水務署
WATER SUPPLIES DEPARTMENT

年報 Annual Report 2023/24

革新水務 成就社區

TRANSFORMING

WATER SUPPLIES, EMPOWERING COMMUNITIES

目錄 CONTENTS

關於本報告
About This Report

本報告以「革新水務 • 成就社區」為主題，介紹水務署的水資源管理的宏觀策略和方針，以至我們在供水和安全方面所提供的服務、措施及其成效。報告亦會展示我們在知識傳承、人才培育、引進新技術和智能創新各範疇所作出的努力及重視，並通過持續與各持份者通力合作和推展社區服務，實現可持續發展。

Entitled "Transforming Water Supplies • Empowering Communities", this Report presents the Water Supplies Department (WSD)'s water management strategy and approach, its services, initiatives and performance on water supply and safety. It also features how we foster knowledge, people development, the use of advanced technologies and smart innovations, as well as stakeholder partnerships and community services for achieving sustainable development.

報告範圍
SCOPE

報告的所有數據均為截至二零二四年三月三十一日所搜集的資料加以分析所得，而財務相關的數據皆取自截至二零二四年三月為止的財政年度。除非另外標明，本報告所用的「元」均指港元。

The data represents absolute figures as at 31 March 2024 to the best of our knowledge. Financial data is for the financial year ended March 2024. When dollars are quoted in this report, they are, unless otherwise stated, Hong Kong dollars.

署長的話
Director's Message

全球氣候持續惡化，氣溫屢創新高，水災和旱災等極端天氣頻繁發生，這些變化將會逐漸影響本地的供水量和水質。

為此，水務署積極與合作夥伴攜手，以創新思維、提高應變能力和可持續發展的方向轉型供水模式以帶動社區發展，並逐步將香港打造成智慧用水城市。

The world continued to see a disturbing acceleration of broken climate records with temperatures hitting new highs, flooding and droughts increasing in severity, which have also impacted our water quantity and quality locally.

At the WSD, we foster collaborative partnerships and apply innovative technologies to transform water supplies with innovation, resilience and sustainability for empowering community development and building Hong Kong into a water-smart city.

黃恩諾工程師*太平紳士*
水務署署長

Ir WONG Yan-lok, Roger, *JP*
Director of Water Supplies

具氣候應變能力的供水新時代

隨著將軍澳海水化淡廠第一期在二零二三年十二月開始投產，香港正式進入供水的新時代，從此我們擁有一個穩定且不受氣候變化影響的新水源，實現本地供水保障的一項重要里程碑。將軍澳海水化淡廠採用最先進的逆滲透海水化淡技術，所生產的食水完全符合「香港食水標準」，每日食水產量為 13.5 萬立方米，並可在極端天氣下提供食水以應付市民最基本的日常需要。

安達臣道石礦場用地發展的中水處理廠是我們今年的另一個重點項目。該中水處理廠將於二零二五年全面投入運作，屆時將成為全港首個地區性中水重用系統，並為未來擴大循環再用水作非飲用用途奠定基礎。這個系統不僅具備資源效益，同時優化用水循環，節省食水資源，並顯著減少抽水過程中的能源消耗。

我們在促進多元化水資源方面也取得了良好的進展，在新發展區已著手建造首個中央再造水供應系統。隨著石湖墟再造水廠於二零二四年三月落成，為原本經處理的排放水進一步加工處理，我們已開始向上水的用戶供應再造水作沖廁用途。餘下的再造水供水系統建造工程將於二零二六年分階段完成。

上述建設為香港提供了三個全新的水源，大大提升了我們應對降雨不穩定等極端氣候變化的應變能力，同時亦緩解了隨著香港人口增長和創新科技帶動的經濟發展所引致的供水需求壓力。 未來數年，為配合北部都會區的策略性增長，我們將積極擴大使用次階水（即海水、再造水及經處理的中水），令其佔總用水量的比例由目前的 25% 增加至 30%，並在未來逐步擴大應用範圍至區域供冷系統。

ENTERING A NEW ERA OF CLIMATE-RESILIENT WATER SUPPLIES

With the commissioning of the first stage of Tseung Kwan O Desalination Plant (TKODP) in December 2023, Hong Kong has entered into a new era equipping with a stable water source that is not susceptible to climate change, which signifies a key milestone in enhancing water security. Using the state-of-the-art reverse osmosis desalination technology, the TKODP is producing potable water in compliance with the "Hong Kong Drinking Water Standards" with a production capacity of 135 000 m^3 per day, thereby providing the public with an essential access to drinking water in times of extreme circumstances.

Another notable milestone was the establishment of the Grey Water Treatment Plant at the Development of Anderson Road Quarry Site due to be fully operational by 2025. This has marked the first district-based grey water recycling system in Hong Kong, scaling up the reuse of recycled water for non-potable uses in the future. Promoting resource efficiency and circularity also saves our fresh water resources as well as energy consumption arising from pumping load.

We have also made a good progress in diversifying water resources by developing the first-ever centralised reclaimed water supply system for new development areas. Following the completion of the new Shek Wu Hui Water Reclamation Plant for further processing the treated sewage effluents, we commenced the supply of reclaimed water for toilet flushing in Sheung Shui in March 2024. The remaining reclaimed water supply system will be completed in stages by 2026.

These developments provide Hong Kong with three new water resources which have significantly enhanced our water resilience against intensifying climate impacts such as unstable rainfall patterns, as well as increasing water demand arising from growing population and Innovation & Technology driven economic growth in Hong Kong. In coming years, we aim to expand the use of lower grade water (namely seawater, reclaimed water and treated grey water) from the current 25% to 30% leveraging the strategic growth in the Northern Metropolis and widen its applications including district cooling system in the future.

促進智慧和綠色水務管理

為響應政府的數字政策，推動智慧創新，我們已計劃於二零二四年成立「數字水務辦公室」，並展開數碼轉型之旅，以提升水務設施的運作效率及能源效益，並同時減低碳排放。我們正制訂長遠的數字水務路線圖，逐步實現智慧和綠色水務管理。

我們通過引入智能裝置、數碼孿生和人工智能等先進科技，全面優化供水基礎設施的運作效率，為客戶和市民提供更便捷的服務。我們計劃推行多項措施以促進數碼轉型，包括建設智能水務基礎設施、智慧供水管網、數碼監管水管工程，以及一站式水務署客戶電子服務平台。此外，我們亦會設立水務署中央運作管理中心，用作全面管理供水系統，並成立水務署雲端數據中心，確保數據安全。

此外，在早前於多個水塘推行的先導計劃中成功發展太陽能發電場後，我們正計劃興建更具規模的太陽能發電場，以轉化我們的營運及實現減少碳排放的目標。

加強節約用水和網絡效率

受到二零一九冠狀病毒疫情影響，香港每日人均住宅食水用量達到 150 公升，較二零一九年上升約百分之十。有鑒於此，我們必須加強與各界通力合作，共同節約珍貴的水資源。我們已經在二零二四年二月啟動全新的節約用水運動，提醒公眾節水的重要性及提升相關知識，藉此呼籲大眾齊心合力，為促進香港供水可持續發展作出貢獻。為了進一步推廣節約用水，我們成立了節約用水專責小組，為高用水量用戶提供專業意見和技術支援，務求協助他們減少用水。經多管齊下的措施，香港市民在二零二三至二四年的用水量顯著回落，人均食水用量由疫情高峰期約 150 公升/ 日下降至約 135 公升/ 日。

ENABLING SMART AND GREEN WATER MANAGEMENT

To advance operational and energy efficiency as well as decarbonisation of our waterworks assets, while supporting the Government's digital policy to promote smart innovation, we are planning to embark on a digital transformation journey with the establishment of the Digital Water Office (DWO) in 2024 for setting a long-term Digital Water Roadmap to enable smart and green water management.

Harnessing the adoption of advanced technologies including smart devices, digital twins and artificial intelligence, we seek to optimise the efficiency of our water supply infrastructure and bring convenience and benefits to our customers and members of the public. We plan to implement digital transformation initiatives including intelligent waterworks infrastructure, smart water supply network, digital regulation of plumbing works, and a one-stop e-service platform for all WSD customer services. We will also establish the WSD Central Operations Management Centre to achieve holistic management of the water supply system, and the WSD Cloud Data Centre to safeguard data security.

Following successful pilots, we are planning large-scale development of solar farms with the objective to transform our operations for decarbonisation.

ENHANCING WATER CONSERVATION AND NETWORK EFFICIENCY

Due to the COVID-19 epidemic, the average daily domestic fresh water consumption per capita in Hong Kong has reached around 150 litres, a rise of about 10% compared to 2019, it's imperative to advance concerted action to conserve precious water resources. In February 2024, we launched a new water conservation campaign aiming to raise public awareness and knowledge and appeal to their joint efforts in consuming less water in order to safeguard sustainable water supply. To step up our conservation efforts, we are also formulating a water conservation taskforce which aims to provide advisory and technical support for those with ultra-high water consumption with a view to reducing their use of water. The multi-pronged approach resulted in a significant drop of the fresh water consumption per capita in Hong Kong from the peak at around 150 litres per day during the COVID-19 pandemic to around 135 litres per day in 2023/24.

維持東江水供水穩定對香港的可持續發展至關重要。二零二五年正值東江供水六十周年，我們已自二零二四年下旬展開了一系列為期一年的教育和宣傳活動，讓公眾了解國家對香港一直以來的支持，並教育市民節約用水的重要性。

除了推廣節約用水外，加強用水流失的管理同樣重要。隨著在全港廣泛推展水管更換和修復計劃，並實施風險為本的水管資產管理策略，每年的水管爆裂事故已經由二零零零至零一年度高峰期的 2 500 宗，大幅減少至二零二三至二四年度的 34 宗。此外，因應二零二四年下半年於荔枝角及東涌的爆喉事故，我們將更積極採取多管齊下的措施，包括推行建立約 2 400 個「智管網」監測區域及設立「爆喉熱點」機制等，加強監測並陸續更換或修復個別較高風險水管段落，以減少水管爆裂或滲漏的風險。

成就團隊實現卓越表現

為了讓我們能在面對科技的日新月異、氣候變化及客戶期望需求所推動的未來工作環境中茁壯成長做好準備，我們致力透過加強知識管理、鼓勵團隊合作及重視員工的努力，從而發掘員工潛能，提升團隊士氣，並幫助他們突破自我，不斷進步。為此，我們建立了全面的知識管理，當中包含不同的交流活動及多元化學習課程，並透過積極參與社區義工與體育活動，促進跨團隊合作，營造持續學習與力求創新的氛圍，以裝備團隊成就卓越表現。

我們的努力得到了業界的廣泛認可，並獲得多項獎項，包括香港最具創新力知識型機構大獎，以及連續第三年獲得全球最具創新力知識型機構大獎。另外，我們利用開放式建築信息模擬（openBIM）配合先進解決方案，成功開發了一個創新的資產管理資訊系統，讓我們成為全球水務業界主要持份者的楷模。這些成就將會轉化為動力，讓我們持續推動創新，促進與業界作技術交流，從而為環境和社區作出貢獻。

The reliable supply of Dongjiang water underpins the sustainable development of Hong Kong. To mark the forthcoming 60th anniversary of Dongjiang water supply in 2025, we have kick-started a series of year-long education and publicity activities from the second half of 2024 on enriching public understanding about the nation's contribution and the importance of water conservation.

Apart from promoting water conservation, we strive to strengthen water loss management. With the territory-wide Water Mains Replacement and Rehabilitation Programme and our risk-based water main asset management strategy, we managed to substantially reduce water main burst incidents from the peak of 2 500 in 2000-01 to 34 in 2023-24. In response to the recent water main burst incidents at Lai Chi Kok and Tung Chung in the second half of 2024, we are implementing multi-pronged measures, including establishing approximately 2 400 "Water Intelligent Network" district metering areas and "main burst hot spot" mechanism, etc, with a view to strengthening the monitoring as well as replacing or rehabilitating specific sections of water mains to reduce the risks of water main bursts or leaks.

EMPOWERING TEAMS FOR BREAKTHROUGH PERFORMANCE

To prepare us to thrive in the future workplace driven by dynamic shifts in technology, climate and customer needs and expectations, we will set our sights on enhancing knowledge management, promoting team cohesion and recognising contributions, with a view to bringing out employee strengths, keeping team members motivated and helping them step out of the comfort zone to foster both individual growth and organisation innovation. Through a comprehensive series of knowledge management and sharing events, diversified learning curriculum, as well as community volunteering and sports activities, we seek to promote cross-team collaboration and sustain a culture of continuous learning and innovation for breakthrough performances.

Our recent efforts were recognised by winning the prestigious Top Winner Award in the Hong Kong Most Innovative Knowledge Enterprise (MIKE), as well as the Global MIKE Award for the 3rd consecutive years. Leveraging openBIM and cutting-edge solutions, we have also pioneered an innovative Asset Management Information System which serves as a benchmark for the key players in water industry worldwide. These achievements will motivate us further in driving innovations and contributing insights and solutions for the well-being of the environment and community.

促進合作並推廣用水相關知識和創新思維

隨著供水安全逐漸成為全球關注的議題，我們每個人均有義務為此盡一分力。在水務署，我們致力建立及穩固節約用水文化、結合科技推動創新，以及促進水資源循環利用，竭盡所能保障供水安全。

繼去年成功推行「惜水計劃」，我們在未來一年將繼續在學校培育新一批的惜水大使，並鼓勵工商業機構與社區組織攜手合作，為下一年節約用水定下指標並作出承諾。展望未來，我們將與政府部門、學術及研究機構加強合作，並深化與區內和國際水務業界的交流，進一步優化水資源和設施營運的綜合管理水平。此外，我們亦致力提升社區各界用水相關知識，鼓勵他們參與惜水相關活動，提升智慧水務管理的專業技能，並與全球水務業界分享我們就水質管理及在高密度城市應用數碼水務模型的相關見解和經驗。

二零二三至二四年年度標誌著水務署發展的重要一年。在此，我衷心感謝全體同事在過去一年緊守崗位，堅毅不屈，並發揮專業精神，為市民提供優質的服務。我期待在將來與業界及社會各界有更多合作機會，攜手實現水資源的可持續發展。

黃恩諾工程師*太平紳士*
水務署署長

EMBRACING COLLABORATION IN PROMOTING WATER LITERACY AND INNOVATIONS

In a world where water security is a growing issue, we all have a role to play. Building up a solid water-saving culture, driving innovation through technology integration and promoting resource circularity are of paramount importance.

Following the successful "Cherish Water Programmes", we have nurtured another batch of youth ambassadors in schools and kick-started a new year for commercial and industrial organisations to commit to saving water in collaboration with community organisations. Looking ahead, we will also strengthen our engagement with government counterparts, academic and research institutions as well as our regional and international water utilities with a view to enhancing integrated management on water resources and operations, building community water literacy and engagement, raising professional skills in smart water management and contributing our insights on water quality management and digital water modelling in highly urbanised city for reference in water industry worldwide.

2023-24 marked a remarkable year of milestones for the WSD. I would like to express my heartfelt gratitude to all our colleagues for their dedication and professionalism in delivering an outstanding service. I look forward to the various opportunities in working with the industry and wider community to achieve water sustainability together.

Ir WONG Yan-lok, Roger, *JP*
Director of Water Supplies

啟動
ENABLE

我們致力以創新、提高應變能力和可持續發展各方面革新供水服務，並啟發我們的團隊和社區共建智慧用水城市。

Transforming water supplies with innovation, resilience and sustainability and empowering our people and communities to build a water-smart city together.

2023-24 年度概要

Highlights 2023-24

水源和水質
WATER SOURCES AND QUALITY

食水水質
Fresh water quality

100%

符合香港食水標準[1]
compliance with the Hong Kong Drinking Water Standards[1]

100%

達成
achieving

沖廁水供所需水壓（15 米）[4]
flushing water supply pressure (15 metres)[4]

沖廁水水質
Flushing water quality achieved target of

97%

符合水務署所定的水質指標[2]
compliance with the WSD Water Quality Objectives[2]

100%

達成
achieving

食水供水所需水壓（15 至 30 米）[3]
fresh water supply pressure (15-30 metres)[3]

用水量
WATER CONSUMPTION

6%

減少[5]
reduction[5]

均每日住宅食水用量
in domestic fresh water per capita per day consumption to 133.2 litres

1 自二零一七年九月起，水務署已採用香港食水標準為指標，取代之前沿用的世界衛生組織制訂的《飲用水水質準則》。
Since September 2017, the WSD has adopted the Hong Kong Drinking Water Standards (HKDWS) in the target. Prior to that, the World Health Organization's Guidelines for Drinking-water Quality was adopted.

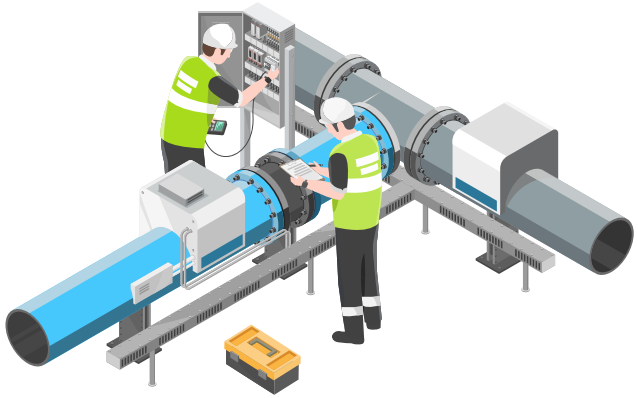
2 此項指標於二零二三年至二四年度修訂為「沖廁水水質」，取代二零二二至二三年度的「鹹水水質」。沖廁水涵蓋水務署所有用作沖廁用途的供水包括鹹水和循環再用水。
The description of service for 2023-24 has been revised as "Flushing water quality". The target for 2022-23 was "Salt water quality". Flushing water refers to the salt water and recycled water supplied by the WSD for flushing purpose.

3 水壓指標泛指除系統盡頭外，配水系統內最低的剩餘水壓。
The pressure head requirement refers to the minimum residual head in the distribution system except at their extremities.

4 此項指標於二零二三年至二四年度修訂為「沖廁水供水水壓」，取代二零二二至二三年度的「鹹水供水水壓」。沖廁水涵蓋水務署所有用作沖廁用途的供水包括鹹水和循環再用水。水壓指標泛指除系統盡頭外，配水系統內最低的剩餘水壓。
The description of service for 2023-24 has been revised as "Supply pressure-flushing water supply". The target for 2022-23 was "Supply pressure-salt water supply ". Flushing water refers to the saltwater and recycled water supplied by WSD for flushing purpose. The pressure head requirement refers to the minimum residual head in the distribution system except at their extremities.

5 由於二零一九冠狀病毒病疫情改變了香港人的用水習慣，導致二零二零年到二零二二年期間香港人均住宅用水量顯著增加。
Due to the COVID-19 epidemic resulting in changes in water-use behaviour, there was a significant increase in the average domestic fresh water consumption per capita in Hong Kong from 2020 to 2022.

網絡效能及應變力
NETWORK EFFICIENCY AND RESILIENCE



14.4% → 14%

減少政府淡水管的總滲漏率
Reduce leakage rate of government fresh water mains

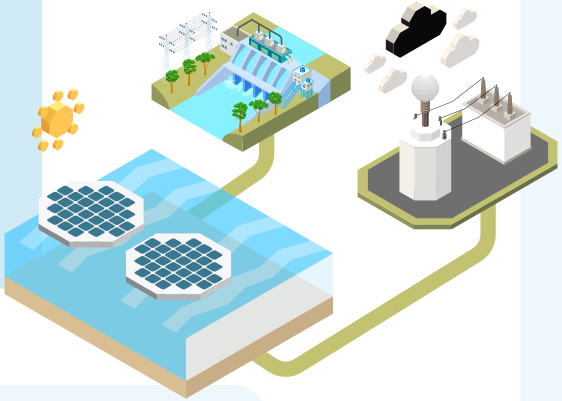
政府水管的滲漏率從二零二二年的 14.4% 減少至二零二三年的 14%，在輸送途中流失的食水減少至 145 百萬立方米。
from 14.4% in 2022 to 14% with reduction in distribution losses to 145 million m^3 in 2023

能源效益、可再生能源及排放管理
ENERGY EFFICIENCY, RENEWABLE ENERGY AND EMISSIONS MANAGEMENT

0.2%

減少
reduction

辦公室每單位樓面面積的耗電量相比過去三年的平均值減少 0.2%，降至每平方米 125.5 千瓦時
in office electricity consumption per unit floor space to 125.5 kWh/m^2 compared to the average of the past 3 years



4.4%

減少
reduction

納入範圍 1 和範圍 2 的二氧化碳當量相比過去三年的平均值減少 4.4%，總排放量減少至 4.9 千噸
in CO_2-eq of Scope 1 and 2 missions to 4.9 kilotonnes compared to the average of the past 3 years

1 325 兆瓦時
MWh

陸上、水上浮動太陽能板連同水力發電系統合共生產了 1 325 兆瓦時的可再生能源
generated by renewable energy via land-based and floating photovoltaic panels and hydropower plants

4 個主要水務設施
typical waterworks infrastructures

為 4 類典型的水務設施作碳排放評估，尋找可進一步提升能源效益的地方
Initiated carbon emissions assessment on 4 of typical waterworks infrastructures to identify areas for energy improvement

客戶服務
CUSTOMER SERVICES

98%
的工程 在 8 小時內完成
within 8 hours

已計劃工程牽涉的暫停供水所需時間符合指標
Target achieved for water supply suspension duration for planned work

98.6%
已達成
Achieved

準確水錶的比率達 98.6%（偏差程度不超過 ± 3%）
accurate water meters (with inaccuracy not exceeding ±3%)[6]

1%
增加
increase

顧客帳戶數目增加 1% 至 3 230 100 個，其中 214 800 個已登記使用電子賬單
Total number of customer accounts increase by 1 % to 3 230 100 with 214 800 customers subscribed to electronic billing (e-bill)

「暫停供水自動通告系統」擴大應用範圍並涵蓋緊急暫停食水和沖廁水供應，惠及約 600 個大型屋苑和 870 個小型屋苑
Water Suspension Notification System extended to cover emergency suspension of both fresh water and flushing water supplies, benefiting about

600 個大型屋邨 Large Housing Estates and
870 個小型屋邨 Small Housing Estates

員工培養與社區服務
STAFF EMPOWERMENT AND COMMUNITY SERVICES

16%
增加
increase

員工培訓工日增加 16% 至 12 224 個工日
in training man-days to 12 224

127%[7]
增加
increase

員工義工服務的總工時增加 127% 至 3 688 個工時
in volunteer service man-hours to 3 688

[6] 二零二三至二四年度及二零二二至二三年度的準確水錶比率為 98.6%，二零二一至二零二二年度則為 98.4%。
In 2023/24 and 2022/23, the proportion of accurate water meters was 98.6%; in 2021/22 it was 98.4%.

[7] 二零一九冠狀病毒病疫情期間，多項義工活動相繼取消，直至二零二三年初逐恢復正常，活動的數目因而大幅上升。
Many activities were cancelled due to the COVID-19 epidemic, and all voluntary activities have progressively resumed to normal from early 2023.

