water Go Go Run”, Sunday Carnival and “Water Save • DIY” Workshops for children to learn about water as a scarce resource and hence the importance of water conservation. In the “Water Resources Sustainability – Marching On” Seminar, distinguished environmentalists talked about the challenges brought by climate change on water conservation, water sustainability and water resources management.



「節約用水週2016」開幕典禮亮燈儀式
Lighting ceremony in WCW Opening Ceremony



最後，在第五天的主題「商界齊協力 節水零浪費」下，我們舉辦了「商界節水零浪費」論壇暨「用水效益最佳實務指引」啟動禮。在論壇上，飲食業和酒店業的專業人士分享了他們的節水之道，商會的代表亦攜手在啟動禮上承諾實施「用水效益最佳實務指引」。此活動亦為「節約用水週」劃上句號。為期五天的「節約用水週」活動共吸引了超過二萬人參加。

公開講座和展覽

聯合國把每年的三月二十二日定為「世界善用食水日」。為響應這個極具意義的日子，香港地球之友再次聯同水務署合辦「水論壇2017」，並以「氣候變化衝擊與應變—海綿城市」為題。是次論壇邀請了多位水務和環境保育的專家就本港是否已準備好應對氣候變化帶來的潛在危機發表演講，以及就有關本港全面水資源管理策略的議題進行討論。論壇更設有圓桌討論及答問環節，以促進講者與聽眾交流觀點和分享經驗。

Finally, on the fifth day under the banner of “Join Hands for Water-efficient Business”, we organised the “Zero Waste in Trades” Forum cum Launching Ceremony on “Best Practice Guidelines (BPG) for Water Usage”. Experts from the catering and hotel service trades shared their water-saving experiences at the forum and representatives from trade associations joined hands to pledge to implement the BPG at the launching ceremony. That activity concluded the five-day WCW, which attracted more than 20,000 visitors.

Public Lectures and Exhibitions

The United Nations has designated the 22nd of March each year as “World Water Day”. To mark the significance of this day, Friends of the Earth (Hong Kong) collaborated with WSD again to organise the Water Forum 2017 under the key theme “Climate Change Resilience – Sponge City” as part of the day’s activities. Experts in the fields of water supply and environmental protection were invited to give talks on Hong Kong’s readiness to cope with the potential threats against climate change as well as discuss topics related to the total water management strategy in Hong Kong. Panel discussions as well as question and answer sessions were held to exchange views and encourage experience-sharing between the speakers and the audience.



用水效益檢討

在完成對泳池、公園、街市、廁所、垃圾收集站和懲教所等政府管理設施的用水效益檢討，並隨之發佈相關的用水效益最佳實務指引後，本署一直與設施管理者合作，根據用水效益最佳實務指引落實各種措施，以提升有關設施的用水效益。有關酒店及餐飲業的商界最佳實務指引已於二零一六年十一月在「節約用水週」期間頒布。推行用水效益檢討的主要目標是讓我們的用戶出一分力，降低整體耗水量。檢討程序讓我們掌握以事實為基礎的工具，在制訂和實行日常節約用水措施時，能平衡得失，無損整體的服務水平。

防止非法取水

本署負責執行《水務設施條例》及《水務設施規例》，並對違法人士採取法律行動。根據《水務設施條例》，除非水務監督批准，否則未經水錶量度取水即屬違法行為。在二零一六年，本署檢控組平均每月處理的非法取水個案數目為105宗。宣傳方面，我們推出多個關於防止非法取水的教育和宣傳計劃，服務對象除本署內外的政府職員之外，亦包括市民大眾。有關教育和宣傳活動包括濾水廠開放日、研討會及學校巡迴探訪、港鐵車站廣告、水費單上的告示，以及政府及私人物業、客戶諮詢中心及水資源教育中心張貼的海報及宣傳牌。

Water Efficiency Review

Following the completion of the water efficiency reviews and subsequent issuing of Best Practice Guidelines (BPGs) for government-managed swimming pools, parks, markets, toilets, refuse collection points and correctional institutions, we have been working with facility operators on implementing measures according to the BPGs to enhance water use efficiency at their facilities. The BPGs for hotel and catering industries were promulgated in November 2016 during WCW. Our primary objective is for our customers to play its part in contributing to water conservation. The review process involves a fact-based method to formulate balanced water-saving measures for implementation in day-to-day operations without compromising the overall level of services.

Preventing Illegal Water Use

The Department is responsible for administering the Waterworks Ordinance (WWO) and Waterworks Regulation as well as taking legal action against offenders. It is an offence under the WWO to draw water without a meter except with the permission of the Water Authority. The average number of cases of illegal use of water handled by the Department's Prosecution Unit per month in 2016 was 105. In terms of publicity, we conducted a number of education and information programmes on preventing the illegal use of water not only to government officers within and outside the Department, but also to the public during events such as Treatment Works Open Day, seminars and school tours, and through advertisements in MTR stations, notices on water bills as well as posters and promotion boards displayed at government and private properties, customer enquiry centres and at the WREC.

