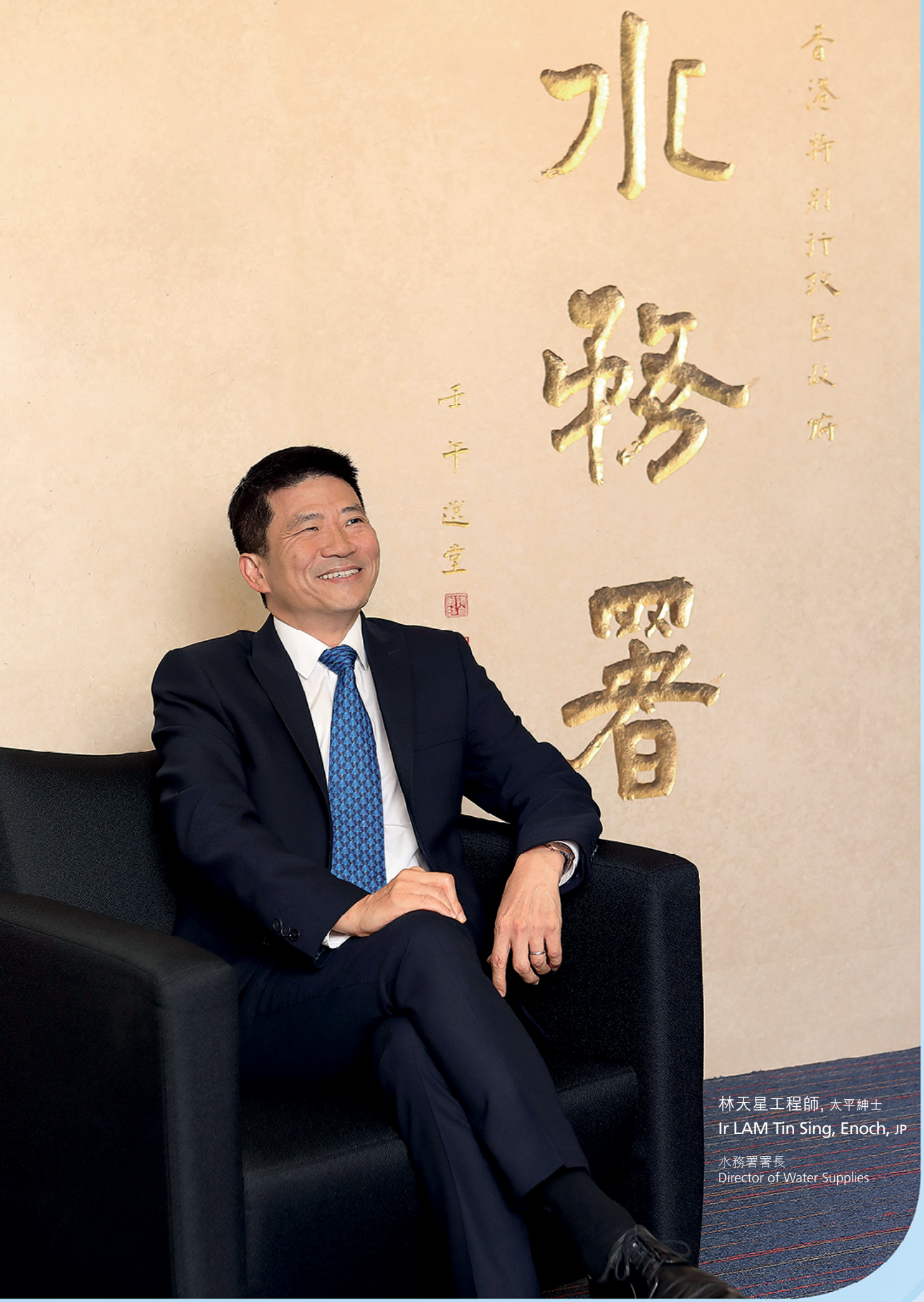

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水務署署長
Director of Water Supplies

署長的話
Director's Statement

落實及推動本港短期及長期的穩健供水發展，是水務署的崇高使命。為實現這一目標，本署與相關持份者和社會各界齊心協力，通力合作，務求妥善紓緩氣候變化所帶來的任何潛在威脅，確保現在及將來繼續為全港市民提供安全用水。

The Water Supplies Department (WSD) has a noble mission in the implementation and promotion of water resilience development in Hong Kong over both the near- and long-term. To achieve these ends, the Department has been collaborating with relevant stakeholders and indeed society at large, so that through our joint cooperative efforts, any potential threats caused by climate change can be duly mitigated while supplies of water will continue to remain secure for everyone now and in the future.