主要獎項
Key Awards

國際比賽 openBIM Awards 2023 獲特別表揚獎
Global Competition OpenBIM Awards 2023 - Special Mention

肯定了水務署率先建立資產管理資訊系統的卓越成就，從中應用的創新技術和解決方案均成為世界各地水務行業的參考對象

recognising the WSD's outstanding achievement in pioneering the establishment of the Asset Management Information System with innovative technologies and solutions for reference in water industry worldwide.

英國土木工程師學會 2023 年度獎「Edmund Hambly Medal」高度讚揚獎
Institution of Civil Engineers Edmund Hambly Medal 2023 - Highly Commended

肯定了將軍澳海水化淡廠第一階段工程就可持續發展方面的成果

for the sustainable development of the First Stage of Tseung Kwan O Desalination Plant (TKODP).

香港最具創新力知識型機構大獎最高殊榮「卓越大獎」及全球最具創新力知識型機構大獎 2023
Hong Kong Most Innovative Knowledge Enterprise (MIKE) Award - Top Winner Award and Global Most Innovative Knowledge Enterprise Award 2023

表揚水務署在知識管理和創新方面的傑出表現。

commending the WSD's outstanding performance in knowledge management and innovation.

建造業議會可持續建築大獎 2023「項目業主 (公營) 金獎」
Construction Industry Council Sustainable Construction Award 2023 - Gold Award in Project Owner (Public Sector)

表揚將軍澳海水化淡廠第一階段工程的建築方法深具創新及可持續發展元素

for adopting innovative and sustainable construction of the First Stage of TKODP.

水務署概覽
WSD at a Glance

關於我們

我們致力提供可靠、充足及優質的食水，支持香港的長遠可持續發展。

水務署全面檢視了供水計劃，致力打造具應變能力及多元化的水資源，同時確保水質安全並將智慧解決方案融入我們的服務和資產管理中。透過大力推展協作創新文化及逐步採用先進科技，我們希望能持續優化供水安全、食水質素及其應變能力，改善未來的生活質素，並將香港轉型為智慧用水的低碳城市。

OUR PROFILE

We are committed to providing reliable and adequate supplies of high-quality water to support the sustainable development of Hong Kong.

At the WSD, we adopt a holistic approach to building resilience with diversified water resources, ensuring water safety and integrating smart solutions into service delivery and asset management. Through fostering a culture of collaborative innovation and progressive adoption of advanced technologies, we seek to advance water security, quality and resilience for enhancing future livelihoods and transforming Hong Kong into a water-smart, low-carbon city.

抱負
Vision

在滿足客戶對優質供水服務的需求時，務求有卓越之表現。

To excel in satisfying customers' needs for the provision of quality water services.

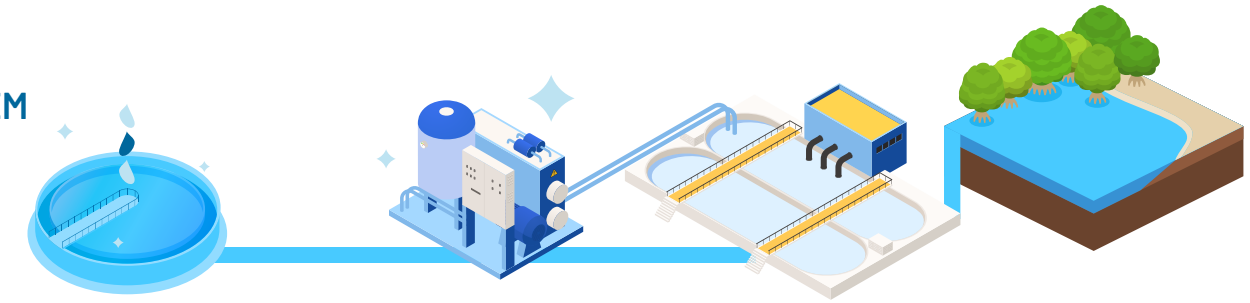
使命
Mission

- 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.
- 提供以客戶為本的服務。
  To adopt a customer-oriented approach in our services.
- 維持及激勵一隊能幹、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.

信念
Values

以客為本 **C**ustomer satisfaction
確保質量 **R**eliability
重視環保 **E**nvironmental awareness
竭盡所能 **D**edication
精益求精 **I**mprovement
同心協力 **T**eamwork

用水量及系統
OUR WATER CONSUMPTION AND SYSTEM



水塘
Impounding Reservoirs

17 個水塘的總容量為 586 百萬立方米
impounding reservoirs with a total storage capacity of 586 million m^3

濾水廠
Water Treatment Works

18 個濾水廠總的濾水量為 4.5 百萬立方米 / 日
water treatment works with a total water treatment capacity of 4.5 million m^3/day

配水庫
Service Reservoirs

177 個食水配水庫的總容量為 4.4 百萬立方米
fresh water service reservoirs with a total storage capacity of 4.4 million m^3

55 個海水配水庫的總容量為 0.3 百萬立方米
salt water service reservoirs with a total storage capacity of 0.3 million m^3

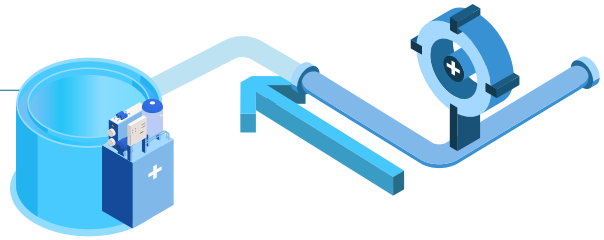
抽水站
Pumping Stations

149 個食水抽水站（包括食水和原水抽水站及泵房）的總抽水量為 32.1 百萬立方米 / 日
fresh water pumping stations (including fresh and raw water pumping stations and pump houses) with a total pumping capacity of 32.1 million m^3/day

35 個海水抽水站（包括泵房）的總抽水量為 2.1 百萬立方米 / 日
salt water pumping stations (including pump houses) with a total pumping capacity of 2.1 million m^3/day

7 個食水及海水抽水站總的抽水量為 0.3 百萬立方米 / 日
combined fresh water and salt water pumping stations with a total pumping capacity of 0.3 million m^3/day

水管
Distribution Mains



6 768 公里 km 的食水水管（直徑 20 毫米至 2 400 毫米）
of fresh water mains (20mm to 2 400 mm diameter)

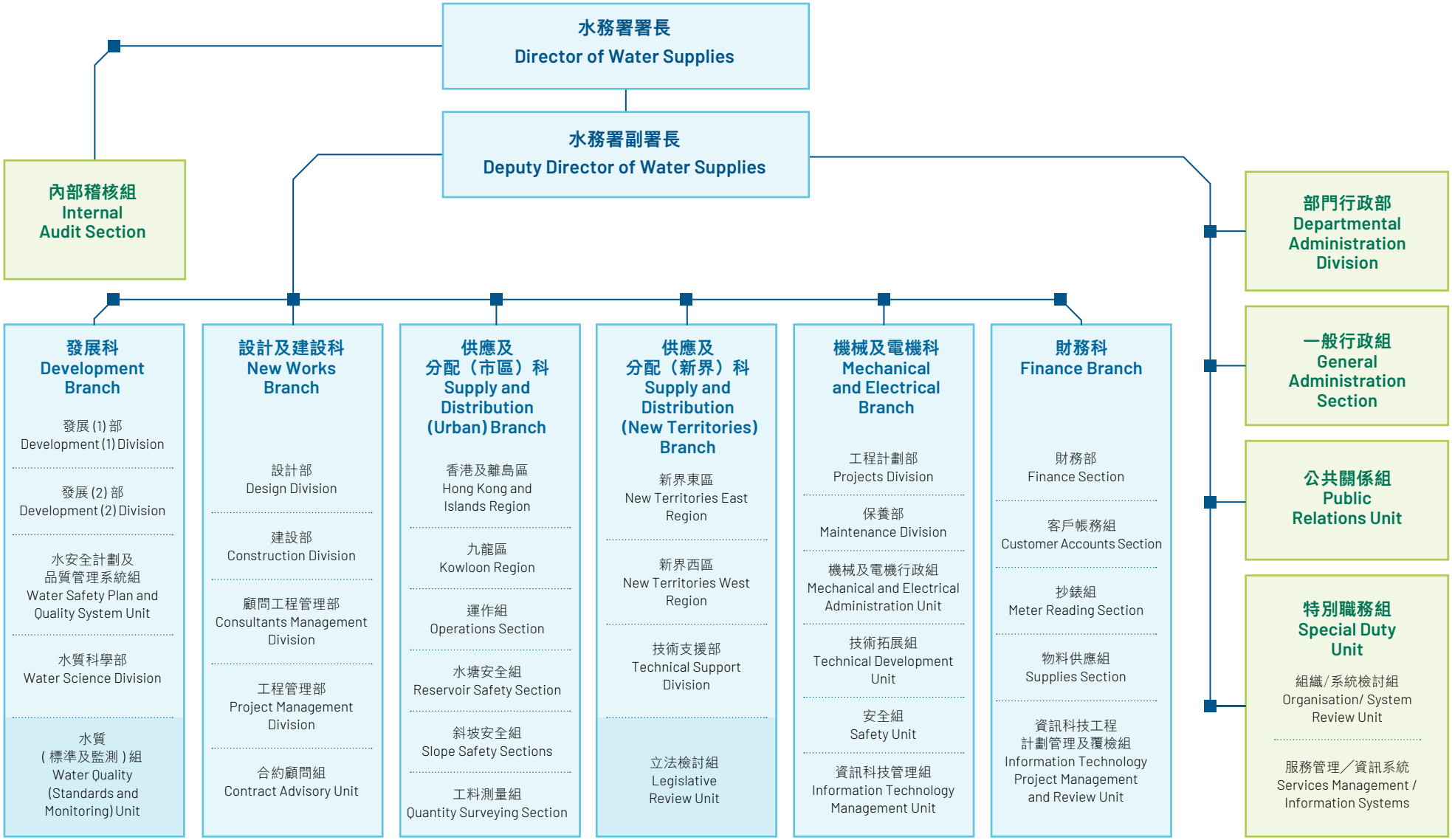
1 686 公里 km 的海水水管（直徑 20 毫米至 1 200 毫米）
of salt water mains (20mm to 1 200 mm diameter)

11 公里 km 的再造水水管
of reclaimed water mains

120 公里 km 的引水道長度
of catchwaters

199 公里 km 的輸水隧道
of water tunnels

水務署組織架構
WSD ORGANISATION STRUCTURE



即使面對社會持續轉變的用水需求和氣候變化加劇帶來的挑戰，水務署多年來一直堅守使命，為香港提供優質可靠的供水服務，將香港打造成為智慧用水和低碳城市。

Over the years, the WSD has steadfastly upheld its mission to provide reliable and quality water services in Hong Kong amidst the challenges of evolving society's needs and accelerating impacts of climate change. We are committed to building Hong Kong into a water-smart, low-carbon city.

馬漢榮工程師
Ir MA Hon-wing, Wilson
助理署長 / 發展
Assistant Director/ Development

馬麒琠先生
Mr MA Tin-po, Martin
助理署長 / 財務
Assistant Director/ Finance

鍾永基工程師
Ir CHUNG Wing-kee, Philip
助理署長 / 市區
Assistant Director/Urban

曹炳豪工程師
Ir CHO Ping-ho
助理署長 / 機械及電機
Assistant Director / Mechanical & Electrical

勞淑儀女士
Ms LO Shuk-yi
部門秘書
Departmental Secretary

黃國輝工程師
Ir WONG Kwok-fai, Alfred
水務署副署長
Deputy Director of Water Supplies

黃恩諾工程師 , 太平紳士
Ir WONG Yan-lok, Roger, JP
水務署署長
Director of Water Supplies

駱志聰工程師
Ir LOK Chi-chung, Andy
助理署長 / 設計及建設
Assistant Director/New Works

陳志遠工程師
Ir CHAN Chi-yuen, Stanley
助理署長 / 新界
Assistant Director/ New Territories

獎項及認可
Awards and Recognition

獎項和嘉許是對我們出色表現的一種肯定，令我們團隊能再接再厲，力爭上游。

Award and appreciation are a testament to our outstanding performance, boosting our motivation and inspiring team for further success.

追求卓越的可持續水務設施管理

香港首座海水化淡廠位於將軍澳，自建造以來已憑藉在經濟、社會和環境方面的創新技術和實踐，贏得超過 50 個獎項。海水化淡廠在提升生產力、氣候應變能力和可持續發展建築方面的卓越表現備受認可，於二零二三年再次榮獲獎項。

PURSUING EXCELLENCE IN SUSTAINABLE WATER UTILITY MANAGEMENT

Through innovative technologies and practices in economic, social and environmental endeavours, Hong Kong's first desalination plant at Tseung Kwan O has won over 50 awards since its construction. In 2023, the Desalination Plant was again recognised by prestigious awards for its top performance in productivity improvements, climate adaptation and sustainable construction.

將軍澳海水化淡廠提高了香港供水的氣候應變能力，而當中引入的先進技術和可持續發展的設計元素功不可沒。

The new Tseung Kwan O Desalination Plant (TKODP) is a prime example of how cutting-edge technologies and sustainable design can enhance climate resilience of Hong Kong's water supply.

英國土木工程師學會 2023 年度獎「Edmund Hambly Medal」高度讚揚獎

將軍澳第一期海水化淡廠為香港開闢了一個全新的策略性水源，項目包含水廠的設計、建造及營運，當中應用的先進技術備受認可，榮獲英國土木工程師學會 2023 年度獎「Edmund Hambly Medal」（可持續發展類別 - 創意設計）高度讚揚獎。

Institution of Civil Engineers Edmund Hambly Medal 2023 - Highly Commended

Adopting advanced technologies to provide the city with an alternative strategic water resource, the Design, Build and Operate First Stage of TKODP project was highly commended in the Edmund Hambly Medal (Creative Design for Sustainable Development Category) at the ICE Awards 2023.

建造業議會 2023 可持續建築大獎 - 金獎

將軍澳海水化淡廠亦榮獲建造業議會 2023 可持續建築大獎金獎 - 項目業主（公營），表揚項目廣泛利用建築信息模擬和組裝合成建築法等多種創新技術和施工方法，不但可促進施工生產力、團隊協作和工地安全，同時提升質量並促進可持續發展，惠及整個項目的生命周期。

Construction Industry Council Sustainable Construction Award 2023 - Gold Award

The TKODP also won the Gold Award in Project Owner (Public Sector) for adopting diverse innovative technologies and construction approaches such as Building Information Modelling (BIM) and Design for Manufacturing and Assembly (DfMA) to uplift productivity, team collaboration and workplace safety during construction, while enhancing the quality and sustainability throughout the whole project life cycle.

國際認可的最具創新力知識型機構

- 香港最具創新力知識型機構大獎
- 全球最具創新力知識型機構大獎 2023 （連續第三年）

我們在二零二三年榮獲香港最具創新力知識型機構大獎頒發卓越大獎，此為水務署在創新方面的一項重要里程碑，與此同時我們連續三年獲得全球最具創新力知識型機構大獎。上述的獎項，彰顯出我們十分著重以完善的知識管理及持續的創新思維，應用在日常營運及工程項目的各個階段，堅守承諾並取得卓越成就。此外，我們亦積極與本地及海外的不同持份者作知識交流，所作出的貢獻備受肯定。

評審團由全球頂尖的專家組成，肯定了我們在知識管理及相關培訓上的資源投入，並在管理團隊的大力支持下，為成功實現知識管理目標和成果打下重要基石。

International Recognition for Most Innovative Knowledge Enterprise

- Top Winner Award in the Hong Kong Most Innovative Knowledge Enterprise Award
- Global Most Innovative Knowledge Enterprise Award 2023 for 3rd consecutive years

2023 marked a significant milestone for the WSD in winning the prestigious Top Winner Award from the Hong Kong Most Innovative Knowledge Enterprise (MIKE) Awards. For the global MIKE, it was the third consecutive year the WSD received the recognition. These achievements highlight our ongoing commitment as well as outstanding performance in harnessing effective knowledge management and sustaining innovation in daily operations, every phase of the project lifecycle and our knowledge contributions to the wider community, local and abroad.

Comprising leading experts across the world, the judging panel acknowledges our substantial investments and training in knowledge management, with valuable support from the management team, which is deemed crucial for achieving knowledge management goals and outcomes successfully.

總工程師 / 發展 (1) 鄭鑑邦先生（第二行左五）出席全球及香港最具創新力知識型機構大獎頒獎禮，代表本署領取獎項 。

WSD Chief Engineer/Development (1), Mr CHENG Kam-pong, (5th from left in 2nd row) attended the award ceremony representing the department to receive the honour.

善用智能和創新科技

項目從設計、建造、營運以至保養各個階段，我們均積極採用先進數碼科技促進水務設施的可持續發展。

EMBRACING SMART AND INNOVATIVE TECHNOLOGIES

To enhance the sustainability performance of our waterworks assets, we are applying advanced digital technologies in every stage of the project delivery from design and construction to operations and maintenance.

水務署總工程師廖運輝先生（左三）與團隊於頒獎典禮獲頒特別表揚獎。獲獎的水務署團隊及項目對在全球應用開放式建築信息模擬技術領域影響深遠。

WSD Chief Engineer, Mr Edmond Liu (third left) and the project team receiving the Special Mention prize at the prize-giving ceremony. Projects of the WSD and the awardees in the competition are extending significant influence to the field of openBIM on a global scale.

在國際比賽 openBIM Awards 2023 中榮獲特別表揚獎

「配備預防保養功能的智能輸水系統，由 AMIS 支援的資產管理，及以人工智能融合開放式建築信息模擬和開放式地理資訊系統」

我們透過應用開放式建築信息模擬技術，以及利用先進解決方案建立一個完善的資產管理資訊系統 (AMIS)，其卓越表現在建築智慧國際聯盟舉辦的全球比賽「開放式建築信息模擬大獎 2023」備受認可。由水務署開創的 AMIS 項目作為行業領先項目，深受水務業界的主要從業者推崇，透過融合開放式建築信息模擬、開放式地理資訊系統、人工智能和物聯網，藉此大大提升設施管理的效能。

Special Mention Global competition openBIM Awards 2023

"Intelligent Water Trunk Transfer System with Predictive Maintenance, and AMIS-supported Asset Management, and AI-Driven openBIM and openGIS Integration for Smart Water Management"

The global award commends our outstanding performance in applying openBIM and cutting-edge solutions in the establishment of the robust Asset Management Information System (AMIS) in the global competition of openBIM Awards 2023 organised by buildingSMART International (bSI). The AMIS, pioneered by the WSD, is an industry-leading initiative that serves as a benchmark for the key players in the water industry with the integrated use of openBIM, open Geographical Information System, artificial intelligence and Internet of Things in enhancing the effectiveness of asset management.

融合創新科技，完善東江水水管
Embracing Innovation to Strive for Dongjiang Water Mains Improvements

年度水務工程項目大獎 - 新工程合約獎 2023

在「新工程合約」的框架下，項目透過採用創新技術及與合作夥伴維持良好協作關係，有效提升管理效率、成本效益和工地安全，榮獲年度水務工程項目大獎 - 新工程合約獎 2023。項目中有多項出色及創新元素，包括應用新思維技術和建築信息模擬技術等。

Water Contract of the Year Award – NEC Award 2023

In light of the outstanding performance in adopting innovation and technology to enhance management efficiency, cost-effectiveness and site safety of the project through effective collaborative partnerships within the framework of the "New Engineering Contract", the project won the highly acclaimed NEC Water Contract of the Year Award 2023. Examples of project excellence and innovations include new thinking on technologies, and application of BIM technology.

香港建築信息模擬大獎 2023

香港建築信息模擬大獎 2023 由 Autodesk 香港主辦，表揚我們以新模式推展水務工程項目，推動行業轉型。

Hong Kong BIM Awards 2023

Hong Kong BIM Awards 2023 organised by Autodesk Hong Kong recognising our new approach to waterworks projects in driving the industry's transformation.

***榮譽獎 - 上水及粉嶺新房屋發展供水計劃**：在公共工程項目中保障水管敷設工程的工地安全*

***Honourable Mention – Water Supply to New Housing Developments in Sheung Shui and Fanling**: Mainlaying in a safe environment under a public works project*

榮譽獎 - 革新地以人工智能整合建築信息模擬和地理資訊系統管控大直徑水管管理與抽水系統

Honourable Mention – Revolutionising Large Diameter Water Mains Management and Pumping System Control with AI-Driven BIM and GIS Integration

追求卓越服務與社區貢獻

我們的員工致力提供優質服務，全心全意為社區服務。他們的傑出表現和專業服務，贏得了以下獎項：

- **建造業義工獎勵計劃**頒發的個人、團體及項目獎項
- **香港義工獎**頒發的金獎、銀獎、銅獎及優異獎
- **2023 公務員事務局局長嘉許狀**
- **2023 年申訴專員嘉許獎公職人員獎**
- 個人資料私隱公署頒發的**「私隱之友嘉許獎 2023」銀獎**

STRIVING FOR SERVICE EXCELLENCE AND COMMUNITY CONTRIBUTIONS

Our staff are committed to delivering quality services and dedicated to serving the community. Below are some awards recognising their outstanding performance and professional contributions:

- Individual, Group and Project awards from the **Construction Industry Volunteer Scheme**
- Gold, Silver, Bronze and Merit awards from the **Hong Kong Volunteer Awards**
- **The Secretary for the Civil Service's Commendation Award 2023**
- **The Ombudsman's Awards 2023 for Officers of Public Organisations**
- **Silver Award** of **"Privacy-Friendly Awards 2023"** by the Office of the Privacy Commissioner for Personal Data, Hong Kong

專題故事
FEATURE STORY

具氣候應變力的供水新時代

New Era of Climate-Resilient Water Supplies

將軍澳海水化淡廠
Tseung Kwan O Desalination Plant

作為「全面水資源管理策略」的重要一環，將軍澳海水淡化廠第一期於二零二三年十二月開始投產，為香港提供穩定且不受氣候變化影響的新水源，以應付本地與日俱增的用水需求及極端天氣所帶來的挑戰。

As a key part of the Total Water Management Strategy to build resilience in Hong Kong's fresh water supply amidst acute climate impacts and growing local water demand, the first stage of the Tseung Kwan O Desalination Plant (TKODP) was commissioned in December 2023 providing a new and stable water source that is not susceptible to climate change.

可持續水務建設，成就可持續水源

將軍澳海水化淡廠第一期採用先進的逆滲透技術，生產的食水全面符合「香港食水標準」，每日食水產量為13.5萬立方米，約佔本港總食水用量的百分之五。將軍澳海水化淡廠連同北港濾水廠和將軍澳食水主配水庫，將為西貢、東九龍及香港島部分地區提供食水。

目前，水務署已展開第二期工程的勘查研究，並已預留鄰近用地作日後擴建用途，目標將每日食水產量增至27萬立方米，滿足香港總食水需求的百分之十。

海水淡化廠作為頂尖水務基建設施，在設計、建造、營運及維修保養方面應用了多項可持續發展及環保元素，大大減低對環境的影響，同時提升應對氣候變化的應變能力：

Sustainable Water from Sustainable Waterworks Construction

Using the latest reverse osmosis (RO) desalination technology, the first stage of the TKODP is producing potable water in compliance with the "Hong Kong Drinking Water Standards" with a production capacity of 135 000 m^3 per day, equivalent to 5% of Hong Kong's total daily fresh water demand. The TKODP, together with the Pak Kong Water Treatment Works and the Tseung Kwan O Primary Fresh Water Service Reservoir, will supply drinking water to Sai Kung as well as parts of East Kowloon and Hong Kong Island.