改善供水網絡

在過去十六年間，本署在減少水管爆裂方面取得明顯進步。水管爆裂宗數由二零零零至零一年度的2,500宗下降至二零一六至一七年度的僅96宗。這主要歸功於本署為期15年的更換及修復水管計劃。該計劃更換及修復了接近3,000公里的老化水管(全港水管總長度約為8,000公里)，因而大幅提高了供水的可靠程度。

在進行這項工程時，我們採用了全球最先進的建造方法和技術。在合適的情況下，我們採用無坑建造法，包括內喉緊貼法(用於原有水管)、原位內搪喉管法、水管推頂法和橫定向鑽挖法，以減少路面施工和對公眾和交通造成干擾。

在鄉郊地區，水務署亦已於二零一三年十月開始更換海底水管，包括大嶼山至長洲、坪洲至周公島，以及周公島至喜靈洲的海底水管。為此，我們採用橫定向鑽挖法在海床下的岩石層鋪設管道，盡量減少對環境的整體影響，同時避免干擾海陸考古地點和海上交通。定向鑽挖工程已於二零一六年年中大致竣工。

Improving the Supply Network

Over the past 16 years, the Department has made dramatic improvements in reducing water main bursts from 2,500 in 2000/01 to just 96 in 2016/17. This has been accomplished in large part through the success of our 15-year programme of replacement and rehabilitation of about 3,000 km of aged water mains out of a total of around 8,000 km of pipelines all across Hong Kong, resulting in significantly higher water supply reliability.

In carrying out this work, we apply the world's most advanced construction methods and technologies. Where applicable, we use trenchless construction, including close-fit lining of existing mains, cure in-place pipes, pipe jacking and horizontal directional drilling (HDD) to help reduce above ground construction and limit disturbances to the public and traffic.

Outside of the urban areas, starting from October 2013, WSD also began replacing submarine pipelines, including the sections from Lantau to Cheung Chau, Peng Chau to Sunshine Island, and Sunshine Island to Hei Ling Chau. To do this, we employed HDD to lay the pipelines through the rock layer below the seabed to minimise the overall environmental impact as well as to avoid disrupting marine and terrestrial archaeological sites and marine traffic. The HDD works were substantially completed by mid-2016.

工程人員正在進行鑽挖工作。
Engineering staff are carrying out drilling works.



用水流失管理措施

本署定期進行音聽視察、噪聲測井、最低晚間流量測試和分段流量測漏，以探測漏水情況，並應用最新的區域持續監測及水壓管理技術，加強控制用水流失。我們致力盡早發現可疑漏水情況，以便即時採取措施避免進一步流失，並防止情況惡化至水管爆裂。

本署已將部分測漏工作外判予專門承辦商，以定期對全港的水務署水管進行有效檢測。同時，我們亦以評估表現的方式鼓勵承辦商進行更多檢測。迄今為止，港島、九龍和新界的多條水管均成功採用評估表現的方式由專門承造商進行檢測。

Water Loss Management Initiatives

The Department conducts regular leak detection through sounding and visual inspections, noise logging, minimum night flow tests and step tests. The control of water loss has also been strengthened through the application of the latest district continuous monitoring and pressure management technologies. We are also doing our best to detect suspected leaks as early as possible so that we can take immediate action to cut further losses and stop the deterioration that could lead to water main bursts.

Some leak detection work has been outsourced to specialist contractors to maintain effective regular leak detection of all WSD water mains in Hong Kong. We have also adopted a performance-based approach to motivate contractors to detect more leaks. To date, leak detection of a number of the water mains in Hong Kong Island, Kowloon and New Territories has been successfully conducted by the specialist contractors using this performance-based approach.

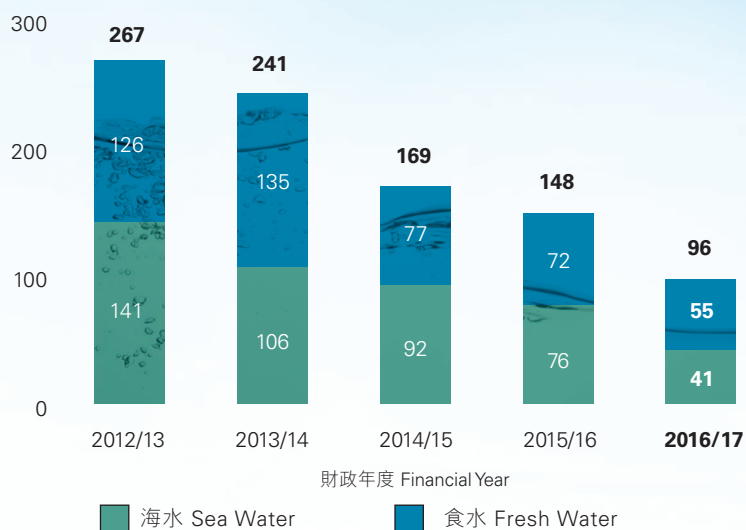


水務署致力盡早發現可疑漏水情況，以便即時採取措施避免進一步流失。

WSD is striving to detect suspected leaks as early as possible in order to allow immediate action to cut further losses.



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



測漏統計數字 Statistics on Leak Detection

食水 Fresh Water

測漏工作 Leak Detection	財政年度 Financial Year				
	2012/13	2013/14	2014/15	2015/16	2016/17
最低晚間流量測試次數 No. of Minimum Night Flow Tests	139	92	63	39	31
分段流量測漏次數(或滲漏測試) No. of Step Tests (or Leakage Tests)	13	15	7	19	31
音聽視察次數 No. of Sounding & Visual Inspections	3,282	2,918	4,121	3,271	3,679
經發現的滲漏個案數目 No. of Leaks Detected	1,432	1,237	1,448	1,143	1,761
估計每日可節省的水量(立方米/日) Estimated Quantity of Fresh Water Saved (cubic metres/day)	57,128	47,872	42,125	50,847	77,357

海水 Sea Water

測漏工作 Leak Detection	財政年度 Financial Year				
	2012/13	2013/14	2014/15	2015/16	2016/17
音聽視察次數 No. of Sounding & Visual Inspections	516	488	1,212	1,688	1,837
經發現的滲漏個案數目 No. of Leaks Detected	127	116	197	164	247
估計每日可節省的海水量(立方米/日) Estimated Quantity of Sea Water Saved (cubic metres/day)	35,040	19,881	30,561	21,447	35,390