全面水資源管理策略

本署早於二零零八年便已推出全面水資源管理策略，目的是在未來全球氣候變化導致任何緊急情況時，確保可持續供應水資源。

該策略強調需要透過積極推行節約用水計劃以限制用水需求，以及採用積極的網絡管理以控制用水流失，同時開拓新的水資源。

雖然全面水資源管理為本港寶貴水資源的可持續使用奠定堅實的基礎，但本署仍必須應對多項嚴峻挑戰，包括當前氣候變化所帶來的切身威脅、廣東省多個城市對輸入東江水的競爭日趨加劇，以及本署能否滿足本港人口與經濟預計持續增長下的用水需求。

本署需要未雨綢繆，認真審視現時所面對的威脅，並警惕任何不可預見的挑戰或不確定因素出現。為此，本署現正著手全面檢討現有全面水資源管理策略，務求採用及推行有助本署制定全新綜合全面水資源管理策略的新措施，以造福本港，確保水資源至少直至二零四零年仍可持續使用。

Total Water Management Strategy

Back in 2008, the Department initiated a Total Water Management (TWM) strategy aiming at ensuring sustainable water resources in the event of any future contingencies that might arise from global climate change.

This plan emphasised the need to limit the demand for water through active water conservation schemes and by the introduction of proactive network management to control water loss while at the same time exploiting new water resources.

While TWM has laid a solid cornerstone for Hong Kong's sustainable use of our precious water resources, the Department still has to contend with a number of serious challenges, including today's existential threats from the climate change, as well as tighter competition amongst various cities in Guangdong Province to import Dongjiang water, and our ability to meet the water demands for the projected continuous growth of Hong Kong's population and economy.

The Department has taken a long, serious look at the extant threats we face and has been vigilant for any unforeseen challenges or uncertainties. For this reason, we are currently undertaking a comprehensive review of the existing TWM strategy in order to apply and introduce updated initiatives that will allow us to formulate a new, comprehensive TWM strategy to benefit Hong Kong and achieve sustainable water usage until at least the year 2040.

香港的食水供應
Water Supply in Hong Kong

現時三大來源
Three Current Taps

本地集水 Local Yield	海水沖廁 Seawater Flushing	輸入東江水 Dongjiang Water
16%	22%	62%

未來三大來源
Additional Three Future Taps

海水化淡 Desalinated Water	再造水 Reclaimed Water	中水重用及集蓄雨水 Recycled Grey Water & Harvested Rainwater
每年 50-100 百萬立方米 mcm/year	每年 21 百萬立方米 mcm/year	計劃於安達臣道石礦場用地發展項目中使用 Planned for use at the Anderson Road Quarry Site Development

人口 Population
730萬/7.3M

2015耗水量 2015 Consumption

973 百萬立方米 mcm/year (食水 Fresh water) + 272 百萬立方米 mcm/year (鹹水 Salt water)

= 每年 1,245 百萬立方米 mcm/year

六管齊下的供水來源

繼全面水資源管理策略及其他現行措施付諸實施後，水務署現正致力建立由本地集水、輸入東江水、沖廁海水、海水化淡、再造水、中水重用及集蓄雨水組成的供水結構。這六個供水來源將共同構成本港未來的供水支柱，確保全港水資源更為安全、可靠及穩健。

Six-pronged Water Supply Sources

Following the implementation of our TWM Strategy and other on-going initiatives, WSD is moving towards the establishment of a water supply structure comprising local yield, imported Dongjiang water, seawater for flushing, desalinated water, reclaimed water, recycled grey water and harvested rainwater. These six water supply sources altogether will be the future pillars supporting our great Territory with enhanced water security, reliability and resilience.

海水化淡

我們正在積極推進將軍澳海水化淡廠的逆滲透技術設計工作，預計初期日均產能達1.35億公升，日後可擴建至最高日均產能2.70億公升。該化淡廠將採用自動化運作，並配備先進的配水控制系統，能夠供應相當於本港總食水用量半成（擴建後為一成）的食水。

再造水

水務署將分階段向用戶供應由新界東北石湖墟污水處理廠經三級處理生產的再造水作非飲用用途。二零二二年，上水及粉嶺居民將會率先使用這種再造水。再造水設施全面投產後，將有助本港每年節省約2,100萬立方米食水（佔本港總食水用量百分之二）。

中水重用及集蓄雨水

水務署下定決心透過中水重用及集蓄雨水來開拓新的水資源。為此，本署倡導在安達臣道石礦場用地發展項目中將收集的雨水用作灌溉用途，並推動供應重用的中水作沖廁用途。

節約用水

水務署一直致力於推動全港節約用水，針對多個目標而推行多項「軟硬兼備」的節水措施。

本署與本地小學攜手合作，於二零一五/二零一六學年推出「惜水學堂」節約用水教育計劃，藉以向學校、家庭及廣大市民傳播節約用水的理念。本署亦與餐飲及酒店業持份者合作，實施最佳實務指引，務求提高用水效率。

Seawater Desalination

We are actively going ahead with the design of a reverse osmosis technology desalination plant at Tseung Kwan O with an output capacity of 135 million litres per day during the initial stage with provisions for future expansion to reach a maximum capacity of 270 million litres per day. This plant will be automated and equipped with an advanced distributed control system, capable of supplying fresh water equivalent to 5% (10% after expansion) of the total fresh water consumption in Hong Kong.