The WSD has started the investigation study for the second stage of the plant, and the adjacent site is also earmarked for future expansion, to achieve an overall water production capacity of 270 000 m^3 per day that will meet around 10% of the overall fresh water demand in Hong Kong.

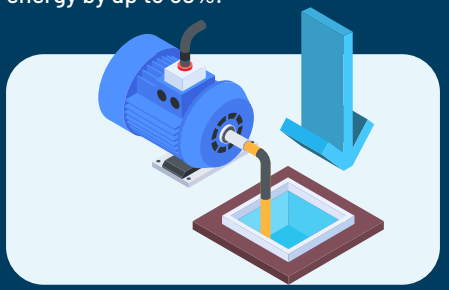
As a top-class waterworks infrastructure, the desalination plant has incorporated various sustainable and green features in its design, construction, operation and maintenance, minimising its environmental impacts while enhancing climate resilience:

海水淡化廠充分利用了前堆填區的土地，以避免使用未開墾土地或填海用地。

Eliminate the need to use virgin land or reclamation by building the plant on a former landfill.

採用先進的逆滲透技術配合能量回收設備，能將濃鹽水中96%的壓力能量回收重用，最多能令抽水泵的能源消耗降低百分之五十。

Adopt cutting-edge RO energy to recover up to 96% of the pressure energy from the brine, reducing the required pumping energy by up to 50%.



利用大型太陽能板發電場和屋頂太陽能板發電並直接供海水淡化廠使用，減低能源消耗及碳排放。

Generate renewable energy via a large-scale solar photovoltaics (PV) farm and solar PV panels on rooftops for direct use by the plant to reduce energy use and carbon emissions.

利用智能和安全的建築技術，減少物料浪費和運送成本。

Leverage smart and safe construction technologies to reduce material wastage and transportation.

利用屋頂綠化、垂直綠化和園景區等花卉樹木種植區，有效減低熱島效應及空調的能源消耗。

Use soft landscaping such as green roofs, vertical greening and landscaped gardens to mitigate heat island effect and reduce energy consumption in air-conditioning.

透過設置雨水回收系統用作灌溉用途、善用冷卻塔系統排放的水作沖廁用途及種植本土植物種類等措施，有效減少用水。

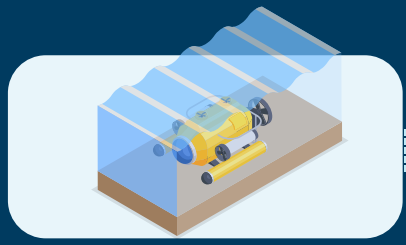
Conserve water through rainwater harvesting for irrigation, reuse of bleed-off water from cooling towers for flushing and adoption of native plant species for reducing water consumption.

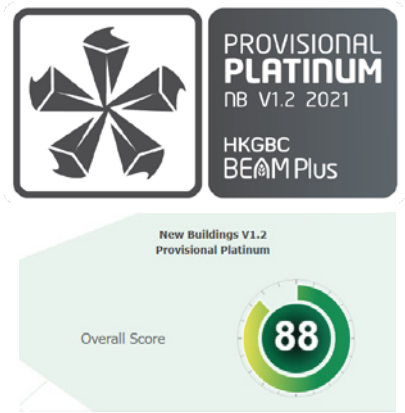
實施多項節省能源和資源的措施，如智慧燈柱、大型高壓泵及預處理工藝的食水處理設施「ActiDAFF」。此外，當引入的海水雜質含量較少時，設施內的溶氣浮選裝置會自動關閉，有效減低海水化淡廠的碳足跡。

Incorporate energy- and resource-efficiency features such as smart street lighting pole, large high-pressure pumps and ActiDAFF, an integrated structure combining flotation and filtration processes. This structure reduces the plant's carbon footprint by switching off air flotation to save energy when incoming seawater has only a limited amount of impurities.

將海底排水管道的排水口擴散器設置於水流較急的區域，有助迅速稀釋鹽濃度，並保護該區的海洋生態。

Safeguard local marine ecology by locating submarine outfall diffuser pipeline in an area of significant ocean flow that facilitate rapid dilution of salinity.





「綠建環評」認證綠色建築

作為具氣候抵禦力的水務基礎設施，海水化淡廠融合了多項設計致力減少建造期間和營運階段所造成的環境影響。項目以 88 分獲得綠建環評（新建建築類別 1.2 版）最高評級的暫定鉑金級認證。

BEAM Plus-Certified Green Building

As a climate-proof waterworks infrastructure, the plant is designed to reduce the environmental impacts caused by its construction and operation. It has attained the highest rating of Provisional Platinum under BEAM Plus New Buildings V1.2 with a score of 88.

利用太陽能板發電場產生可再生能源
Renewable Energy Generation via Solar PV Farm

我們現正計劃在海水化淡廠鄰近的堆填區上興建 10 兆瓦的大型太陽能板發電場，配合早前在大樓屋頂上安裝的一千八百多塊太陽能板，源源不絕為海水化淡廠提供可再生能源。

A large-scale solar photovoltaics (PV) farm with a power generation capacity of 10 Mega-watts is being planned for installation on the top of a nearby landfill. Over 1 800 roof solar panels have been installed to generate renewable energy for the plant's use.

10

兆瓦的大型太陽能板發電場
Mega-watts power generation capacity

1800

屋頂太陽能板
roof solar panels

現場氯氣生產大樓上的綠化屋頂，以及逆滲透淨化大樓屋頂上的太陽能板。

Green roof on top of the On-site Chlorine Generation Building and PV panels on the roof of Reverse Osmosis Building.

應用先進的海水化淡技術
Embracing State-of-the-Art Desalination Technology

將軍澳海水化淡廠採用的「雙過濾」逆滲透海水化淡技術，目前已經過充分驗證且廣泛應用。現時全球以海水化淡技術生產的食水有超過百分之六十經由該技術生產。

逆滲透的過程中利用了高壓擠壓來自海水的原水穿過半透膜成為純水。逆滲透膜只供水份子穿過，而原水中溶解鹽類、有機物質及病毒等均不能穿過。在第一次的逆滲透過濾過程中，經初步處理的海水將穿過半滲透膜，從中去除超過 99.5% 的鹽份、細菌、病毒和其他雜質，潔淨後的水（又稱為「滲透液」）將經由收集管收集並再次進行第二次的逆滲透過濾程序，進一步去除水中的鹽份。

The TKODP adopts a "double pass" RO desalination technology, a well-proven and widely used technology which accounts for more than 60% of global desalination production.

RO is a process of forcing water from seawater through a semi-permeable membrane under high pressure to become pure water. The RO membranes allow only water molecules to pass through while dissolved salts, organic matter and virus, etc are retained. In the first Pass RO, pre-treated seawater will pass through membranes to remove over 99.5% of salt, bacteria, viruses and other impurities, allowing clean water (also known as "permeate") to enter the collection tube which will then undergo further RO treatment via the second Pass RO to enhance salt removal.

將軍澳第一期海水化淡廠設有 12 組逆滲透組件，逾 2300 個白色玻璃纖維壓力容器。每個容器內有 7 個螺旋半滲透膜構件，海水會泵至該容器並進行一系列的過濾程序淨化成食水。

The first stage of the TKODP has 12 RO racks with over 2 300 white fibreglass pressure vessels. Each vessel contains 7 spiral RO membrane elements through which seawater is pumped to remove impurities for providing drinking water after a series of treatment.

如何將淡化海水引進住戶？

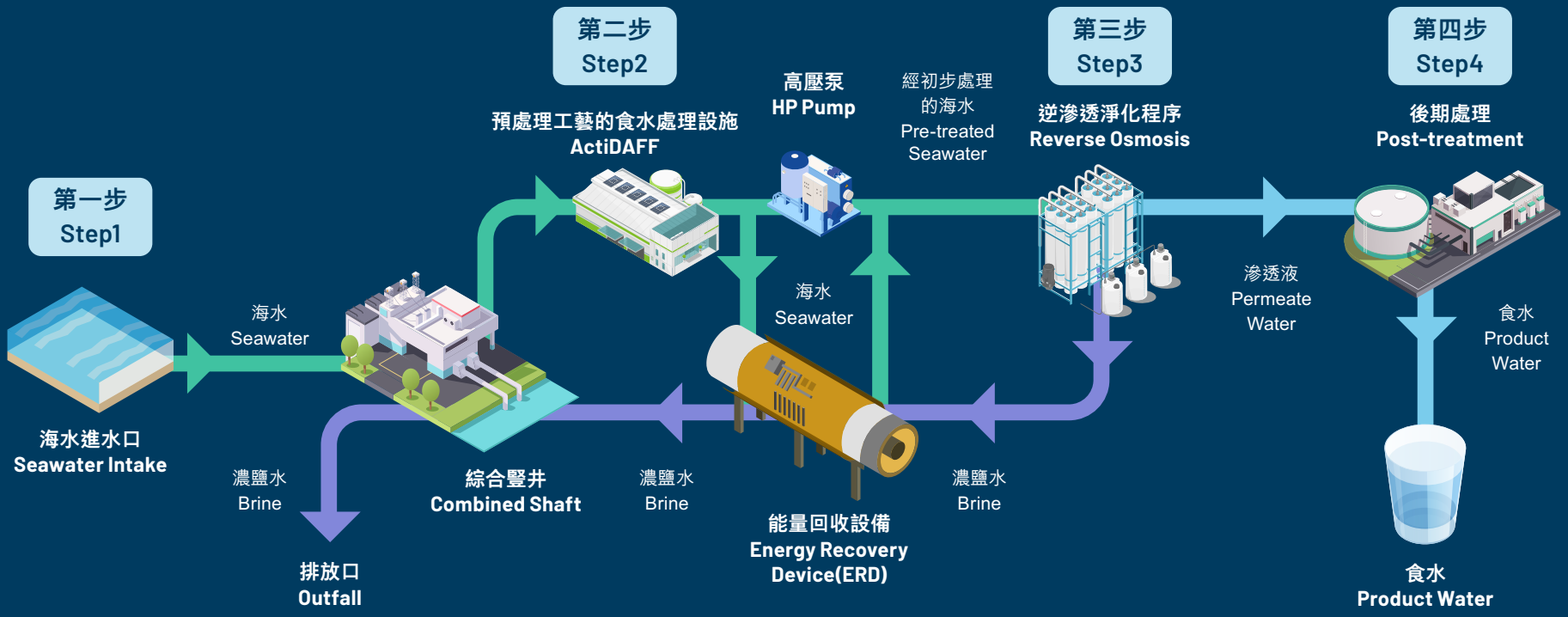
預處理工藝的食水處理設施 (ActiDAFF) 內結合了溶氣浮選和過濾兩項工序，初步清除海水的雜質。這種結合兩種工序的預處理工藝不僅能減少海水化淡廠的用地作其他用途，同時較傳統單一功能的預處理設施更能節省能源及降低營運成本。此外，該設施能因應實時的海水質素靈活調節進行或繞過溶氣浮選工序，進一步減低海水化淡廠的能源消耗。

海水經過逆滲透處理後，約 40% 可轉化成食水，而餘下的 60% 為濃鹽水並會經由海底排水管道排出大海。

How Desalinated Water Comes to your Door?

An integrated structure ActiDAFF combining flotation and filtration processes is built to pre-treat seawater. This combined pre-treatment approach not only reduces the physical footprint of the plant, freeing up land for other purposes, but also enhances energy efficiency and lowers operational costs as compared to traditional single-purpose facilities. Moreover, the flexibility to bypass the air flotation stage when incoming seawater quality permits further optimises the plant's energy consumption.

After the RO treatment, approximately 40% of potable water will be generated after the RO treatment while discharging the remaining 60% of the processed seawater into the sea through a submarine outfall system.



智慧和安全建築

海水化淡廠工程項目應用了多項智慧建築技術和措施，大大提升了工程管理的流暢度及效率，令工程項目在經歷了二零一九冠狀病毒病疫情的嚴峻情況下仍能在四年內如期落成。這些措施同時提升了項目推展的效率和團隊協作，並有效改善工地安全。這些措施包括：

- 建築信息模擬
- 製造及裝配式設計
- 組裝合成建築法
- 機電裝備合成法
- 數碼工程監督系統
- 設置 4S 安全智慧工地系統，包括一站式管理平台、配備人工智能閉路電視的工地安全監察系統、為工人及前線人員配戴智能手錶，以及為流動機械安裝智能警報系統，全面提升工地安全的管理。

Smart and Safe Construction

A diverse range of smart construction technologies and initiatives have enabled smooth and timely construction management and project delivery in the fast-tracked four-year programme amidst the challenges brought by the COVID-19 epidemic while enhancing project efficiency and team collaboration, as well as improving site safety. These include:

- Building Information Modelling (BIM)
- Design for Manufacture and Assembly (DfMA)
- Modular Integrated Construction (MiC)
- Multi-trade Integrated Mechanical, Electrical and Plumbing (MiMEP)
- Digital Works Supervision System (DWSS)
- Smart Site Safety System (4S) devices such as Centralised Management Platform (CMP), safety monitoring system using CCTV with AI, smart watches for workers and frontline site personnel and smart alert system for moving plants greatly improved site safety management.

逆滲透組件的運送過程
Delivery of Reverse Osmosis Racks

組件於江蘇省南通市製造及組合

Manufacture and Assembly in Nan Tong City, Jiangsu

以海路運送組件

Component delivery via sea route

組件抵達香港後於工地現場安裝至逆滲透淨化大樓

On-site installation in the RO Building in Hong Kong

混凝土外牆板件以製造及裝配式設計方法安裝至食水抽水站

Installation of DfMA concrete wall panels onto the Product Water Pumping Station

以機電裝備合成法建造石灰飽和器並安裝至後期處理大樓

Placing MiMEP lime saturator in the Post Treatment Building

以一站式管理平台操作安全智慧工地系統

Centralised Management Platform for Smart Site for Safety

以建築信息模擬技術模擬施工方法及工序

BIM simulation of construction method statement

將軍澳海水化淡廠的成就：資料和數據
TKODP Achievements: Facts & Figures

香港首個使用逆滲透海水化淡技術的大型海水化淡廠

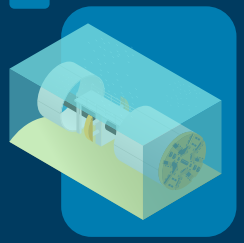
Hong Kong's first large-scale desalination plant using reverse osmosis technology

在工程展開後 16 個月內成功完成建造 132 千伏特變電站

132kV substation was successfully completed within 16 months from contract commencement

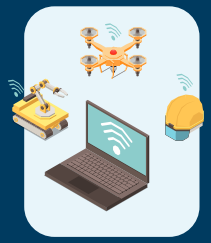
在可持續發展、智能建設和項目管理方面榮獲 50 多個獎項

Won over 50 awards in its sustainable design, smart construction and project management



香港首個在水中完成回收隧道鑽掘機的工程

First-ever tunnel boring machine retrieval operation conducted underwater in Hong Kong



應用了 28 項智能設備，提升工地安全及工程效率

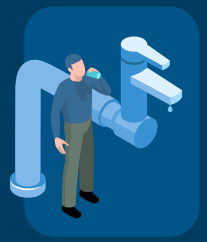
28 types of smart devices were used for creating a safe and productive working environment

設有專門的互動展覽區，向公眾介紹海水過濾過程，以及設施對於提升香港供水應變能力的重要性

A dedicated interactive exhibition area for public education on seawater treatment process and its role in building water resilience

水務署首個涉及超過 10 項不同工程範疇的設計、建造及營運水務工程合約

First Design, Build and Operate waterworks contract by the WSD involving more than 10 different engineering disciplines



在工程展開後 4 年內開始投產並供應食水

Commenced the supply of potable water within 4 years from contract commencement

為不同專業團體和持份者團體舉辦逾 60 次實地考察

Over 60 site visits were arranged for professional bodies and interest groups

每日能生產 135 000 立方米的食水，相當於香港總食水需求的 5%，並預留用地供將來擴建用途，擴建後能為本港供應百分之十的食水用量

Daily production capacity of 135 000 m^3 per day, equivalent to 5% of Hong Kong's total daily fresh water demand, with a provision for future expansion to meet around 10% of the overall local fresh water demand

透過學校參訪、參加本地及國際會議、研討會和展覽，以及活動和交流活動，推廣海水化淡技術並加深公眾節約用水的意識。

Raising awareness of desalination technology and water conservation via school visits, participation in local and international conferences, seminars and exhibitions, as well as event and communication engagement.

到訪香港道教聯合會雲泉學校

School Outreach to HKTA Wun Tsuen School

香港工程師學會「香港工程師週 2024」

HKIE Hong Kong Engineers Week Carnival 2024

專題故事
FEATURE STORY

在新發展區引入中水重用

Pioneering Grey Water Recycling for New Development

安達臣道石礦場用地中水處理廠
Grey Water Treatment Plant at the Anderson Road Quarry Site

位於九龍安達臣道石礦場用地發展的中水處理廠第一期工程已於二零二四年底落成，餘下的工程預計於二零二五年完成並全面投入運作，為新發展區提供循環再用水作沖廁、園景區灌溉和街道清洗等非飲用用途。

The first phase of the Grey Water Treatment Plant (GWTP) at the Development of Anderson Road Quarry (ARQ) site was substantially completed in December 2024. Remaining works of the system is anticipated to be completed and fully operational in 2025. It will provide recycled water for non-potable uses such as toilet flushing, irrigation and street cleansing to a new development.

推展中水重用的由來

擴大利用次階水作非飲用用途對於控制食水需求的增長十分重要。水務署選址在遠離海邊且位於海平面上約二百米的安達臣道石礦場用地建造具標誌性的中水回收系統，藉此促進周邊區域推行中水重用及區內可持續發展。引進中水重用後不但節省食水資源，同時減少抽水耗用的能源以及污水處理的負擔，一舉數得。

Cornerstone for Expanding the Reuse of Grey Water

Expanding the use of lower grade water non-portable uses is essential to contain the growth of fresh water demand. The WSD has commenced the construction of a grey water recycling system as a sustainable measure of supplying treated grey water to the ARQ site, which is at a high altitude of about 200m and distant from the seashore. This pioneering district-based grey water recycling initiative promotes localised water reuse by recycling grey water generated by the local community in the vicinity, thereby saving fresh water resources as well as energy arising from pumping and reducing sewage treatment load.

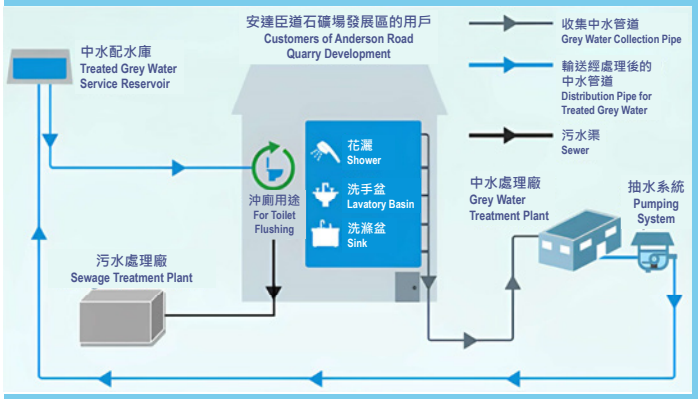
香港首個區域性中水重用系統

整個中水重用系統包括中水處理廠、抽水系統、貯存已經處理的中水配水庫，以及用於收集及輸送處理後的中水至發展區域的水管，以作沖廁及其他非飲用用途。

Hong Kong's First District-Based Grey Water Recycling System

The centralised grey water recycling system consists of a grey water treatment plant, a pumping system, a service reservoir for storing treated grey water, and water mains for grey water collection and distribution of the treated grey water within the development for flushing and other non-potable uses.

如何重用中水？
How Grey Water is Recycled?



中水從安達臣道石礦場周邊區域建築物以獨立的中水回收喉管收集，務求與其他污水管完全分開。

Raw grey water from individual buildings in the ARQ site will be collected using a dedicated grey water collection pipe network which is separated from other sewerage pipes.

經過處理後的中水會先泵至中水配水庫，再分配到安達臣道石礦場周邊的發展區作沖廁及其他非飲用用途。

After treatment, the treated grey water will be pumped to the treated grey water service reservoir via rising mains and distributed to each development lot within the ARQ site for toilet flushing and other non-potable uses.

滿足新發展區的多元需求
Serving Diverse Needs of New Development Area

安達臣道中水處理廠作為該中水重用系統的核心，從區內新發展區收集的中水進行中央處理，每日能處理 3 300 立方米的中水並供應至區內約 30 000 人口。

該系統的第一期工程已於二零二四年年底落成，並將於二零二五年全面投入運作。

At the core of the grey water recycling system, the Anderson Road GWTP will provide centralised treatment for the grey water collected in the new development area with a capacity of 3 300 m^3 per day for a planned population of about 30 000.

The first phase of the GWTP at the Development of Anderson Road Quarry Site was substantially completed in December 2024. Remaining works of the system is anticipated to be completed and fully operational in 2025.

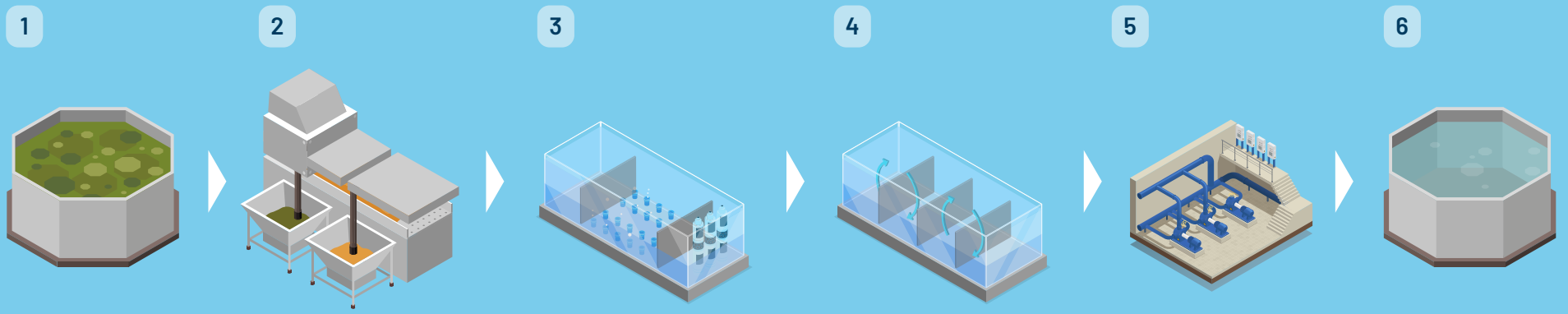
先進的中水處理技術

新的中水處理廠應用了先進的薄膜生物反應器技術生產優質的重用中水。此外，重用中水會經過預先及後期處理工序消毒，並完全符合水務署發布的《中水重用及雨水回收作非飲用用途的水質標準》。為方便用家識別重用中水及食水，我們會先在重用中水添加可食用及作生物降解的染料，再供應至用戶作沖廁用途。

Cutting-edge Grey Water Treatment Technology

The new GWTP has integrated state-of-the-art membrane bioreactor technology for delivering high-quality treated grey water. Together with pre-treatment and post-treatment for disinfection, the treated grey water will fully comply with the "Technical Specifications on Grey Water Reuse and Rainwater Harvesting" published by WSD. Prior to distributing to customers for toilet-flushing purpose, the treated grey water will be added with a food-grade biodegradable dye for making it visually distinguishable from fresh water.

中水處理廠的先進過濾流程
Advanced Treatment Process of the Grey Water Treatment Plant



項目採用先進的「數碼孿生」技術，透過智能監測系統優化現有的控制系統，並提升設施的效能及能源效益，有效減少處理廠的碳足跡。

The project also pioneers the use of a digital-twin solution for smart monitoring to optimise existing control systems and maximise asset and energy performance, thereby leading to reductions in the plant's carbon footprint.

水務署可持續水務管理受國際認可

中水處理廠項目憑藉在可續持發展、創新以及切合高密度高樓新發展區方面的成就，榮獲英國土木工程師學會頒發「2021 年土木工程師學會 Chris Binnie 持續水務管理大獎」，充分肯定工程就解決區內土地及水資源不足等問題的貢獻，為社區帶來裨益。

Global Recognition for WSD's Sustainable Water Management

The GWTP project won the prestigious Institution of Civil Engineers Award 2021 - Chris Binnie Award for Sustainable Water Management in 2021, highly commended for its sustainability, innovation and applicability to new, dense and high-rise developments in the face of decreasing land and water resources, with emphasis on the added benefits to society.

有關香港中水重用的詳情，請參閱「提升」章節。

See "Enhance" section to learn more about grey water recycling in Hong Kong.

中水處理廠項目亦於二零二二及二零二三年連續兩年榮獲「新工程合約可持續發展及氣候適應力項目— 高度讚揚獎」，表彰水務署嚴格遵從政府的減碳目標，並肯定項目在減少碳排放及建立應對氣候變化抗禦力等環境保護措施的成就。這些佳績充分體現水務署推行協同合作的成效及對確保香港供水的長期可持續發展的決心。

This GWTP project also won the "NEC Sustainability and Climate Resilience Contract of the Year – Highly Commended" for two consecutive years in 2022 and 2023, which recognised the WSD's excellent efforts to minimise impacts on the environment in terms of carbon emissions and build resilience to climate change in alignment with the Government's decarbonisation target. The encouraging result also demonstrates our commitment to ensuring the long-term sustainability of Hong Kong's water supply through collaborative partnerships.

專題故事
FEATURE STORY

香港可持續發展的基石：供應穩定的東江水

Underpinning Sustainable Development of Hong Kong: Reliable Supply of Dongjiang Water

從過去解決嚴重缺水和發掘新水源，到現今改善水質和建立對氣候變化的應變力，東江水在支持香港的長遠發展發揮著舉足輕重的作用。

From addressing extreme water shortage and expanding the water supply in the past to enhancing water quality and building climate resilience in the present, Dongjiang water has been pivotal in sustaining the long-term development of Hong Kong.

穩定而優質的供水為長期發展奠下基石

Stable and Quality Supply Laying Foundation for Long-Term Development

六十年代 1960s

隨著本港人口增長和經濟發展，本地集水量已不足以應付日益增加的食水需求。為此，廣東省當局和香港政府便於一九六零年達成協議，每年從深圳水庫向香港輸入 2 270 萬立方米原水。

With the increasing population and economic development, the growing fresh water demand could no longer be solely satisfied by the local yield. In 1960, the Governments of Guangdong Province and Hong Kong reached an agreement on importing 22.7 million m^3 per year of raw water from the Shenzhen Reservoir to Hong Kong every year.

廣東省當局和香港政府於一九六零年十一月十五日簽訂第一份供水協議。

The first water supply agreement was signed between the Governments of Guangdong Province and Hong Kong on 15 November 1960.

香港政府於一九六零年敷設直徑 48 吋的大型輸水管，用於接收來自深圳水庫的原水。

A large pipeline with a diameter of 48 inches was laid in 1960 for the reception of water from the Shenzhen Reservoir.

一九六三至六四年期間，香港經歷了嚴重的旱災，實施了制水措施。在旱情最嚴峻的期間，每四天只能供水四小時。

In 1963-64, Hong Kong suffered a severe drought and experienced a period of water rationing during which water was supplied for only four hours in every four days at the worst time.

水務署在制水期間忙於接聽市民的電話。

The Waterworks Office was busy attending to public's telephone calls during water rationing.

制水期間市民排隊輪候食水。

Long queue for fresh water during water rationing.

日期 Date	制水措施 Water Rationing Measures
一九六三年五月二日 2 May 1963	每日供水三小時 3 hours of water supply per day
一九六三年五月十六日 16 May 1963	每兩日供水四小時 4 hours of water supply in every 2 days
一九六三年六月一日 1 June 1963	每四日供水四小時 4 hours of water supply in every 4 days
一九六四年五月二十七日 27 May 1964	結束所有制水措施 All water rationing measures were lifted

六十年代 1960s

東深供水工程
Dongjiang-Shenzhen Water Supply Scheme

一場大旱，促使中央人民政府於一九六三年底撥出專款展開東深供水工程。香港隨後興建大型抽水站、輸水管和輸水隧道，方便東江水輸送至全港各區。

The severe drought had led to the implementation of the Dongjiang-Shenzhen Water Supply Scheme with a special fund by the Central People's Government for its construction works at the end of 1963. Large-scale pumping stations, pipelines and tunnels were constructed in Hong Kong to facilitate the distribution of Dongjiang water to various districts over the territory.

東深供水工程專業設計人員的工作情況。

The design professionals of the Dongjiang-Shenzhen Water Supply Scheme at work.

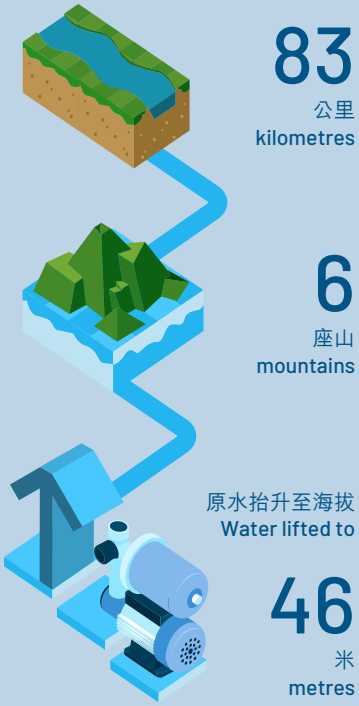
東深供水工程規模龐大，高峰期僱用了約 20 000 名工人。

The scale of the Dongjiang-Shenzhen Water Supply Scheme was large with about 20 000 workers at the peak period.

點滴話你知
Did you know?

為方便東江水輸送到港，當局興建了一條長達 83 公里人工運河，跨越 6 座高山逆流而上。原水經過多級泵站從海拔 2 米逐抬升至 46 米。工程於一九六四年二月二十日動工，不足一年便竣工。一九六五年三月一日下午四時，東江水正式供應本港。

In order to facilitate transportation from Dongjiang, an artificial water channel of 83 kilometres long was built crossing 6 mountains and countering against the river current. The water was lifted from 2 metres above sea level to 46 metres through multi-stage pumping stations. The project started on 20 February 1964 and was completed in less than a year. At 4pm on 1 March 1965, the supply of Dongjiang water to Hong Kong commissioned.



83
公里
kilometres

6
座山
mountains

原水抬升至海拔
Water lifted to

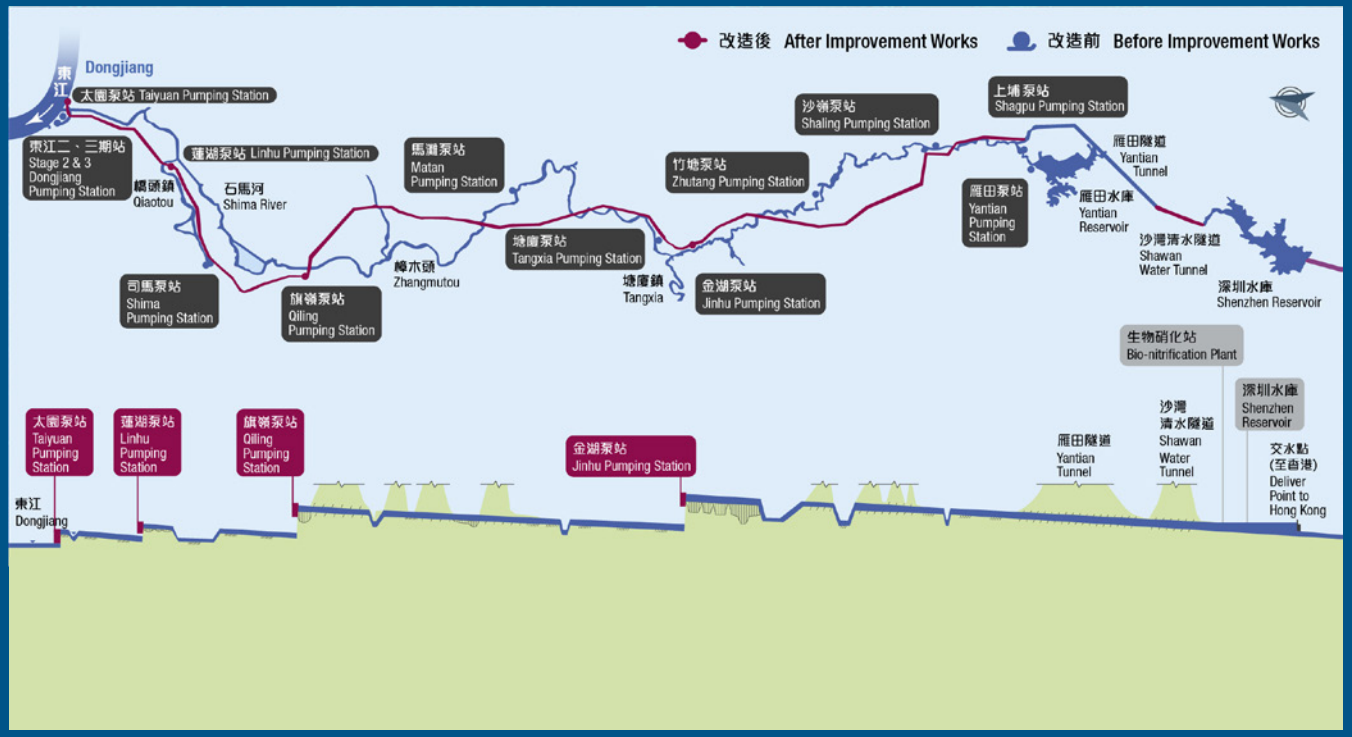
46
米
metres
above sea level

一九七零至二零零零年 1970s to 2000s

東深供水工程擴建計劃
Expansion of Dongjiang-Shenzhen Water Supply Scheme

供水計劃於七十代至九十年代期間進行了三次擴建工程，並於二千年代初完成全面改造，統稱為「三擴建一改造」。這些工程，將年度供水上限提高至目前的 8.2 億立方米，在滿足日益增長的用水需求的同時確保水質。

The Scheme was expanded on three occasions from the 1970s to the 1990s, and was comprehensively improved in the early 2000s, collectively known as the "Three Expansions and One Improvement", which increased the annual water supply ceiling to the current level of 820 million m^3, to cater for the increasing water demand, as well as to ensure water quality.



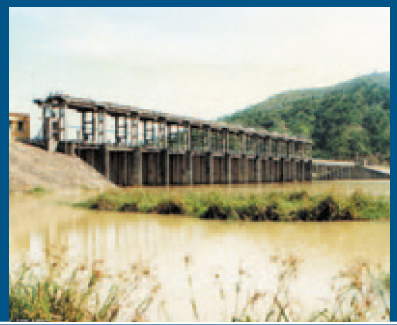
東深供水工程輸水路線

Route of the Dongjiang-Shenzhen Water Supply Scheme

1974-1978

東深供水第一期擴建工程

Dongjiang-Shenzhen Water Supply Scheme - First Stage of Expansion



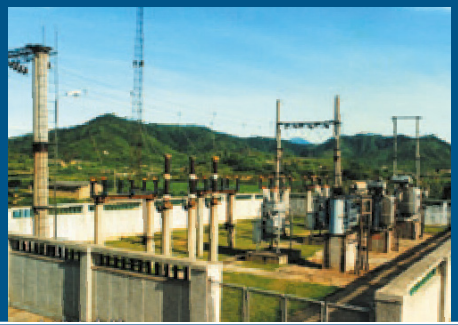
工程包括擴建供水河道、渠道及抽水站。

Works including the extension of water supply canals, channels and pumping stations.

1981-1987

東深供水第二期擴建工程

Dongjiang-Shenzhen Water Supply Scheme - Second Stage of Expansion



工程包括新建東江抽水站，以及加高深圳水庫大壩。

Works including the construction of a new pumping station at Dongjiang and the raising of the Shenzhen Reservoir Dam.

1990-1994

東深供水第三期擴建工程

Dongjiang-Shenzhen Water Supply Scheme -Third Stage of Expansion

工程包括東江、石馬、馬灘、竹塘、沙嶺等抽水站的優化工程，以及人工渠道和天然河道的擴建工程。

Works including the upgrading works of pumping stations at Dongjiang, Shima, Matan, Zhutang and Shaling, etc and expansion of artificial channels and natural rivers.

2000-2003

東深供水改造工程

Improvement works for the Dongjiang-Shenzhen Water Supply Scheme

為確保供港東江水的水質，廣東當局展開改造工程並推行措施，包括上移取水口、興建生物硝化站及專用輸水管道，以及展開調污工程等。

To safeguard the quality of Dongjiang water supplied to Hong Kong, the Guangdong authorities conducted improvement works and took measures including relocation of intake point upstream, construction of bio-nutrification plant and dedicated aqueduct, sewage diversion works, etc.

同心協力，確保水質
Continuous Joint Efforts in Safeguarding Water Quality

多年來，粵港兩地致力確保東江水質符合標準。

Over the years, Guangdong and Hong Kong have made great efforts to secure the water quality of Dongjiang water.

廣東省推行的措施 *Measures taken in Guangdong*	*香港推行的措施* *Measures taken in Hong Kong*
• 為降低深圳水庫受污染的風險，當局實施了法規和措施，以嚴格保護水資源。當中包括禁止在保護區內進行污染活動、遷走東江河道附近具污染性的工廠，以及展開各項基礎設施工程（例如二零二零年沙灣河流域水環境綜合整治工程）。 • 確保輸港東江水的水質符合國家《地表水環境質量標準》（GB3838-2002）第II類標準，達到適用於生活飲用水的最高標準。 • Implement regulations and measures to strictly protect water resources including prohibition of pollution activities within protection zones, and relocation of factories with pollution near Dongjiang, as well as carry out various infrastructure works (e.g. Comprehensive Remediation Project for the Water Environment of the Shawan River Basin in 2020) to reduce the risk of contamination of the Shenzhen Reservoir. • Ensure quality of Dongjiang water supplied to Hong Kong to comply with the national standard for Type II waters in the "Environmental Quality Standards for Surface Water" (GB3838-2002), which is the highest standard applicable to the abstraction for human consumption.	• 香港在接收東江水後實施一系列水質監測措施，包括於木湖抽水站設置24小時在線水質監測系統和創新生物感應預警系統，利用斑馬魚來識別原水的異常狀況，確保人員能適時採取應變措施。 • 每年，水務諮詢委員會都舉行考察活動，一方面聽取廣東當局有關水資源保護工作的最新情況，另一方面向當局轉達香港市民對東江水質的關注。 • Implement a host of water quality monitoring measures at the reception of Dongjiang water, including a 24-hour on-line monitoring system at the Muk Wu Raw Water Pumping Station and an innovative biosensing alert system with application of zebrafish to detect abnormalities in raw water to ensure that appropriate measures can be taken in a timely manner. • Conduct annual visit by the Advisory Committee on Water Supplies, receive updates from the Guangdong authorities about the water protection work and relay the questions and concerns of Hong Kong citizens about the quality of Dongjiang water to the Guangdong authorities.

水務諮詢委員會於二零二三年十一月前往東江，考察東江水供水系統。委員會成員包括學者、區議員、環保人士、專業人士、業界人士，以及政府相關部門及政策局的代表。

The Advisory Committee on Water Supplies visited Dongjiang in November 2023 to observe the Dongjiang water supply system. Members of the Committee include academics, district councilors, green advocates, professionals, trades and officials from related government departments and bureau.

為慶祝二零二五年東江水供港六十周年，水務署已於二零二四年下旬展開了一系列宣傳及公眾教育活動，介紹國家對香港發展的貢獻，以及東江水的歷史和發展。

To mark the forthcoming 60th anniversary of Dongjiang water supply to Hong Kong in 2025, the WSD has kick-started a series of publicity and public education activities from the second half of 2024 on the nation's contribution to Hong Kong's development as well as the memorable history and development of Dongjiang water supply.

專題故事
FEATURE STORY

迎接數碼轉型：邁向智慧水務管理

Embarking on a Digital Transformation: Roadmap for Smart Water Management

水務署的長遠計劃之一，是加強食水安全及供水可靠性，藉以促進香港的可持續發展，同時為政府推動數碼政府出一分力。為此，水務署已展開數碼轉型之旅，為香港未來的智慧水務管理制定了長遠路線圖。

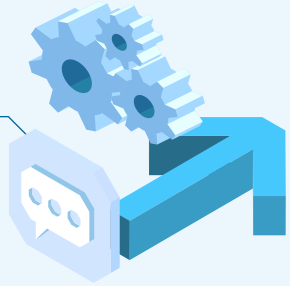
As part of our long-term plan to enhance water safety and supply reliability for the sustainable growth in Hong Kong, while contributing to the Government's drive to promote digital government, the WSD has embarked on a digital transformation journey for setting a long-term roadmap for Hong Kong's future smart water management.

為滿足數碼時代瞬息萬變的需求和期望，我們致力提供創新的數碼服務，方便客戶和公眾。為此，我們訂立了以下目標，推進智慧水務管理：

With a view to delivering innovative digitalised services and bringing convenience to the customers and members of the public, thereby meeting the ever-changing needs and expectations in the digital era, we have formulated the following objectives to advance smart water management:

邁向智慧水務管理
Towards Smart Water Management

提升營運效益
Enhance Operational Efficiency



加強供水可靠性
Strengthen Water Supply Reliability

減低營運成本
Reduce Operation Costs

改善客戶服務
Improve Customer Services

加強緊急應變能力
Reinforce Emergency Handling Capabilities

推行數碼化務辦公室

為了加快供水服務數碼化，水務署計劃於二零二四年六月成立「數字水務辦公室」，專責制定數碼轉型的策略和路線圖，致力將水務署轉型至世界一流的水務公共事業。

我們將智能科技應用於自動讀錶、智慧水壓管理及數碼孿生模型，並利用人工智能的力量來啟動以數據為本的決策，致力分階段達成水務設施全面自動化的目標。「數字水務辦公室」將積極使用遙感器，全面在線監控供水系統的表現，以智能偵測故障並迅速應對異常情況。此外，辦公室亦將探討廣泛利用機器人的可行性，藉此加強對緊急事故的應變能力及工地安全。

我們將在未來十年分階段推行數碼轉型，使本港的市區供水系統更有效率、可持續並具備對氣候的應變能力。未來數年，新辦公室將在自設的雲端數據中心和物聯網平台的支援下，建立管理標準體系和水務署中央運作管理中心。

除了擴大感應器覆蓋範圍和發展先進數碼基礎設施，我們亦將致力優化客戶體驗，並加強對員工和水務業界的知識培訓，以促進新技能、變革管理和營運靈活性，從而強化數碼管理和創新。

數碼化可促進中央數據管理和溝通，支援智慧水務發展作出前瞻性的決策。

Digitalisation enables centralised data management and communications to support proactive decisions for smart water development.

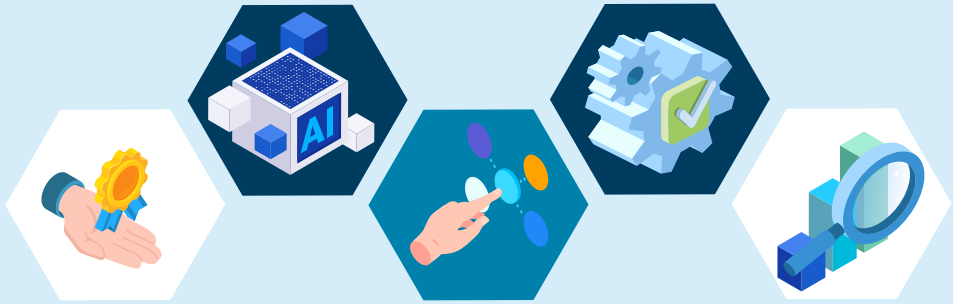
Driving Digitalisation with Digital Water Office

To accelerate the digitalisation of water supply services, the WSD will establish Digital Water Office (DWO) in June 2024 to formulate a strategy and roadmap for digital transformation aiming to transform WSD into a world class water utility.

Embracing the use of smart technologies for automatic meter reading, intelligent supply pressure management and digital twin modelling, as well as harnessing the power of artificial intelligence to enable data-driven decision, we plan to achieve full automation of operations in waterworks installations by phases. The DWO will actively pursue the use of remote sensors for comprehensive real-time monitoring of the performance of water supply systems for intelligent fault detection and fast response to abnormalities. A wider use of robots will also be leveraged to enhance emergency response capabilities and site safety.

Digital transformation will be advanced in phases over the next decade towards a more efficient, sustainable and climate-resilient urban water supply systems. In the coming years, the new Office will establish a system of data management standards, and the WSD Central Operations Management Centre, supported by private cloud computing infrastructure and an Internet-of-Things platform.

While we are expanding sensor coverage and developing advanced digital infrastructure, we will also focus on improving customer experience and enhancing capacity building initiatives for our staff members and the water sector to promote new skills, change management and operational agility for strengthening digital, management and innovation.