Water Reclamation

Supplies of reclaimed water converted from tertiary treated sewage effluent at the existing Shek Wu Hui Sewage Treatment Works in the north-eastern part of the New Territories will be provided to consumers for non-potable purpose in phases starting with those living in Sheung Shui and Fanling in 2022. After the water reclamation facility is fully commissioned, this will help Hong Kong save about 21 mcm of fresh water (2% of Hong Kong's total fresh water consumption) each year.

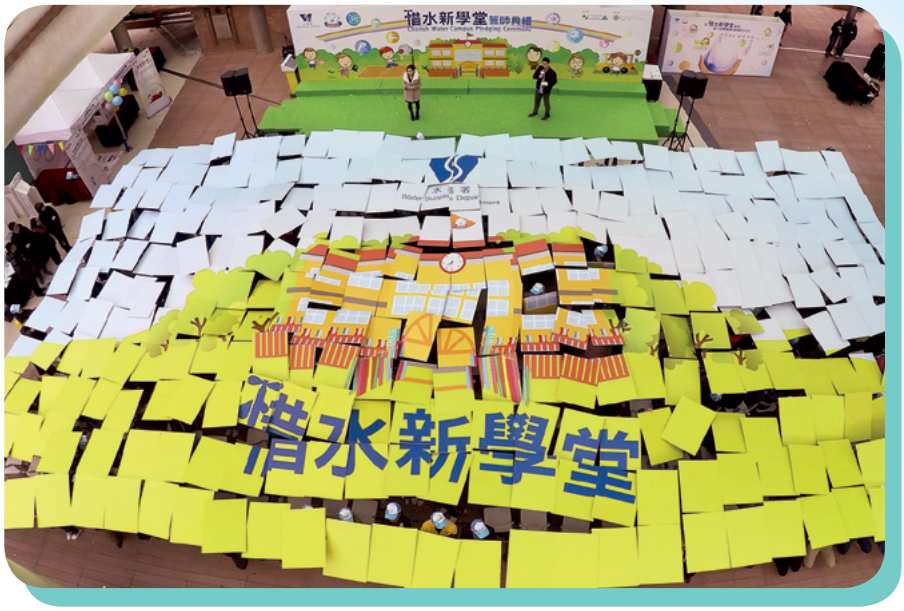
Grey Water Recycling and Rainwater Harvesting

WSD is resolutely determined to exploit new water resources from recycled grey water and rainwater. For this reason, we have initiated a scheme to supply recycled grey water for flushing at the Anderson Road Quarry Site Development in addition to the use of harvested rainwater for irrigation purpose.

Water Conservation

WSD has long been dedicated to water conservation on a community-wide scale, introducing software and hardware water-saving initiatives targeting at multiple goals.

We have worked hand-in-hand with primary schools to introduce the "Cherish Water Campus" during the 2015/2016 academic year in order to sow the seeds of water conservation in schools, families and the community at large. We have also collaborated with catering and hotel stakeholders for the implementation of best practice guidelines for greater water use efficiency.



本署持續加快推進為公共租住屋邨安裝水龍頭及花灑節流器的計劃。本署亦已建立其他節約用水合作計劃，其中「齊來慳水十公升」運動得到公眾大力支持，很大程度上有賴與本署合作機構的協助與配合。位於天水圍的全新水資源教育中心亦正在興建中，計劃於二零一八/一九年啟用，屆時將可進一步推廣及宣傳節約用水。

此外，本署亦正在制訂計劃，分階段逐步將現行自願參與用水效益標籤計劃轉為強制計劃。第一階段會於二零一七年年初起實施，強制新建及現有樓宇內新安裝的供水系統必須使用在用水效益標籤計劃下註冊的指定產品，並須提交水務表格WWO46。而在第二階段中，本署建議所有可供售賣的用水裝置必須註冊用水效益標籤計劃。

Our programme of installing flow controllers in the taps and showers of the public rental housing estates continues apace. We have also set up other cooperative ventures to water conservation. Among these, the 'Let's Save 10 Litre Water' campaign has garnered good public support thanks in large part to the assistance and cooperation received from our partner organisations. A new Water Resources Education Centre in Tin Shui Wai is also under construction and slated for commissioning in 2018/19 to further promote and publicise water conservation.