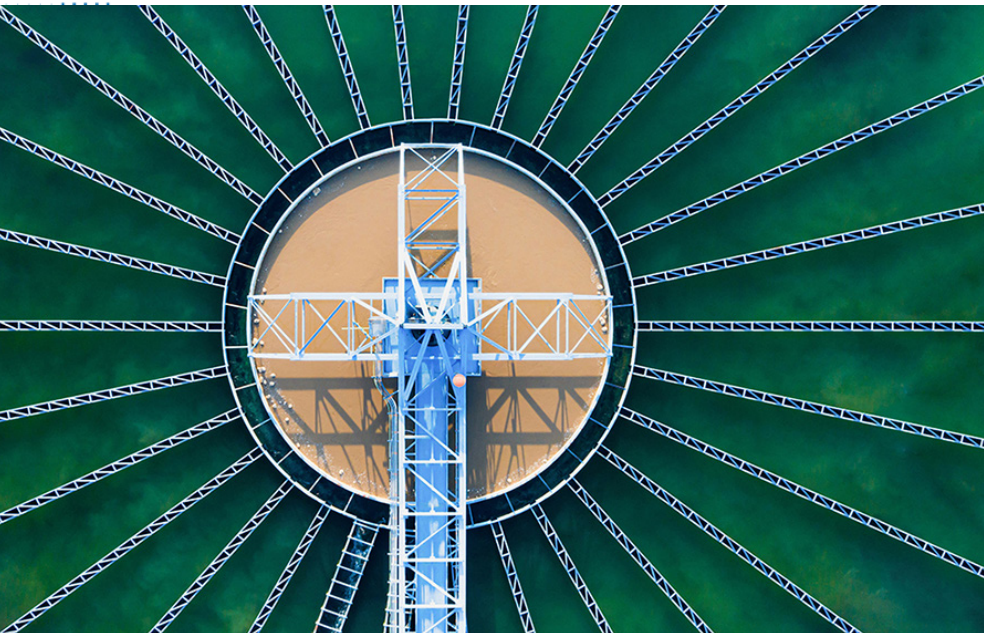


提升
ENHANCE

水務署透過積極開拓不同水源、管控食水需求、提升食水安全、數碼化水務和減低碳排放，致力提升供水的應變能力及食水質素。

Advancing water resilience and quality through diversifying sources, managing demand, enhancing water safety, digitalising water and decarbonising operations.

全面水資源管理策略
Total Water Management Strategy



為確保本港供水穩定並提高食水供應的應變能力，水務署於 2019 年完成了「全面水資源管理策略」（簡稱「策略」）的檢討工作，著重從控制食水需求增長，以及利用多元化的水資源兩方面，雙管齊下提升食水供應的應變能力，以抵禦氣候變化帶來的極端影響。

To ensure the sustainability and resilience of Hong Kong's water supplies, the WSD completed review of the Total Water Management (TWM) Strategy in 2019 to adopt a two-pronged approach, which focuses on containing water demand and building resilience in the fresh water supply with diversified water resources with a view to addressing the severe impacts of climate change.

全面水資源管理策略及措施
Total Water Management Strategy and Measures

全面水資源管理策略及措施

在控制食水需求增長方面，我們將繼續推行節約用水、用水流失管理及擴大使用次階水作非飲用用途。在提升食水供應的應變能力方面，我們已完成第一階段將軍澳海水化淡廠工程，為香港提供約 5% 的額外食水供應。

此外，我們亦制定了一系列的後備措施以應付比預期更嚴峻的情況。這些措施包括擴建海水化淡設施、擴大水塘容量和集水區、重啟停運的濾水廠，以及增加東江水供應。

我們亦會定期檢討並修訂「策略 2019」，以切合最新的用水需求預測及因氣候變化影響的本地集水情況。整個檢討過程將全面檢視不同供水方案的成本效益、科技發展、可靠性及環境影響等各方面，及時制定合適的供水政策。

TOTAL WATER MANAGEMENT STRATEGY AND MEASURES

To containing water demand, we will continue to promote water conservation, water loss management and expansion of the use of lower grade water for non-potable purposes. On the other hand, we have constructed the first stage of Tseung Kwan O desalination plant, providing Hong Kong with around 5% additional fresh water supply, to enhance resilience in water supply.

To ensure our ability to adapt to the worse-than-expected scenarios, a host of backup measures have been formulated, which include building up more desalination capacities, expanding our reservoir capacity and catchment, reactivating mothballed water treatment works and increasing Dongjiang water supply.

Regular review and update of the "Strategy 2019" is conducted as needed to make appropriate and timely responses to changes arising from water demand, the effect of climate change on the local yield, as well as the cost-effectiveness, technological development, reliability and environmental impact of various water resources.

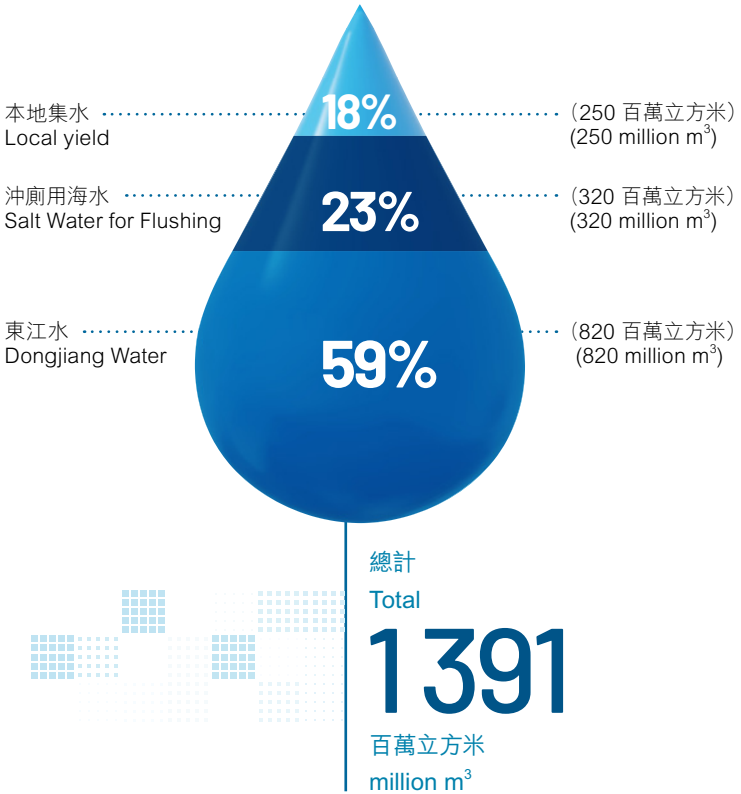
水資源及用水量

多年來，香港一直以三大水源維持供水穩定： 從本地集水區收集的雨水、由廣東省輸入的東江水及沖廁用的海水。

WATER RESOURCES AND CONSUMPTION

Hong Kong has enjoyed a reliable water supply with three sources: rainwater from local catchments, imported water from Dongjiang in the Guangdong Province, and salt water for toilet flushing.

二零二三年全港總用水量
Total Water Consumption of Hong Kong 2023



二零二三年按用水類別劃分的食水用量
Annual Fresh Water Consumption by Sector 2023

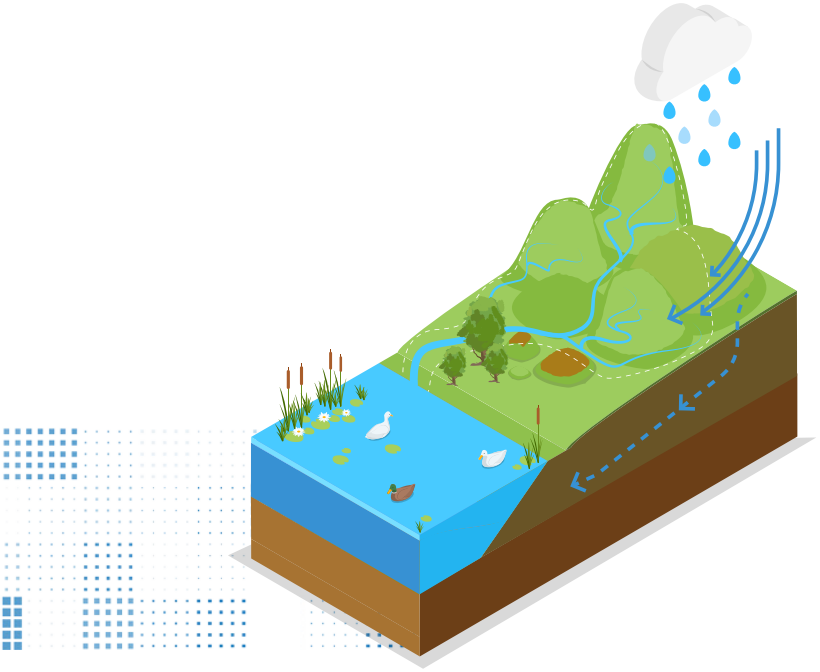
用水類別 Sector	食水用量 Fresh Water Consumption 百萬立方米及佔總用量百分比 million m^3 and percent of total
住宅用水 Domestic	600 (56.2%)
工業用水 Industrial	60 (5.6%)
服務業及商業用水 Service Trades	272 (25.5%)
政府用水 Government Establishments	53 (5.0%)
建築及船舶用水 Construction & Shipping	23 (2.1%)
臨時淡水沖廁 Flushing	60 (5.6%)
食水總用量 Total Fresh Water Consumption	**1 068 (100%)**

本地集水

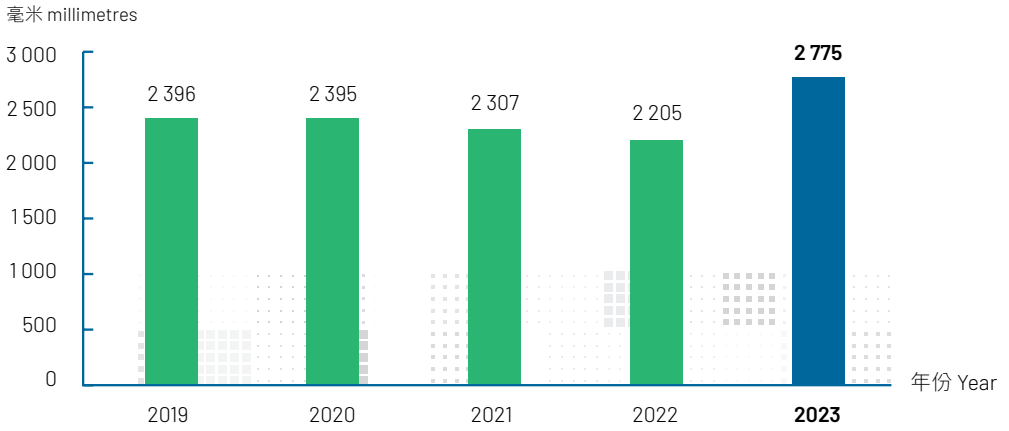
儘管山多地少，香港的雨水收集和貯存設施完備且覆蓋範圍廣泛。為避免水源受污染，本地雨水收集的集水區絕大部分處於郊野公園範圍並受嚴格規管。我們以多重屏障如妥善管控各集水區的發展、定期在水源作抽樣檢查及監測水質的情況，以確保水質安全。

Local Yield

Despite the undulating terrain, Hong Kong has developed an extensive rainwater collection and storage system. The local yield is collected in catchment areas, most of which fall within the country parks that are well regulated and protected from contamination. We adopt a multiple barrier approach to control development, regularly conduct inspections and monitor water quality to ensure water safety.

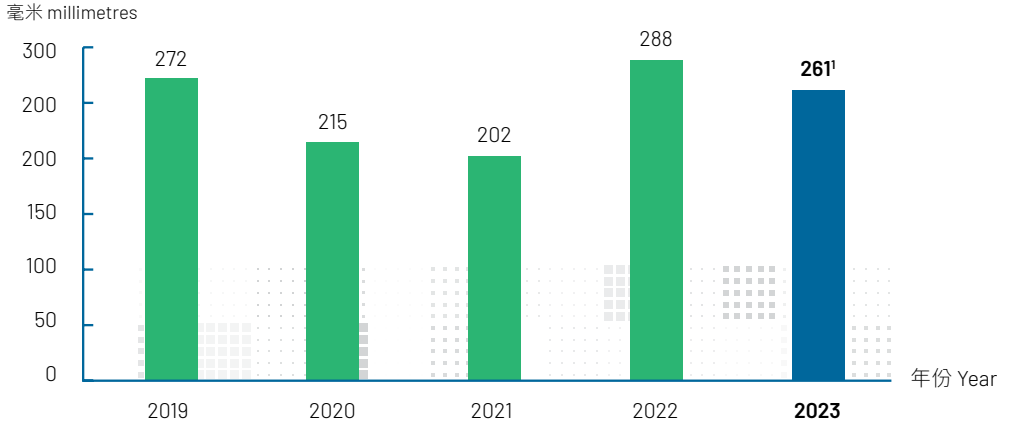


二零一九至二零二三年全年降雨量
Annual Rainfall 2019 – 2023



註：長期平均降雨量為 2 431 毫米
Note : Long-term mean rainfall is 2 431 mm

二零一九至二零二三年全年淨集水量
Annual Net Yield 2019 – 2023



[1] 受二零二三年九月極端暴雨的影響，水塘的水量溢出，導致淨集水量下降。
Decreasing net yield due to the overflow at reservoirs caused by the extreme rainfall events in September 2023.

東江水

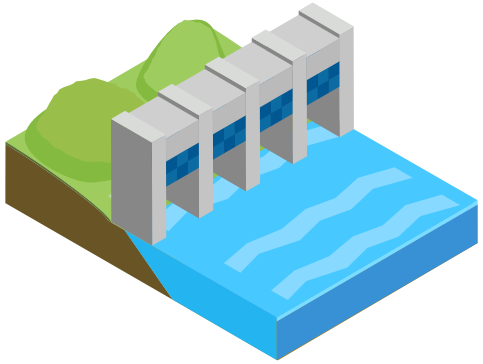
單靠本地集水不足以應付香港龐大的用水需求。廣東與香港早前簽署東江水供水協議，以統包方式訂明每年輸入東江水的上限，並按照本港實際需要靈活調節供水量，源源不絕為香港供應穩定的水源。

最新一份為期三年，涵蓋二零二四年至二零二六年的東江供水協議已於二零二三年十二月簽訂。新協議沿用「統包扣減」的模式並延長至二零二九年。

新協議的基本水價調整增幅為每年 2.39%，大致反映粵港兩地物價指數和人民幣兑港元匯率的變動。在二零二三年，香港在東江水方面的支出為 50.16 億港元，二零二二年的支出則為 49.47 億港元。

Dongjiang Water

To fill the gap between Hong Kong's local yield and water demand, Dongjiang water is imported as needed with a package deal approach, up to the annual supply ceiling stipulated in the supply agreement between Guangdong and Hong Kong to ensure a stable but flexible supply for meeting the city's actual needs.



A new agreement on the supply of Dongjiang water to Hong Kong for a three-year period from 2024 to 2026 was signed in December 2023. The new agreement continues to adopt the "package deal deductible sum" approach which will be maintained at least up to 2029.

The annual ceiling water prices in the new agreement will be increased by 2.39% each year, which generally reflects the changes of the relevant consumer price indices of Guangdong and Hong Kong and the exchange rate between the Renminbi and the Hong Kong dollar. In 2023, Hong Kong's expenditure on Dongjiang water was HK$5 016 million, compared to HK$4 947 million paid in 2022.

沖廁用海水

自一九五零年代起香港已經開始引入海水沖廁。目前，我們的海水供應網絡覆蓋達全港約 85% 的人口。

使用海水沖廁不僅有助節省珍貴的食水資源，處理海水的耗電量亦遠較食水為低，有效減低供水的生產成本及碳排放。

Salt Water for Flushing

Since 1950s, salt water has been introduced in Hong Kong for toilet flushing. Currently, our salt water supply network covers about 85% of the Hong Kong population.

Using salt water for flushing not only conserves precious fresh water resources, but also reduces production costs and carbon dioxide emissions arising from lower electricity consumption for supplying salt water than fresh water.

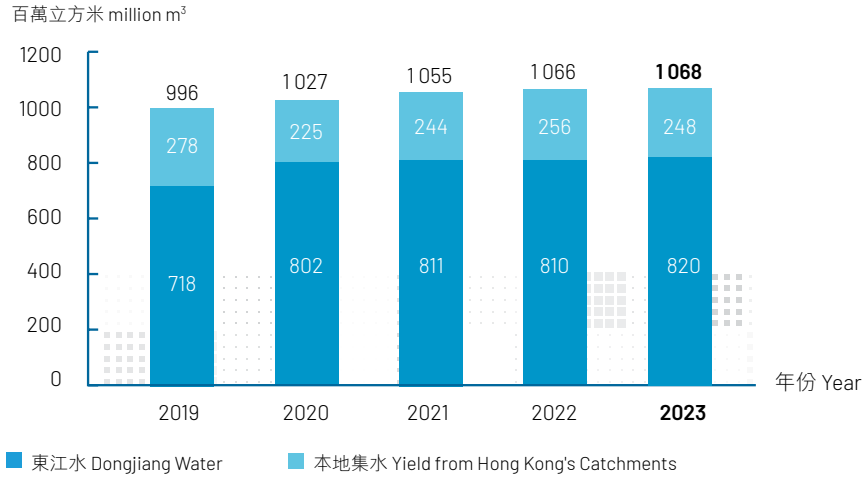
節省了約
Conserving

23%

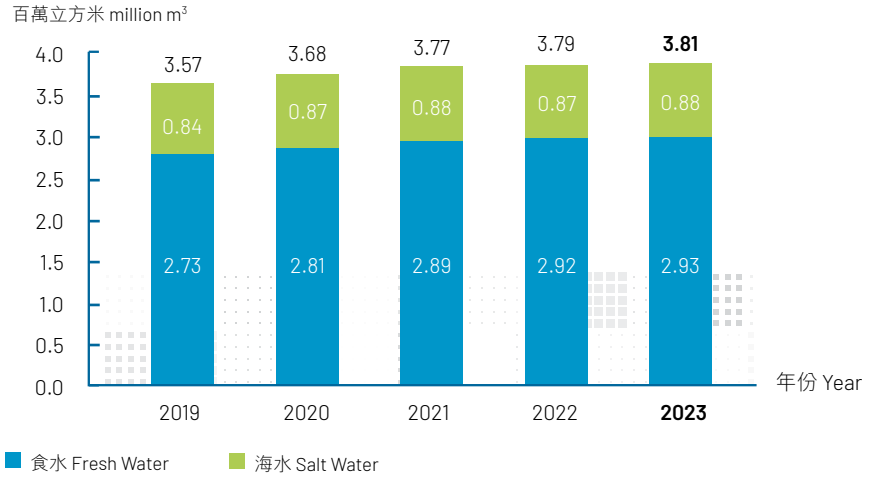
的總用水量
of total water consumption

香港每年供應約 3.2 億立方米海水作沖廁用途，相等於節省了約 23% 的總用水量。
Every year, about 320 million m^3 of seawater is supplied in Hong Kong for flushing (Equivalent to conserving 23% of total water consumption).

二零一九至二零二三年全年食水供應
Annual Quantity of Fresh Water Supply 2019 – 2023



二零一九至二零二三年全年日均用量（食水及海水）
Total Average Daily Water Consumption (Fresh Water and Salt Water) 2019 – 2023



水資源的未來展望

香港的供水系統將正面臨人口及經濟的持續增長令本地食水需求增加、氣候轉變、以及大灣區對水資源的需求日益增加等嚴峻挑戰。為確保香港未來供水穩定，我們積極開發不同的新水源，包括淡化海水和循環再用水（即再造水、重用中水及回收雨水），提高香港供水對氣候變化的應變能力。

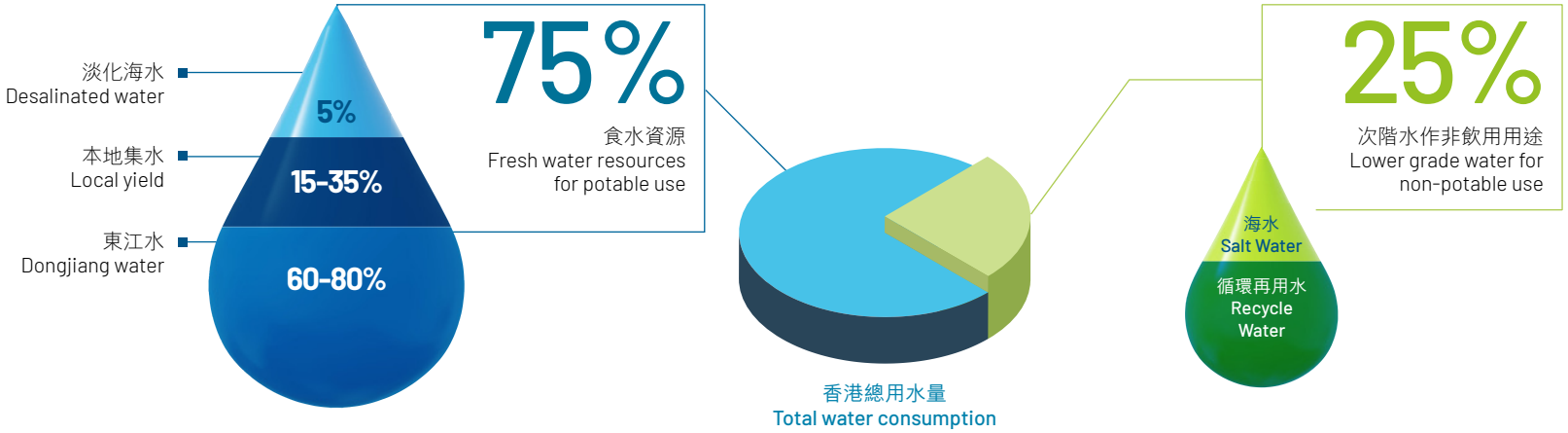
我們致力提升香港供水來源的多樣性，食水資源將約佔香港總用水量 75%，而非飲用的次階水將佔餘下 25%。

Outlook of Future Water Resources

To better prepare Hong Kong for the acute challenges of climate change and the increasing demand for fresh water arising from population and economic growth, as well as the keen demand for water resources in the Greater Bay Area, the WSD has been developing new and climate-resilient water sources, including desalinated water and recycled water (viz reclaimed water, treated grey water and harvested rainwater).

We seek to build a diversified portfolio of water resources in the future. Fresh water resources will account for about 75% of the total water consumption in Hong Kong while the lower grade water for non-potable uses will account for the remaining 25% consumption.

未來的香港水資源組合
Diversified Portfolio of Future Water Resources in Hong Kong



淡化海水
Desalinated Water

東江水
Dongjiang Water

本地集水
Local Yield

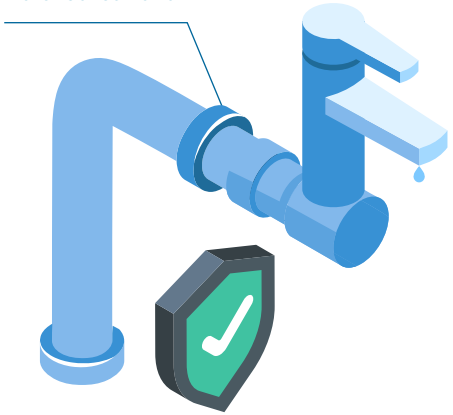
全面水資源管理策略 – 控制食水需求增長

根據「全面水資源管理策略」，控制食水需求增長在水資源需求管理中是非常重要的一環。為配合本港的可持續發展，我們正推行以下三項用水需求管理措施：

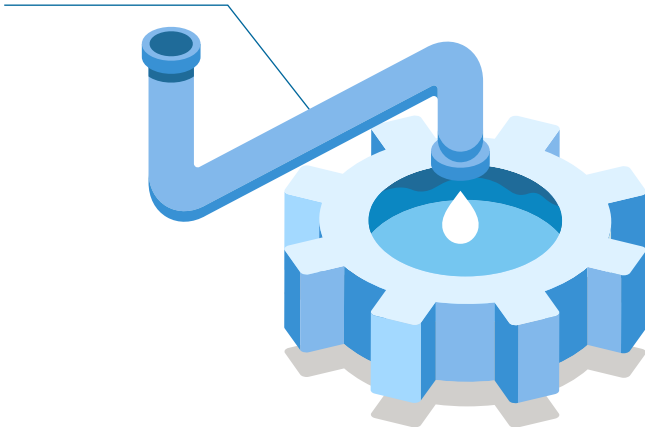
TOTAL WATER MANAGEMENT STRATEGY – CONTAINING FRESH WATER DEMAND GROWTH

Under the Total Water Management Strategy, containing fresh water demand plays a pivotal role in water demand management. In line with the territory's sustainable development, we are taking forward three major water demand management initiatives:

節約用水
Water Conservation



管理用水流失
Water Loss Management



增加使用次階水
Expanding Use of Lower Grade Water

節約用水

通過與業界和社會大眾緊密合作，我們致力推廣高效及智慧用水，保障我們能持續享有穩定的供水。

水知園

為提高公眾節約用水的意識並將其付諸實行，我們在位於天水圍辦公大樓的水知園教育中心（水知園）就全球不同的水資源議題舉辦展覽。當中我們展示超過五十個展品，並安排不同互動遊戲和現場示範予公眾參與，費用全免。這些用水相關的教育資訊，與學校課程及活動互相銜接，讓參觀者寓習於樂，在愉快的學習環境中增進有關水的知識。截至二零二四年三月，水知園已接待約 114 500 名訪客。公眾可以預約到現場參觀或在網上進行虛擬參觀這些與水相關的教育資源。

Water Conservation

In close collaboration with industries and the wider community, we aim to promote efficient and smart use of water for securing our water supply for the long term.

H_2OPE Centre

To promote community-wide awareness and action on water conservation, the H_2OPE Centre at our Tin Shui Wai Office Building holds exhibitions regarding global issues on water resources, and features over 50 exhibits, interactive games and live demonstrations which are made available for free admission. These water education resources are linked to school curriculums and educational activities while providing visitors with an enjoyable learning environment. As at March 2024, the H_2OPE Centre has received about 114 500 visitors. Members of the general public can book the visit or arrange a virtual tour for access to these water education resources.

水知園為公眾教育中心，旨在提高公眾對節約用水的意識。當中的教育內容涵蓋水資源、食水水質、節約用水，以至水務工程及可持續發展措施各方面，應有盡有。

As a public education centre, the H_2OPE Centre aims at enhancing knowledge of water conservation. It features contents ranging from water resources, drinking water quality and water conservation, to waterworks projects and sustainability initiatives.

在家庭、企業和學校推廣用水效益的實踐方法

用水效益標籤計劃

二零零九年推出的「自願參與用水效益標籤計劃」，現已擴展至六類型水喉裝置及用水器具，包括沐浴花灑、水龍頭、洗衣機、小便器用具、節流器和水廁，能幫助用戶作出明智的購買選擇。

此外，自二零一八年二月起規定新建樓宇、住宅處所的廚房，以及所有處所的浴室和洗手間的訂明水管工程，均必須使用在「用水效益標籤計劃」下登記及符合指定用水效益級別的產品（如沐浴花灑、水龍頭、小便器用具和水廁等）。

Promoting Water Efficiency Practices for Homes, Businesses and Schools

Water Efficiency Labelling Scheme

To help shrewd water users in making informed choices of purchase, the voluntary "Water Efficiency Labelling Scheme" (WELS) launched in 2009 has been extended to six types of plumbing fixtures and water-consuming devices, which cover showers for bathing, water taps, washing machines, urinal equipment, flow controllers and water closets.

In addition, since February 2018, the mandatory use of specific WELS products (showers for bathing, water taps, urinal equipment and water closets) of prescribed water efficiency grade has been in force for new buildings and prescribed plumbing works of existing buildings for kitchens of domestic premises, and bathrooms and toilets in all premises.

「用水效益標籤計劃」說明六種類型的水喉裝置及用水器具的用水量和用水效益，幫助消費者作出明智的購買選擇。

The Water Efficiency Labelling Scheme shows the level of water consumption and water efficiency of the six types of plumbing fixtures and water-consuming devices helping consumers to make informed choices of purchase.

免費安裝節流器計劃

自二零一四年起，我們便已為公共屋邨提供免費安裝節流器服務，藉此提升用水裝置的效益，並改變客戶的用水習慣。計劃於二零一九年擴展至私人屋苑和私立學校（包括幼稚園、小學及中學），促進大眾和年輕一代參與以擴大成效。此外，節流器亦能透過水務署網站免費申請，方便市民自行安裝。

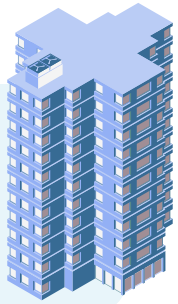
Free Installation of Flow Controllers Programme

Since 2014, we have offered free installation of flow controllers in public rental housing estates to increase efficiency of water devices and change usage habits. The programme was extended in 2019 to private housing estates as well as private schools (including kindergartens, primary schools and secondary schools) to inspire contributions from the wider community and young generation. Furthermore, we have enabled the public to apply for the flow controllers free of charge through the WSD's website and perform self-installation.

206 000
個住戶
households

來自
in

198
個公共租住屋邨
public rental housing estates



20 000
個住戶來自私人屋苑
households in private estate

672
間幼稚園
kindergartens

44
間私立小學
private primary schools

10
間私立中學
private secondary schools

[截至 2024 年 3 月安裝節流器的數量　Number of Flow Controllers have been installed as at March 2024]

用水效益最佳實務指引

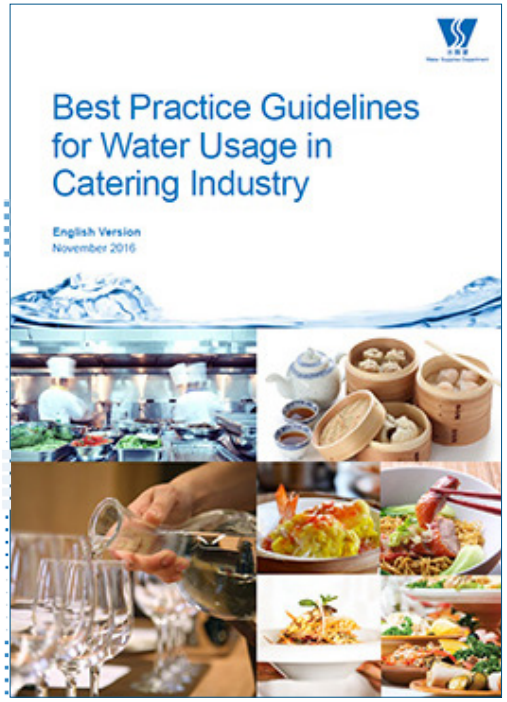
為了提高各行各業的用水效益，我們制訂了用水效益最佳實務指引，以供業界參考國際最佳實踐經驗。我們正與酒店和餐飲業的協會合作，力求在營運的不同方面提升用水效益，包括設施保養、酒店服務、廚房和樓面運作、泳池和園景管理。

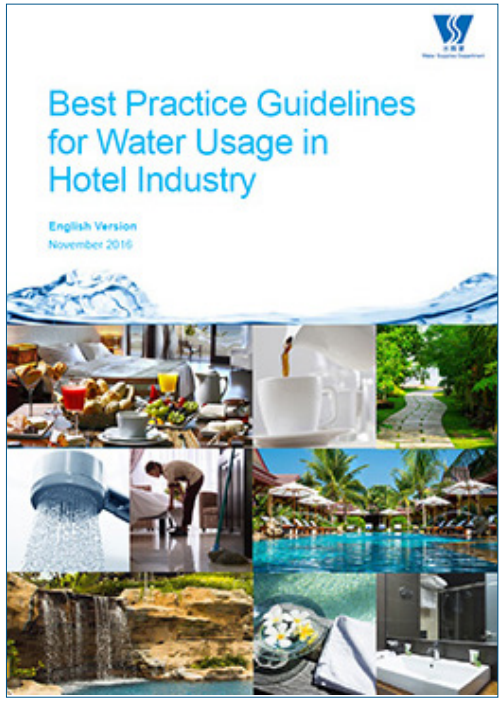
此外，我們鼓勵酒店業和餐飲業界從業員定期以其領域相關的「節水核對清單」展開用水評核，在核查器具的用水效益、業務運作常規和維修保養要求的同時，提高員工和客戶的節水意識，使節約用水的成效更大。

Best Practice Industry Guidelines for Water Usage

To enhance water-use efficiency across industries, we have developed a set of Best Practice Guidelines to the industry practitioners taking into account the experiences of international best practices. We have collaborated with hotel and catering associations to promote water-use efficiency in different aspects of their daily operations, including facilities maintenance, hospitality service, kitchen and dining area operations, swimming pools and landscape management.

In addition, we encourage the hotel and restaurant practitioners to conduct water audits regularly using our "Water Efficiency Checklists" relevant for their sectors to evaluate the water-use performance of equipment and operational practices, identify maintenance requirements, as well as raise participation from their employees and customers on water conservation.





智能水錶系統

為推動香港逐漸邁向智慧城市，本署自二零一八年起於新建發展項目中引入了有線智能水錶系統，為用戶提供實時用水資訊，提升他們用水體驗和節約用水的意識。截至二零二四年三月，我們收到 161 份申請，為約 380 座新落成的政府、公營和私人發展樓宇安裝合共近 112 000 個智能水錶。當中有超過 5 000 個有線智能水錶已開始投入服務。

Advanced Metering Infrastructure

As part of advancing Hong Kong into a smart city, the WSD has introduced the wired Advanced Metering Infrastructure (AMI) in new development projects since 2018 to enhance user experience and water conservation awareness through the provision of timely water consumption information. As at March 2024, we have received 161 applications involving the installation of near 112 000 AMI water meters in about 380 new government, public and private development buildings. Amongst these applications, over 5 000 wired AMI water meters have been put into services.

為切合各種現有樓宇客戶的實際需要，我們以多種網路通訊技術如 LoRaWAN、Wize 和 NB-IoT 等為郊區及市區的樓宇安裝無線智能水錶。

With a view to serving diverse needs of customers in existing buildings, we have applied different types of wireless AMI water meters using various network communication technologies such as LoRaWAN, Wize and NB-IoT for use in rural and urban buildings.

於二零二三年，我們已完成將大澳區內所有機械式水錶更換為無線智能水錶。此外，我們與房屋署合作在三個指定的公共屋邨推行試點計劃，藉以檢視無線系統的整體表現和可靠性。

In 2023, we successfully changed all mechanical water meters in the Tai O community into wireless AMI water meters. In joint collaboration with the Housing Department, we conducted trial studies in three selected public rental housing estates to testify their overall performance and reliability.

推動精明的用水文化

為了展開大規模的節約用水工作，我們以針對性的方法與不同持份者緊密合作，向社區宣傳用水效益和精明用水生活。有關水務署與業界和社區協作方面的工作，詳見「成就」章節。

Promoting Water-Wise Culture

To advance water conservation efforts at scale, we have adopted a targeted approach in close collaboration with various stakeholders to promote water efficiency and smart living in the community. The details of the WSD's collaborative efforts with the industries and wider communities are covered in the "Empower" Section.

管理用水流失

香港山多平地少，加上對地下水管的各樣頻密干擾，導致水管滲漏的風險提高。為此，水務署實施下列措施，務求妥善管理水管、優化供水系統網絡的運作表現、減少水管爆裂和用水流失，同時協助客戶追蹤和管理其用水流失。

「智管網」

在「智管網」計劃下，我們在全港食水分配管網內逐步設立約 2 400 個監測區域，利用監測和感應設備檢視用水流失的情況。其中部份監測區域亦用作水壓管理區域，配有減壓裝置，將水壓調節到合適水平，以減少滲漏引致的用水流失。截至二零二三年年底，我們已設立約 1 960 個監測區域，目標在二零二五年內完成整個「智管網」的建造工程。

我們亦已建立「智能管網管理電腦系統」來收集各監測區域大量的管網數據，從中識別異常情況，從而決定最合適和最有效的網管管理措施。這些措施包括：

主動探測滲漏
Active Leakage Detection

水壓管理
Pressure Management

我們的目標是在二零三零年前，利用先進技術及風險為本的資產管理策略，將政府水管的滲漏率從現時二零二三年約 14% 降低至 10% 以下。

By 2030, we aim to reduce the leakage rate of public water mains from the current 14% in 2023 to below 10% by adopting advanced technologies and strategic risk-based asset management.

Water Loss Management

The hilly terrain as well as various disturbances to the underground water mains in Hong Kong have caused higher risk of leakage. At the WSD, we have implemented the following measures to manage our water mains and optimise operational performance of the water supply network, reducing pipe bursts and water loss while helping consumers track and manage their water loss.

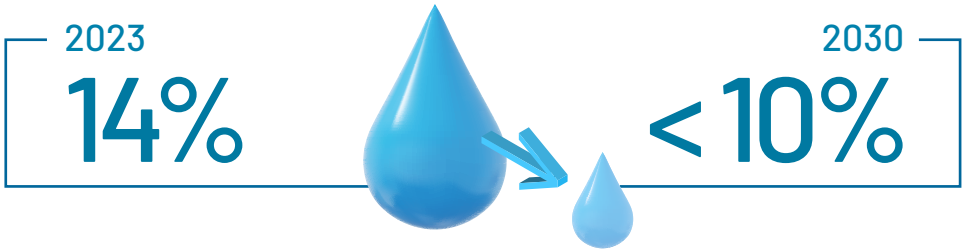
Water Intelligent Network

Under the project "Water Intelligent Network" (WIN), we have progressively established about 2 400 District Metering Areas (DMAs) installed with monitoring and sensing equipment in our fresh water distribution network across the territory to monitor water loss. Some of these DMAs are also designated as Pressure Management Areas (PMAs) and equipped with pressure reduction devices that can modulate water pressure to a suitable level to reduce the quantity of water loss due to leakage. As at December 2023, we have set up about 1 960 DMAs and we aim to complete the WIN network development by 2025.

An "Water Intelligent Network Management System" has also been established to collect vast amount of data from these DMAs and identify anomalies for follow-up actions with the objective to determining the most suitable and effective network management measures. These measures include:

快速維修滲漏水管
Speedy Repair of Water Main Leaks

更換及修復水管
Replacement and Rehabilitation of Water Mains



管理私人水管滲漏

我們採用了一系列措施，例如為私人發展項目安裝總水錶，以監察私人水管用水流失的情況。我們亦透過編制合約條款及規格範本，以及提供測漏服務供應商參考名單，為業主、物業管理人和服務供應商提供建議和支援，以便他們安排測漏調查。

正在逐步推行的「智管網」和安裝總水錶亦能讓我們發現隱藏於私人水管的滲漏點。當在某監測區域發現用水量異常，我們便會到場進行測漏調查，包括目視和聽音檢查、滲漏噪聲相關測試和滲漏分段測試。若私人水管出現懷疑用水流失，我們會向相關業主和物業管理人提供建議和支援，助其採取進一步行動。

Managing leakage of private water mains

A series of measures, for example, installing master meters, have been put in place to monitor water loss at private developments. We also provide advice and support to property owners, management agents and service providers to facilitate their leak investigations through publishing sample contract clauses and specifications, and providing a reference list of local leak detection service providers.

The progressive implementation of WIN and establishment of master meters also allow us to identify hidden leaks in private water mains. Once an unusual amount of water consumption in certain DMAs is detected, we will carry out on site visual and sounding inspections, leak noise correlation surveys and leak detection step tests. In case the water loss is suspected occurring in the private water mains, advice and support would be provided to the concerned property owners and management agents for taking follow-up actions.

地下水管測漏中心

位於青衣的地下水管測漏中心「Q-Leak」於二零二一年成立，讓從業人員在安全的環境下進行各種滲漏檢測技術的培訓和技能評估，提高他們在智慧水務管理方面的專業技能。

Q-Leak 作為首個用於判斷地下水管滲漏的培訓、研究和開發中心，讓學員能在現實世界中檢測「看不見的」網絡的滲漏位置，亦提高香港建築物的水管規劃和管理質素。Q-Leak 亦將成為與專家、研究人員、業界及香港專上院校在水管測漏技術方面的教研合作平台，為加強測漏培訓工作和技術研究提供更佳設施和更堅實的支持。

Q-Leak Training Centre

Established in 2021, the Q-Leak underground water mains leak detection training centre at Tsing Yi provides a safe environment for practitioners to conduct training and skills assessments on various leak detection technologies and enhance their professional skills in smart water management.

First of its kind for training, research and development of diagnosing underground water main leakage, the Q-Leak enables learners to detect and locate leakage in the "invisible" network in the real world while enhancing the quality of water mains planning and management in Hong Kong buildings. The Q-Leak will also serve as a teaching and research cooperation platform with specialists, researchers, industry practitioners as well as post-secondary education institutions in Hong Kong to provide better facilities and robust support for strengthening the industry with training and research capabilities on leak detection.

從大型輸水管及幹管，以至鄉村的小型水管，Q-Leak 利用各種的地下水管網絡滲漏情況，提升香港測漏技術，並支持從業人員持續專業進修。

Leveraging a variety of leakage scenarios of buried water main networks ranging from large distribution and trunk mains to small village water pipes, the Q-Leak has elevated Hong Kong's leak detection technical excellence and enabled practitioners to pursue continuing professional development.

次階水

我們利用創新技術，致力擴大使用次階水，包括海水及循環再用水（即再造水、重用中水及回收雨水），用於沖廁、園景灌溉和清潔街道等非飲用用途，務求節省食水資源。

Lower Grade Water

Leveraging innovative technologies, we have been actively expanding the use of lower grade water, which includes salt water and recycled water (viz reclaimed water, treated grey water and harvested rainwater) for non-potable uses, for example, toilet flushing, landscape irrigation and street cleansing to help conserve fresh water resources.

擴大使用海水和循環再用水
Expanding Use of Salt Water and Recycled Water

長遠而言，我們的目標是擴展次階水用於沖廁和其他非飲用用途的供應網絡覆蓋範圍，由香港總人口的 85% 增加至 90%，並著重在新發展區和現時使用淡水沖廁的地區推展。

We aim to expand the network coverage for supplying lower grade water from 85% to 90% of Hong Kong's total population for non-potable uses in the long run with the focus on the new development areas and those areas currently being supplied with fresh water for flushing.

擴展次階水用於沖廁和其他非前置用途的供應網路覆蓋範圍
Expand network coverage for supplying lower grade water

85%→90%

現時的海水供應網絡加上在東涌新市鎮敷設的新網絡，將可覆蓋超過總人口的 85%。

The current salt water network together with the new network in Tung Chung New Town will cover more than 85% population.

海水供應網絡

為進一步降低食水用量，我們繼續擴大使用海水沖廁的範圍。我們現正為東涌新市鎮建造海水供應系統，以取代區內目前以淡水沖廁的安排。相關工程預計於二零二四年竣工，供應海水至東涌新市鎮及其擴展區。在技術可行和具成本效益的情況下，我們將繼續物色合適地區擴展海水供應網絡或利用新的水資源（例如循環再用水）。

Salt Water Supply Network

To further reduce the fresh water consumption, we continue to expand the use of salt water for flushing. The Tung Chung New Town is currently being supplied with fresh water for flushing. We are building a replacement salt water supply system that will be completed in 2024 to supply salt water to the Tung Chung New Town and its extension for flushing. Where technically feasible and cost-effective, we will continue to explore ways to expand our salt water supply network or leverage new water resources (e.g. recycled water).

再造水供應

為了在上水、粉嶺及新發展區（包括古洞北及粉嶺北）提供優質再造水作非飲用用途，我們現正建造全新的基礎設施 – 石湖墟再造水廠， 以先進的後期加氯淨水程序，進一步處理經石湖墟淨水設施淨化的排放水。

香港首個中央再造水生產設施包括一座位於石湖墟淨水設施旁的新建石湖墟再造水廠，以及一個新再造水分配系統。這個再造水生產設施已於二零二四年三月開始投產並為上水供應再造水作沖廁用途，而餘下的設施亦將於二零二六年分階段完成。

Supply of Reclaimed Water

To provide quality reclaimed water for non-potable uses in Sheung Shui, Fanling as well as new development Areas (such as Kwu Tung North and Fanling North), we are developing new infrastructure, the Shek Wu Hui Water Reclamation Plant, for further processing the treated sewage effluent from the Shek Wu Hui Effluent Polishing Plant (EPP) through advanced post-treatment hypo-chlorination process.

This first-ever centralised reclaimed water supply system in Hong Kong includes a new Shek Wu Hui Water Reclamation Plant, which is adjacent to Shek Wu Hui EPP, and a new reclaimed water distribution system. In March 2024, we commenced the supply of reclaimed water for toilet flushing in Sheung Shui. The remaining reclaimed water supply system will be completed in stages by 2026.

新落成的石湖墟再造水廠每年的再造水生產量高達 2 200 萬立方米，覆蓋約 50 萬人口，每年將能節省同等份量的食水供應。

The new Shek Wu Hui Water Reclamation Plant will ultimately produce about 22 million m^3 of reclaimed water per annum serving the population of some 500 000 people, which will save an equivalent amount of fresh water supply each year.

中水重用及雨水回收

從沐浴、洗手盆、廚房洗滌盆等收集中水和回收雨水，經處理後便可重新用於非飲用用途，從而減少食水用量。自二零一五年，我們已為政府規劃的新發展項目制定《中水重用及雨水回收系統技術規格》。截至二零二四年三月，已有約 140 個政府工程項目配備了中水重用和 / 或雨水回收系統。

Grey Water Recycling and Rainwater Harvesting

Grey water collected from baths, wash basins, kitchen sinks or similar fitments as well as rainwater harvested can be treated and reused for non-potable uses thereby reducing fresh water consumption. Since 2015, we have developed the Technical Specifications on Grey Water Reuse and Rainwater Harvesting guidelines for new developments under government projects. As at March 2024, approximately 140 new government projects have been equipped with grey water recycling and/or rainwater harvesting systems.