Further, we are formulating plans in stages to transform the current Water Efficiency Labelling Scheme (WELS) from a voluntary initiative into a mandatory scheme. During the first stage, we will mandate the use of designated products registered under WELS for newly completed plumbing systems installed in new buildings and existing buildings requiring the submission of WWO form 46 with effect from early 2017. Under the second stage, we propose that all water consumption devices on sale shall be registered under WELS.

智管網

引進智管網系統有助本署持續監控配水管網。智管網涉及在監測區域的供水網絡內安裝頂尖監控及感應設備。本署計劃在全港建立共2,000個監測區域，而目前已建成約850個。本署亦將採購一套智能網絡電腦管理系統，藉以分析監測區域所收集的數據。整個智管網系統一旦投入使用，將比傳統方式更加迅速和準確地發現管網的問題，有助本署在更短時間內針對水管滲漏造成的用水流失採取適當的應對措施。

Water Intelligent Network

The introduction of a Water Intelligent Network (WIN) system allows us to monitor continuously our water distribution network. WIN involves the installation of state-of-the-art monitoring and sensing equipment in water supply network of the District Metering Areas (DMAs). We plan to establish altogether 2,000 DMAs over the Territory and currently have about 850 already in place. We will also procure an intelligent network computer management system to analyse the data collected from the DMAs. Once commissioning of the entire WIN system is in place, problems along the network can be detected more quickly and accurately than by conventional means, allowing us to take proper countermeasures against water loss through water main leakage within a shorter period of time.

自動讀錶系統先導計劃

水務署的另一項重要措施是運用自動讀錶來節約用水和控制用水流失。為精益求精，本署採用智能自動讀錶系統來提高讀錶效率，向客戶提供更優質服務。智能自動讀錶系統將可自動讀取用水數據，並把數據傳輸至中央數據庫進行計算收費和分析，以改善供水規劃及管理。為配合手機用戶的殷切需求和推廣節約用水的目標，水務署亦正在開發合適的手機應用程式，以便客戶輕鬆查閱用水數據。本署計劃在新發展地區建構一個智能供水網絡，例如在九龍東及安達臣道石礦場用地發展項目中採用先進的自動讀錶系統及智管網。

Automatic Meter Reading Pilot Scheme

Another key initiative of WSD involves Automatic Meter Reading (AMR) being deployed for water conservation and water loss control. In search of excellence, we can improve meter reading efficiency and provide better services to customers through the adoption of a smart metering scheme. By applying smart metering technology, the water consumption data can be read automatically and transferred to a central database for billing and analysis. This will result in better planning and management of water supplies. With the twin purposes of promoting water conservation and meeting the needs of today's ubiquitous mobile phone users, the WSD is also developing suitable phone applications to facilitate easy access to water consumption data. We plan to deploy a smart water network in new development areas such as the Development of Kowloon East and Anderson Road Quarry Site by applying the most advanced AMR technology together with WIN.

先進技術

我們深明不能固步自封，必須不斷引入先進的技術，以維持和提升本署應對未來挑戰的能力。我們借鑑引入生物感應技術進行水質控制及水力發電的成功經驗，正在石壁水塘及船灣淡水湖的水面鋪設太陽能板，實行浮動太陽能板發電試驗計劃。我們還密鑼緊鼓，在將軍澳海水化淡廠運用先進的逆滲透薄膜技術把海水過濾及淨化，以生產優質的食水。此外，我們亦正在制訂計劃，在大型濾水廠運用尖端的薄膜技術生產液氯，以消除運輸及儲存液氯的潛在風險，更有效保障本港液氯供應的安全性。總而言之，有賴於先進的知識、技術和創意，我們充滿信心以專業精神面對未來挑戰。

Advanced Technologies

We know that we cannot rest on our laurels and must continue to incorporate technological advances in order to maintain and improve our competencies for tomorrow's world. Emulating the successful examples of introducing biosensing techniques for water quality control and hydropower turbine generation, we are piloting a solar energy generation scheme by installing floating photovoltaic panels in the Shek Pik Reservoir and Plover Cove Reservoir. We are also actively working to produce high quality drinking water from seawater by utilising cutting edge reverse osmosis membrane technology at the desalination plant in Tseung Kwan O. Further, using state-of-the-art membrane technology, we are developing schemes to generate liquid chlorine in major water treatment works to eliminate the potential risk of liquid chlorine transportation and storage, and better safeguard the security of the liquid chlorine supply in Hong Kong. All in all, applying advanced knowledge, technology and creativity, we can face the future challenges with confidence and professionalism.

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