天水圍大樓的中水處理設施
Grey water treatment facilities at WSD Tin Shui Wai Building

薄膜生物反應器
Membrane Bioreactor Tank

均衡池
Equalisation Tank

天水圍大樓的雨水回收設施
Rainwater harvesting facilities at WSD Tin Shui Wai Building

為雨水回收池而設的水管
Pipe arrangement for rainwater collection tank

薄膜池
Membrane tank

為推動私營企業採用中水重用和雨水回收，我們在香港綠色建築議會的綠建環評新建建築 2.0 版提出新規定，藉以鼓勵發展商在新發展項目中採用。截至二零二四年三月，約 200 個獲得綠建環評新建建築 1.2 或 2.0 版認證的項目已採用循環再用水設施。

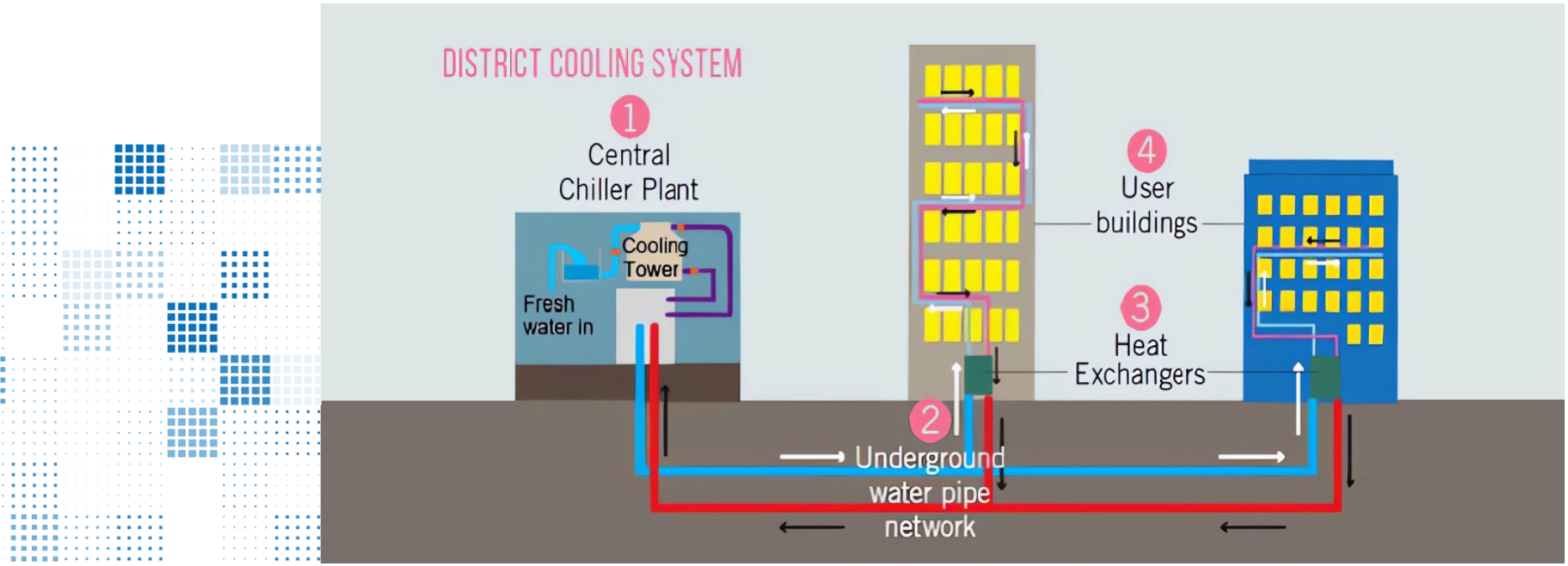
To advance adoption in the private sector, we have proposed new provisions in the Hong Kong Green Building Council's Building Environmental Assessment Method (BEAM) Plus New Buildings Assessment Tool Version 2.0 to incentivise project owners to adopt grey water-recycling and rainwater harvesting systems in their new development projects. As at March 2024, about 200 certified projects under the BEAM Plus New Buildings Assessment Tool v1.2 and v2.0 have initiated efforts in adopting water-recycling facilities.

於區域供冷系統中使用循環再用水

區域供冷系統將中央供冷站製造的冷凍水通過地下冷凍水管道網絡輸送給多個建築物，以滿足其製冷量需求。新發展區將逐步使用更多區域供冷系統，尤其是那些沒有海水供應的地區的蒸發式製冷系統，從而減低使用大量食水作非飲用用途。

Use of Recycled Water in District Cooling Systeming

District cooling system (DCS) distributes chilled water through a network of underground pipes from central chiller plant to multiple buildings for air-conditioning. DCS will be increasingly adopted in new development areas as one of the non-potable applications using substantial amount of fresh water, in particular for DCS of evaporative type when seawater supply source is not available.



為配合香港的可持續發展，我們已進行一項諮詢研究，探討於蒸發式區域供冷系統中使用循環再用水以節省食水在技術及成本效益方面是否可行。我們初步確定以循環再用水運行蒸發式區域供冷系統大致可行，目前正深入檢視研究結果，並計劃下一步的推行細節。

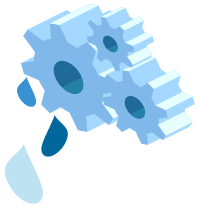
To support the sustainable development of Hong Kong, a consultancy study was conducted to investigate into the technical feasibility and financial viability of pioneering the use of recycled water in DCS of evaporative type for conserving fresh water resources. Following the confirmation on the feasibility for using recycled water in DCS of evaporative type, we are currently reviewing detailed results for planning the implementation.

食水安全及供水可靠性
Water Safety and Reliability

我們致力促進智慧用水管理和水務方面的科技創新、綜合和協作的解決方案，務求為香港提供安全和可靠的供水。有關措施包括：

We foster technology innovation, integrated and collaborative solutions for smart water management and waterworks to provide Hong Kong with safe and reliable water supplies through the following strategic initiatives:

水質管理
Water Quality Management



食水安全計劃
Water Safety Plans

嚴格規管及執法
Stringent Control and Law Enforcement

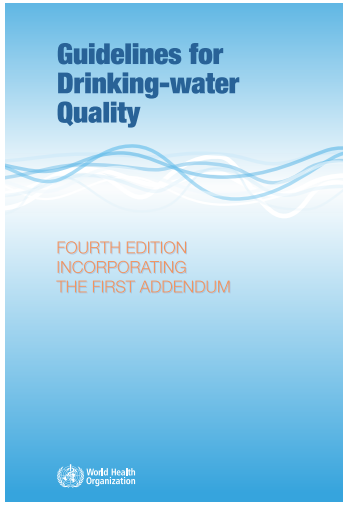
優化資產管理
Asset Management and Enhancement

食水安全

香港是全球其中一個擁有最安全食水供應的城市。為了保障公眾健康，我們制定了一套綜合食水水質管理系統，管理從源頭到用戶水龍頭的水質，確保食水水質完全符合香港食水標準。此外，政府訂立了監察名單、觀察名單及食水感官準則，用於全面監測香港食水質素。至今，我們已將約 800 個水質指標和污染參數納入在詳細評估的範圍。

WATER SAFETY

Hong Kong enjoys one of the safest water supplies in the world. We have developed an integrated Drinking Water Quality Management System to manage water quality from sources to consumers' taps and ensure that the quality fully complies with the Hong Kong Drinking Water Standards (HKDWS) for the protection of public health. In addition, we have established the Surveillance List, the Watch List, as well as the Aesthetic Guidelines for comprehensive monitoring of the drinking water quality in Hong Kong. To date, we have included about 800 parameters of water quality indicators and contaminants for detailed assessment.



香港食水標準參考由世界衞生組織（世衞）出版的《飲用水水質準則》及其他國際經驗而制定，並不時檢討以確保食水質素及安全。

The HKDWS is established with reference to the Guidelines for Drinking-water Quality published by the World Health Organization (WHO Guidelines) and other international practices, and is reviewed from time to time to ensure the quality and safety of our drinking water.

水質監測

水質監測是確保食水安全的基本工具。我們實施全面的水質監測計劃，對從水源 * 到用戶水龍頭所收集的食水樣本進行一系列的物理、化學、細菌、生物和輻射檢測，以監測整個供水系統的水質。本年我們總共收集約 17 萬個水質樣本並進行約 60 萬個檢測，以確保食水水質完全符合香港食水標準。

* 水源包括東江水、本地集水區收集的雨水，以及將軍澳海水化淡廠引進的海水。

Water Quality Monitoring

Water quality monitoring is a fundamental tool to drinking water safety. We undertake comprehensive programmes through a series of physical, chemical, bacteriological, biological and radiological examinations of samples collected from sources* to consumers' taps to monitor water quality in the entire water supply system. During the year, some 600 000 tests were conducted involving about 170 000 water samples to ensure drinking water quality in full compliance with the HKDWS.

* Water sources include Dongjiang water, rainwater collected from local water gathering grounds and seawater from the inlet of Tseung Kwan O Desalination Plant.

監測整個供水系統的水質

原水由木湖抽水站的東江水接收點、集水區與相關設施、水塘、濾水廠、海水、海水化淡廠，途經配水庫、食水缸、分配系統到達用戶水龍頭 （用戶包括商場、診所、社區設施、運動場、街市、政府辦事處及屋邨管理處等）。

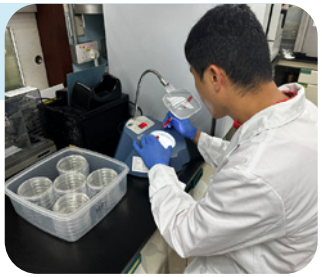
Monitoring Water Quality in the Entire Water Supply System

From the reception point of Dongjiang water at the Muk Wu Raw Water Pumping Station, catchment areas and related facilities, impounding reservoirs, water treatment works, seawater, desalination plant, to service reservoirs, fresh water tanks, distribution systems and consumers' taps (e.g. taps in shopping centres, clinics, community facilities, sports grounds, markets, government offices and estate management offices).

收集原水和食水樣本作全面測量
Collecting Raw and Drinking Water Samples for Comprehensive Examinations

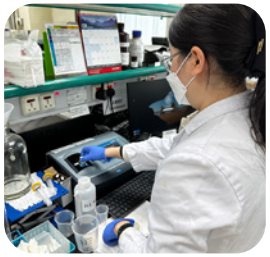
使用氣相色譜串聯質譜聯用儀檢測水樣本中有機化合物的痕迹。

Measure trace organic compounds in water samples using a gas chromatograph with tandem mass spectrometer.



使用微生物菌落計數器檢測水樣本的細菌質量。

Examine the bacteriological quality of water samples through a microbial colony counter.



使用濁度計檢測水樣本的混濁度。

Measure turbidity in water samples with a turbidimeter.

使用低本底阿爾法 - 貝他粒子計數系統檢測水樣本的總 α 和總 β 活度。

Monitor gross alpha and gross beta activity in water samples with a low-level alpha-beta counting system.

使用電感耦合等離子體質譜儀檢測水樣本中的微量金屬含量。

Measure trace metal contents in water samples using an inductively coupled plasma mass spectrometer.

測量食水樣本的餘氯含量。

Examine residual chlorine levels in drinking water.

確保東江水水質

根據現行的《東江供水協議》，廣東省當局致力維持輸港東江水水質符合國家《地表水環境質量標準》（GB 3838-2002）第II類水的標準，此為最高的標準級別並適用於生活飲用水一級保護區。 為防止輸港東江水受到污染，當局更採取了一系列措施和工程：

- 於深圳水庫設立生物硝化站；
- 興建東深專用輸水管道；
- 進行河流污水分流工程和污染防治；
- 設立東江流域水量水質監測和控制系統； 以及
- 完成沙灣河水環境綜合整治工程。

我們在木湖原水抽水站設置在線水質監測系統，對東江水水質進行 24 小時監測。我們亦會定期於木湖抽水站抽取樣本作詳細分析，確保供港的東江水符合國家標準。

Ensuring Dongjiang Water Quality

Under the current Dongjiang Water Supply Agreement, the Guangdong authorities ensure the quality of Dongjiang water delivered to Hong Kong meets the national standard for Type II waters in the "Environmental Quality Standards for Surface Water" (GB 3838-2002), which is the highest standard applicable to the abstraction for human consumption in first-class protection area. A series of measures and projects have been adopted to prevent the contamination of Dongjiang water delivered to Hong Kong:

- provision of a bio-nitrification plant at the Shenzhen Reservoir;
- construction of dedicated aqueduct from Dongjiang to Shenzhen Reservoir;
- undertaking of river sewage diversion works and pollution prevention;
- implementation of the Dongjiang Basin Water Quantity and Quality Monitoring and Control System; and
- completion of the comprehensive remediation project for the water environment of the Sha Wan River Basin .

Through our online water quality monitoring system, we monitor the quality of Dongjiang water round the clock at the Muk Wu Raw Water Pumping Station, where the Dongjiang water is received in Hong Kong and collect water samples regularly for detailed analysis to ensure that the Dongjiang water supplied to Hong Kong complies with the national standard.

東江水的平均氨氮及錳水平
Average Ammoniacal Nitrogen and Manganese Levels in Dongjiang Water

	單位 Unit	財政年度 Financial Year 2021-22	2022-23	2023-24	GB3838-2002 第II類標準值 GB3838-2002 Type II Standard Value
氨氮 Ammoniacal Nitrogen	毫克/公升 mg/L	0.04	0.03	0.03	≤0.5
錳 Manganese	毫克/公升 mg/L	0.03	0.03	0.02	≤0.1

註：以上的食水樣本是從濾水廠、海水化淡設施、配水庫、食水缸、供水接駁點及公眾可達的用戶水龍頭抽取。
Note: The above drinking water samples were taken at water treatment works, desalination plant, service reservoirs, fresh water tanks, connection points and publicly accessible consumer taps.

定期於木湖原水抽水站監測東江水水質。

Regular monitoring on the quality of Dongjiang water at the Muk Wu Raw Water Pumping Station.

食水水質監測計劃

為有效監測食水水質及建立全港食水水質數據庫用作檢討香港食水標準，我們實施了一套食水水質監測計劃，於濾水廠、海水化淡設施、配水庫、食水缸、供水接駁點和公眾可達的用戶水龍頭等地方收集食水樣本。我們亦透過推行「水質監測優化計劃」擴大食水水質監測的範圍，在全港隨機抽出處所，並在其用戶水龍頭收集食水樣本，加強食水的水質監測。上述用戶水龍頭收集的食水樣本將會就六種金屬 (即銻、鎘、鉻、銅、鉛和鎳)、餘氯和埃希氏大腸桿菌等作化驗。我們每週均會將相關水質統計數據於水務署網站內公布。

水塘的無人船系統

為提升水塘水質監測，水務署人員自二零一一年發起使用無人船系統於在水塘進行自動監測水質和取樣，目前系統已經發展到第四代。監測能使下游濾水廠更有效控制食水處理過程，確保食水安全。

每艘無人船均配置了水質監測裝置，用於監測溫度、導電率、混濁度、溶解氧、酸鹼值、葉綠素 -a 和藍綠藻；以及自動導航和避障系統，確保在運行時能繞過障礙物。

在二零二四年第一季，我們進一步提升智慧航線規劃及智能水質監測和取樣功能，讓無人船能規劃航行路線，並可根據實時的水質情況即時作出應變。例如當無人船的檢測發現水質明顯變化時，系統會自動增加檢測點及採樣的數量，以便收集更多數據，從而提升營運效率。

Drinking Water Quality Monitoring Programme

To monitor the quality of drinking water and facilitate the creation of a territory-wide database for reviewing the HKDWS, we have implemented a drinking water quality monitoring programme to collect drinking water samples from water treatment works, desalination plant, service reservoirs, fresh water tanks, connection points and publicly accessible consumers' taps. We extended the drinking water quality monitoring by implementing "Enhanced Water Quality Monitoring Programme" to strengthen our water quality monitoring at consumers' taps in randomly selected premises in Hong Kong. At present we collect drinking water samples from these drinking taps for testing 6 metals, namely antimony, cadmium, chromium, copper, lead and nickel that could be present in internal plumbing system, as well as residual chlorine and E.coli. The water quality statistics are published every week on the WSD's website.

Unmanned Surface Vessels System at Impounding Reservoirs

To advance water quality monitoring, since 2011, our staff have initiated smart use of unmanned surface vessel ("USV") system, currently in its 4th generation of development, to perform automatic water quality monitoring and sampling in impounding reservoirs. This system facilitates the effective control of water treatment process at downstream water treatment works to ensure the safety of drinking water supply.

Each USV system is equipped with a water quality monitoring unit to monitor temperature, conductivity, turbidity, dissolved oxygen, pH, chlorophyll-a and blue green algae; as well as auto-navigation and obstacle avoidance systems for navigating around obstacles during operation.

In the first quarter of 2024, we made further enhancements in smart route planning and intelligent water quality monitoring and sampling. These enhancements enable the USV system to plan the navigation route as well as respond in real time to changes in water quality. For example, when the USVs detect significant changes in water quality, the system will automatically increase the number of monitoring points to collect more data and conduct additional sampling, thereby improving operational efficiency.

水安全計劃

我們以風險管控及多重屏障雙管齊下，確保食水安全。我們與各界別持份者通力合作，根據世衛的《飲用水水質準則》實施水安全計劃，以確保從源頭至用戶水龍頭的食水水質，保障公眾健康。

食水水質管理系統

我們通過整合健康目標、水安全計劃（系統評估和監察）、水質政策、監督安排、交流、培訓和公眾教育等各方面的考慮，制定了一套綜合的食水水質管理系統。

Water Safety Plan

We have taken a risk-based and multiple barrier approach to ensuring the safety of our drinking water supply. In joint collaboration with various stakeholders, we have implemented the Water Safety Plan (WSP) based on the WHO Guidelines to ensure drinking water quality from sources to consumers' taps for the protection of public health.

Drinking Water Quality Management System

We have developed an integrated Drinking Water Quality Management System (DWQMS) which incorporates health-based targets, WSP (system assessment and monitoring), water quality policy, surveillance arrangements, communications, training and public education.

我們根據內部和第三方審核的結果及建議，並參考海外和本地就水質管理方面的經驗，定期檢討及更新相關指引和運作程序。最近食水水質管理系統的更新內容包括：緊急臨時供水及在濾水廠使用現場氯氣生產設施的風險評估。

We conduct regular reviews and updates of our practices and operational procedures referencing to the findings and recommendations of internal and third-party audits, as well as overseas and local experiences in water quality management. Some recent updates on the DWQMS included risk assessment on emergency temporary drinking water supply and risk assessment on the use of on-site chlorine generation systems at water treatment works.

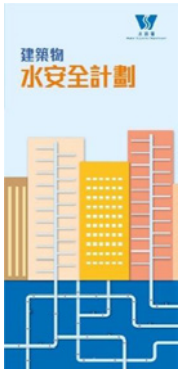
建築物水安全計劃

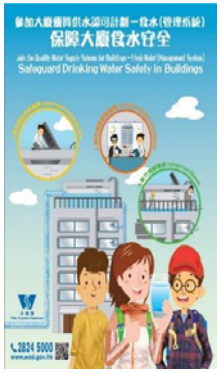
建築物的內部供水系統能直接影響食水水質，並有可能導致微生物或化學污染。我們參照世衛的指引以及考慮水務諮詢委員會的意見後，推出了「大廈優質供水認可計劃－食水（管理系統）」。透過這項水質管理獎勵計劃，鼓勵業主和物業管理人在其處所實施建築物水安全計劃。

為使建築物水安全計劃能順利推展，我們制定了以下資訊供公眾查閱：

- 一般及特定建築物（例如學校、安老院舍及醫院）食水安全計劃就風險管理的相關指引和範本
- 《小型樓宇的食水安全小貼士》
- 《已接受有關建築物水安全計劃培訓的合資格人士名單》
- 計劃的相關宣傳物品和實用指引

為表揚實施建築物水安全計劃、參與「大廈優質供水認可計劃－食水（管理系統）」且能妥善保養內部水管系統的業主和物業管理人，我們會頒發證書予相關人士以示鼓勵。





Water Safety Plan for Buildings

Internal plumbing systems of buildings can influence the quality of drinking water which may result in microbial or chemical contamination. Following the recommendations of the WHO, in consultation with the Advisory Committee on Water Supplies, we have launched the "Quality Water Supply Scheme for Buildings – Fresh Water (Management System)" (the Scheme), a fresh water quality management cum recognition scheme, to provide incentives for participation by property owners and management agents to implement the Water Safety Plan for Buildings (WSPB) at their premises.

To facilitate the implementation of the WSPB, we have developed the following materials for use:

- Risk management-based guidelines and templates for general and specific buildings (such as schools, residential care homes for the elderly and hospitals)
- Drinking Water Safety Tips for Small Buildings
- List of Qualified Persons Trained in WSPB
- Promotional materials and step-by-step guide

To recognise good practices of property owners and property management agents, certificates will be awarded to those who have joined the Scheme and implemented the WSPB for maintaining the internal plumbing systems properly.

自推出以來，本港約有
Since its launch, about

4 200 座建築物
buildings

已實施建築物水安全計劃，並加入「大廈優質供水認可計劃－食水（管理系統）」，
in Hong Kong have implemented the Water Safety Plan for Buildings and joined the associated Quality Water Supply Scheme for Buildings – Fresh Water (Management System),

惠及約
benefiting some

1 098 000

戶家庭。
households.

在政府大樓實施建築物水安全計劃

自二零二零年起，水務署為相關決策局/ 部門提供技術支援，協助他們在轄下的建築物制定及實施水安全計劃。

WSPB Implementation in Government Buildings

Since 2020, the WSD has provided technical assistance to the relevant government bureaux/departments in formulating and implementing the WSPB at their buildings.

所有政府大樓將於
By the first half of

2027

上半年前實施建築物水安全計劃
the WSPB will be implemented in all government buildings.

資助計劃特設專題網站，提供全面的資訊供公眾查閱，當中包括參加資格、申請方法、資助金額，以及常見問題和參考文件等。

A dedicated WSPSS website has been established providing information ranging from eligibility criteria, application method, subsidy amount to frequently asked questions and reference materials.

https://www.wsd.gov.hk/en/water-safety/wspss/index.html

水安全計劃資助計劃

政府設立了「水安全計劃資助計劃」並撥款 4 億 4 千萬港元，為合資格的私人樓宇業主或物業管理人提供財政資助，協助申請人在水安全計劃下推行各項評估和實施相關管制措施。資助計劃自二零二零年七月以來，已累計收到超過 730 份申請，涉及約 1600 座建築物。

水務署繼續與市區重建局（市建局）合作，讓申請人能統一透過「樓宇復修綜合支援計劃」申請「水安全計劃資助計劃」及市建局的各項樓宇復修計劃。

Water Safety Plan Subsidy Scheme

To provide eligible property owners or management agents of private buildings with financial assistance in adopting the WSPB at their premises, we set up the "Water Safety Plan Subsidy Scheme" (WSPSS) with the funding of HK$440 million to assist applicants for carrying out various assessments and implementing control measures. Since the launch of WSPSS in July 2020, over 730 applications involving about 1 600 buildings have been received.

The WSD continues to collaborate with the Urban Renewal Authority (URA) to facilitate applicants to apply for the WSPSS alongside with applications for URA's various building rehabilitation schemes through the "Integrated Building Rehabilitation Assistance Scheme".

嚴格管制及執法

我們一向恪守本份，以良好守則、制定相關標準和規例以及配合不同的宣傳工作，致力改善食水品質，從而降低公眾健康相關風險及保障供水安全。

Stringent Control and Law Enforcement

We promote good practices, develop standards and regulations coupled with awareness raising initiatives aiming to improve drinking water quality, reduce risks to public health and safeguard a safe water supply.

水喉物料及供水系統啟用要求

為加強內部供水系統的食水安全，自二零一五年起，水務署為水喉物料及新供水系統的設計、建造和啟用制定了更為嚴格的管制措施和指引。水務署制定了「一般認可」制度，為符合資格的水喉產品作預先批核於水管工程應用。另外，水喉產品亦會於水務署的物料測試所進行測試，該測試所獲得由香港認可處（HKAS）管理的香港實驗所認可計劃（HOKLAS）發出認可資格。

此外，水務署亦接納持有由獨立認可認證機構發出的「產品認證」證書的水喉產品。「產品認證」透過上游控制和持續監察工廠的生產過程，提升產業質量，從而確保產品質穩定並符合認可標準。為鼓勵更多此類產品加入「一般認可」水喉產品的行列，水務署於二零一九年進一步推出計劃，豁免對持有「產品認證」證書的水喉產品在「一般認可」制度下的監察要求。

Plumbing Material Control and Commissioning Requirements

Since 2015, more stringent control measures and guidelines on plumbing materials, design, construction and commissioning of new plumbing systems have been enforced to strengthen drinking water safety in inside service. The WSD has a General Acceptance (GA) system in place to pre-approve plumbing products for use in plumbing projects. Furthermore, plumbing products are also tested at the WSD's Material Testing Laboratory which was accredited by Hong Kong Accreditation Service under the Hong Kong Laboratory Accreditation Scheme.

Plumbing products with product certificates from independent accredited certification bodies are also acceptable to the WSD. The benefits of product certification are to promote industrial quality through control at the upstream, continuous surveillance of production process in factory to ensure consistent production quality and compliance with the recognised standards. To promote inclusion of more of these products into the GA portfolio, the WSD has further introduced a scheme since 2019 to waive the surveillance requirements under the GA system for plumbing products which have joined the product certification scheme.

自願性參與「《認可水喉產品》銷售商」計劃

水務署於二零二零年推出自願性參與「《認可水喉產品》銷售商」計劃，方便公眾選購《一般認可》的水喉產品並加深他們對這類產品的認識。我們希望此舉能令合規格的產品得到更廣泛應用，進一步降低使用不合規格水喉產品的機會。銷售《一般認可》水喉產品的商店將獲派發「《認可水喉產品》銷售商」標籤，標籤可張貼於店內當眼位置（如商店入口），使市民易於識別。

這些商店須在貨架上為《一般認可》水喉產品展示「產品標籤」，並向職員灌輸有關認可水喉產品的知識，以便向市民講解有關產品。

計劃亦使公眾更容易接觸到這些銷售商，並透過不同途徑獲取產品資訊，包括水務署網站上的《認可水喉產品》銷售商註冊名單、「《一般認可》水喉產品標籤」上的二維碼查閱生產地和批核有效期等產品資料、及在正式銷售收據上的《一般認可》參考編號。

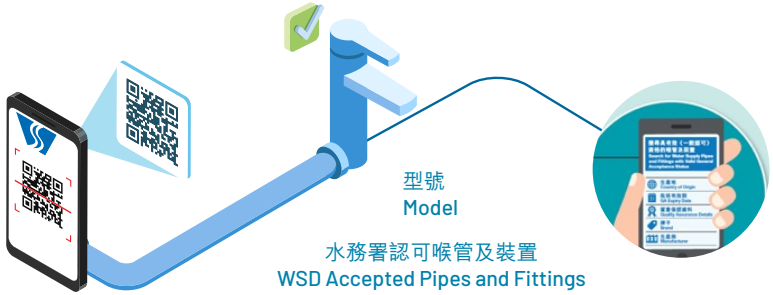
檢討法例以提升食水安全

我們已完成對《水務設施條例》（第 102 章）和《水務設施規例》（第 102A 章）的全面檢討，並根據法例修訂建議的公眾諮詢結果進行分析。我們將會就《水務設施條例》和《水務設施規例》的多個範疇展開法律修訂的草擬工作，其中包括水管工程的規管、水喉物料的管制、及保障用戶水龍頭供應的食水安全。

Voluntary GA Product Shop Scheme

To enhance public knowledge and facilitate their purchase of GA plumbing products, thereby minimising the use of non-compliant plumbing products, the WSD launched the "Voluntary GA Product Shop Scheme" in 2020 to promote wider use of GA plumbing products in the retail market. Retail shops with GA products on sale are provided with GA Product Shop Labels for affixing at prominent locations for easy identification by the public (e.g. shop entrance).

The GA Product Shop should also display on shelf the GA labels of the plumbing products and equip staff with knowledge of GA products for explaining to the public.



https://www.wsd.gov.hk/en/plumbing-engineering/pipes-and-fittings-to-be-used-in-inside-service-or/voluntary-ga-shop-scheme/index.html

The Scheme also enables the public for an easy access to the GA Product Shops and GA product information via a number of ways. These include the List of Registered GA Product Shop on the WSD's website, the QR code on the GA label which allows the retrieval of product information such as its country of origin and GA expiry date, and the GA Reference Number of the GA Product on the official sale receipts.

Legislative Review for Enhancing Drinking Water Safety

We have completed the holistic review of the Waterworks Ordinance (Cap.102) and Waterworks Regulations (Cap.102A), as well as analysis of the results of the public consultation on the proposed legislative amendments. We will proceed with the law drafting work for amending various aspects of the Waterworks Ordinance and Waterworks Regulations. These include the regulation of plumbing works, control of plumbing materials, safeguarding drinking water safety at consumers' taps and mandatory labelling of drinking devices.

修訂濫收水費法例

為提升執法效率並加強對違規濫收水費的阻嚇力，我們已安排《2023 年水務設施 (修訂) 條例草案》的審議並計劃於二零二四年四月通過。修訂的條例將賦予水務監督更大權力作證據及資料搜集，以便調查「劏房」租戶被濫收水費的懷疑個案，同時提升濫收水費的罰則。主要修訂內容如下：

- 賦予水務監督取得相關資料和文件的權力，
- 強制要求收取水費的人士發出收據及保存收據副本，
- 新增提供虛假或具誤導性資料或文件的罪行，
- 提高濫收水費的罰則，
- 賦予水務監督及差餉物業估價署就處理濫收水費案件時互通資料的權力，以及
- 明確標明在水費單發出後才可向用戶收回水費。

Legislative Amendment Against Illegal act of Overcharging for Water

With the objective to enhance enforcement efficiency and provide a deterrent effect against the illegal act of overcharging for water, the Waterworks (Amendment) Bill 2023 has been scheduled for passage in April 2024. Upon enactment of the Ordinance, the power of the Water Authority (WA) in evidence collection and information disclosure during the investigation of suspected cases of overcharging for water, mainly concerning subdivided unit (SDU) tenants, will be strengthened, and the penalty level for water overcharging will be increased. Key features of the Amendment are as follows:

- Empowering the WA to obtain the relevant information and documents;
- Mandating a person who charges another person for using water to issue, and keep copies of, receipts;
- Introducing an offence for providing false or misleading information or documents;
- Increasing the penalty for overcharging for water;
- Empowering the WA and the Rating and Valuation Department to disclose information obtained from the investigation of water overcharging cases to each other; and
- Making clear that reimbursement of water charges may take place only after the water bill is issued.

分間單位安裝獨立水錶計劃

我們鼓勵「劏房」業主為租戶安裝獨立水錶，讓每個「劏房」租戶按水務署發出的獨立水費單繳交水費，大大減低業主就收回水費方面的爭議。在今年，我們就該計劃舉辦了一系列的公眾及推廣活動，以打擊「劏房」租戶被濫收水費的行為。與去年相比，安裝獨立水錶的申請增加了約 8 成。

Scheme for Installation of Separate WSD meters for Subdivided Units

We recommend owners of subdivided units (SDUs) to install separate WSD meters for their tenants. With separate WSD meters installed for SDUs, tenants can arrange their own water charges according to the separate water bills issued by the WSD for each SDU, while owners can save the burden of apportioning the water charge. During the year, publicity and promotion activities were conducted to promote the above Scheme to combat overcharging SDU tenants for water. Compared with last year, there is an increase of about 80% in the applications for installation of separate water meters.

供水可靠性

我們透過完善水務設施管理和實施策略性的優化措施，致力確保供水的可靠性。

資產管理

水務設施資產管理

為優化水務設施的表現，同時降低運作成本及減少故障風險，我們致力在水務設施的維修保養及管理上達致世界級水平。

本署所有水務設施均採用符合 ISO 55001 的資產管理系統作管理，並充分考慮各類設施的「生命周期」及可持續發展等因素，制定適當的方針籌劃、設計、發展、建造、運作、維修保養、更新以至棄置這些設施，為迎接未來的挑戰做好準備，同時提高運作可靠性和效率。此外，系統亦讓我們在保持優質的服務水平之餘，同時妥善管控故障風險，並根據風險分析調配資源和釐定行事的優次。

WATER RELIABILITY

We seek to ensure water supply reliability through optimising the management of our waterworks assets as well as implementing strategic enhancements.

Managing Assets

Waterworks Asset Management

To optimise the performance of our waterworks while minimising operating costs and failure risks, we strive to attain the world-class quality for waterworks maintenance and management.

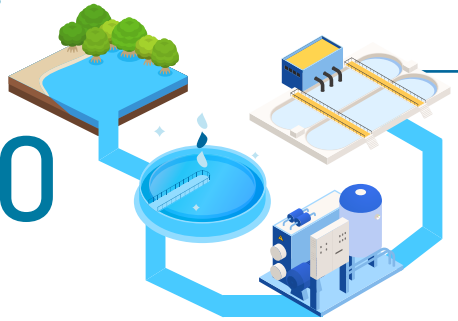
We have implemented the ISO 55001-compliant Asset Management System to manage all of our waterworks assets. This system uses a "life-cycle" approach that encompasses planning, design, development, construction, operation, maintenance, renewal and disposal of all assets, allowing us to make appropriate decisions to meet future challenges, ensure sustainability and improve our operational reliability and efficiency. In addition, it allows us to manage risks of failure whilst maintaining a high level of service, and to allocate resources and priorities for the various kinds of work required according to risk analysis.

ISO 55001 以生命周期資產管理系統提升水務表現
ISO 55001 Life-Cycle Asset Management to Enhancing Waterworks Performance

460+
水務建設施
Waterworks Installations

每日提供穩定供水予
Reliable water supply to

7 300 000
位市民
people every day



水務資產種類：
1. 通路：約 250 公里
2. 引水道：約 45 公里
3. 客戶水錶：約 325 萬個
4. 水塘：28 個
5. 機電設備維修工場：1 個
6. 承載水管橋樑：7 條
7. 配水庫及水缸：326 個
8. 斜坡及擋土牆：6 379 個
9. 水管及相關設施：約 8 400 公里
10. 抽水站和泵房：188 個
11. 食水售賣站：7 個
12. 濾水及加氯廠：20 個
13. 輸水隧道（包括輸水口、豎井及塔）：201 個

The types of waterworks assets:
1. Access Roads: about 250km
2. Catchwaters: about 45km
3. Customer Water Meters: about 3 250 000 nos.
4. Impounding reservoirs: 28 nos.
5. Mechanical & Electrical Workshop: 1 no.
6. Pipe Bridges: 7 nos.
7. Service Reservoirs and Water Tanks: 326 nos.
8. Slopes and Retaining Walls: 6 379 nos.
9. Water Mains and Associated Installations: about 8 400km
10. Water Pumping Stations and Pump Houses: 188 nos.
11. Water Selling Kiosks: 7 nos
12. Water Treatment Works and Chlorination Stations: 20 nos.
13. Water Tunnels (including portals, shafts and towers): 201 nos.

詳細及獨立的水塘視察

水務署定期會安排人員和外聘專家顧問視察水塘及配水庫，以確保設施安全及運作穩定。

Detailed and Independent Reservoir Inspections

The WSD arranges regular inspections on impounding reservoirs and service reservoirs by in-house staff and external expert advisors to ensure the safety and stability of the facilities.

於二零二三至二零二四年度，我們在轄下的水塘及配水庫進行了多次視察：
In 2023-24, we conducted the following inspections of our impounding and service reservoirs:

62
次由水務署人員進行的詳細視察
detailed inspections conducted by in-house staff

27
次由外聘專家顧問進行獨立視察
independent inspections conducted by external expert advisors

斜坡維修及鞏固

我們定期為轄下斜坡進行維修及鞏固工程，包括裝設泥釘、加固斜坡表面、在斜坡底部建造矮牆以栽種植物、改善排水系統、栽種一般植被、提供安全通道走廊等，藉此大幅降低發生山泥傾瀉的風險，從而減少對公眾、水務人員和設施造成威脅。

Slopes Maintenance and Upgrades

We regularly maintain and upgrade the slopes under our purview via soil-nailing, stabilisation of slope surface, construction of toe planter wall, improvement in drainage system, general planting, provision of safe access corridor and so forth. These efforts significantly reduce the risks of slope failure and the corresponding danger posed to the public, our staff and waterworks installations.

於二零二三至二零二四年度，我們管理約
In 2023/24, we managed approximately

6 500 幅斜坡 slopes

其中，我們視察
Of these, we inspected

838 幅斜坡 slopes

並為其中 **63** 幅斜坡 slopes
Of these,
進行了預防性維修或鞏固工程
received preventive maintenance or upgrades

水管資產管理

我們致力提升管理龐大水管資產的質素。水管爆裂的個案數字一直維持在低水平，在二零二三年亦只有約 34 宗。我們將繼續以妥善的風險管理制定水管資產管理策略，保持政府供水網絡的健康狀況，減低水管爆裂或滲漏的風險。

我們會根據水管爆裂或滲漏的後果、水管使用年期和物料、過往爆裂或滲漏記錄、周邊環境等各項因素，為高風險的水管優先進行改善工程，包括進行更換或修復水管，以減低水管爆裂或滲漏的風險。此外，我們亦會為位於「爆喉熱點」（即重複出現水管爆裂的段落）的水管進行改善工程。自這個監控機制實施以來，我們已累計發現 66 個爆喉熱點。截至二零二四年十二月三十一日，我們已成功為 56 個位置完成改善工程，而餘下的位置中有 9 個改善工程現正進行中，1 個為新發現的熱點並處於規劃階段。

水務署亦進行實地測試，於個別地點透過管道檢測機械人，運用圖像處理算法及利用超聲波探頭，進行水管內部表面檢查，以評估水管的健康狀況。另外，我們正與本地大學團隊就如何能更廣泛應用機械人相關技術作管道檢測研究可行方案，引進人工智能進行自動管壁檢測，藉此提高探測滲漏工作的效率。

Water Main Asset Management

We are committed to enhancing the management of our vast water main assets. Water main burst cases remain at a relatively low level. In 2023, 34 main burst cases were recorded. We will continue to implement a risk-based water main asset management strategy to maintain the healthiness of the government water supply networks and to reduce the risk of water main bursts or leaks.

Taking into account various factors including the consequences of bursts or leaks, ages and materials of the water mains, past records of bursts or leaks, surrounding environment, etc., we accord priorities for improvement works to those water mains assessed with high risk, including replacement or rehabilitation to reduce the risk of water main bursts or leaks. In addition, we carry out improvement works to water mains in "main burst hot spots" (i.e. sections with repeated water main bursts). Since the setting up of the monitoring system, there are totally 66 main burst hot spots. As at 31 December 2024, improvement works at 56 locations were completed with 9 locations in progress and the last one, which is newly formed, under planning.

The WSD also conducts on-site tests at specific locations with in-line inspection robot, utilising image processing algorithms and ultrasonic probes to inspect the interior water main surfaces for assessing the health conditions of the water mains. In addition, we are collaborating with a local university to explore feasible ways to enhance the inspection of water mains via robotic technologies, as well as incorporate artificial intelligence for automating inspection so as to enhance the efficiency of leakage detection.

於二零二三年，我們採用創新技術，完成上水和粉嶺的東江水水管修復工程，提升管理和成本效益，以及工地安全。

Completed in 2023, Dongjiang Water Mains at Sheung Shui and Fanling were recently rehabilitated with the adoption of innovative technologies to enhance management efficiency, cost-effectiveness and site safety.

深井濾水廠遙距運作監控改善工程

為應對用水需求急劇轉變並同時減省人手，我們在深井濾水廠展開夜更遙距運作監控試點項目。第一階段改善工程將於二零二四年第二季展開，並預計於二零二六年底前完成。

工程完成後，深井濾水廠的夜更運作將全程由油柑頭濾水廠的工作人員作遙距監視和控制，有效提升營運效率和供水的應變能力。我們將從第一階段收集運作資料、趨勢和觀察結果等不同數據並作審慎研究，用於制定第二階段工程的策略完善計劃，使深井濾水廠逐步邁向數碼化和自動化的運作模式。

提升供水可靠性

沙田濾水廠原地重置工程（南廠）

工程項目計劃在原地重置南廠，更換已使用約 50 年的老化濾水設施，同時提升濾水量，以應付因逐步落成的新公營及私人房屋發展項目預期增長的食水需求。

Remote Operation of Sham Tseng Water Treatment Works

To address rapid changes in water demand as well as optimise the manpower requirement, we have embarked on a trial project to enable remote operation on the night shift at Sham Tseng Water Treatment Works (STsWTW). The Stage 1 works has been scheduled for commencement in the second quarter of 2024 for completion at the end of 2026.

Upon project completion, STsWTW could be remotely monitored and controlled by the operators at Yau Kom Tau Water Treatment Works during night shifts to enhance operational efficiency and water supply resilience. The operational data, trend and observations acquired in the Stage 1 works will be critically examined to formulate the scope of strategic improvement for the Stage 2 works with a view to transforming the operation mode of STsWTW towards digitalisation and automation in the long run.

Enhancing Waterworks

In-Situ Reprovisioning of Sha Tin Water Treatment Works (South Works)

The project aims to reprovision the South Works in-situ to replace the aged treatment facilities after some 50 years of service and upgrade the treatment capacity so as to meet the anticipated increase in fresh water demand due to the progressive implementation of new public and private housing developments.

主項工程於
Commencement in August

2020

八月動工
for main works

–

預計於
Scheduled in the first quarter of

2027

第一季全面投入運作
for full facility commissioning

當南廠進行原地重置工程期間，北廠需維持日常運作，加上廠房周邊被密集而複雜的原水收集水管及食水供應網絡包圍，均為工程帶來不少挑戰。因此，工程採用了高速沉澱、深層濾池、紫外線和臭氧消毒等先進濾水處理技術，配合創新的施工技術，有效減少土地使用和提升廠房運作效率。這些施工技術包括建築信息模擬(BIM)、雲端通用數據環境(CDE)平台、製造及裝配設計(DfMA)、數碼工程監督系統(DWSS)，以及「組裝合成」建築法(MiC)等，務求提高施工效率、工地安全和環境保護等方面的表現。

整個項目採用了多項可持續建築設計。而新行政大樓約65%的面積，將採用「組裝合成」建築法建造以縮短施工時間，改善工作環境和工地安全。

小蠔灣濾水廠擴展工程

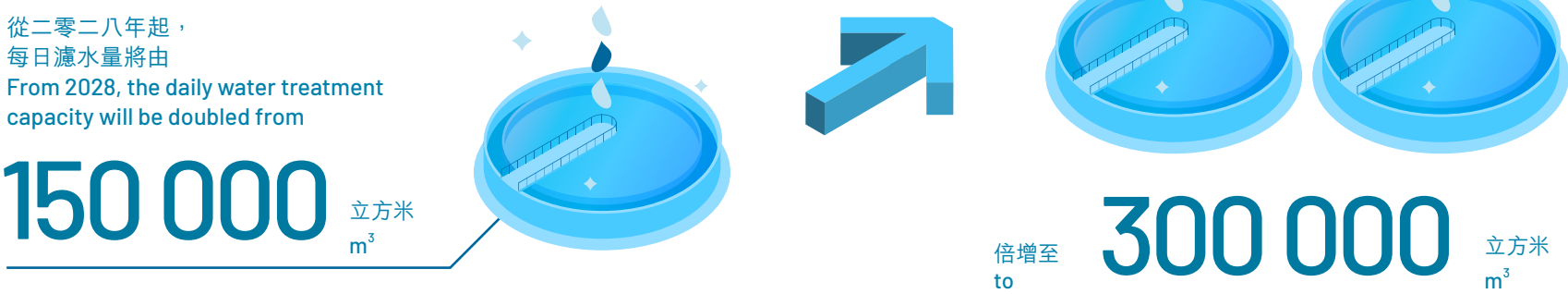
為切合北大嶼山將來的發展需要，我們正著手推展小蠔灣濾水廠的擴建工程。這項擴建工程已於二零二二年第一季度展開，並預計於二零二八年投入運作，屆時水廠的濾水量將會增加一倍。我們在項目自設計至建造階段的整個周期均廣泛採用了BIM技術。我們承諾在項目內融入不同的可持續發展元素，並全力爭取「綠建環評」新建建築最高級別的鉑金評級。

Facing the challenges of rebuilding South Works at the original footprint with North Works operating and being surrounded by the extensive raw water collecting pipelines and fresh water outgoing supply network, advanced water treatment technologies (such as high rate sedimentation, deep bed filtration and ultraviolet light and ozone for water disinfection), as well as innovative construction technologies have been adopted to optimise land usage and plant operation. These technologies include Building Information Modelling (BIM), cloud-based Common Data Environment (CDE) platform, Design for Manufacture and Assembly (DfMA), Digital Works Supervision System (DWSS) and Modular Integrated Construction (MiC) aiming to improve productivity, promote site safety and enhance environmental performance.

Sustainable building design features have been adopted throughout the project. Approximately 65% of the new Administration Building is to be constructed by the MiC approach for shortening construction time as well as improving working environment and site safety.

Siu Ho Wan Water Treatment Works Extension

To cope with North Lantau's future development, it is required to construct the Siu Ho Wan Water Treatment Works extension to double its current water treatment capacity. Construction works commenced in the first quarter of 2022 and are scheduled for commissioning in 2028. Throughout the project cycle, we have adopted the BIM extensively in the project. As part of our commitment to sustainable development, our goal is to achieve the top BEAM Plus New Buildings Platinum accreditation for its building performance.



牛潭尾濾水廠擴展工程

為應付新界西北部發展計劃（包括元朗南、洪水橋 / 廈村、新田科技城、橫洲、丹桂村及朗邊）以及北部都會區發展計劃帶來的用水需求增長，我們計劃擴建牛潭尾濾水廠。

根據這些新發展的初步規劃及其實施計劃，我們計劃在首階段擴建牛潭尾濾水廠，將每日濾水量由 23 萬立方米增加至 44 萬立方米。在工程中我們會預留相關配套以便日後作第二期擴建，屆時每日濾水量將提升至 64 萬立方米，以滿足新發展計劃的潛在需求。

此外，連接大埔濾水廠和上水濾水廠的現有輸水系統亦將會升級，以配合新界北規劃發展項目（包括古洞北、粉嶺北、落馬洲河套地區）及粉嶺 / 上水其他新房屋發展項目所帶來的中期用水需求。

為就長遠的供水計劃做好規劃工作，我們已聘請顧問公司進行可行性研究，全面檢視北部都會區的發展帶來的新增用水需求，兼併考慮其他相關供水策略如建設新濾水廠等，務求提升供水系統的可靠性和應變能力。

Ngau Tam Mei Water Treatment Works Extension

To meet the growing water demand arising from the planned developments in the Northwest New Territories (including Yuen Long South, Hung Shui Kiu/Ha Tsuen, San Tin Technopole, Wang Chau, Tan Kwai Tsuen and Long Bin), as well as other new developments in the Northern Metropolis Development Plan, we will extend the Ngau Tam Mei Water Treatment Works.

Considering the early stage planning and implementation of these new development projects, we plan to extend the daily treatment capacity of the Ngau Tam Mei Water Treatment Works from 230 000 m^3 to 440 000 m^3 in the first-stage extension. The relevant civil works provisions would allow up to the ultimate capacity of 640 000 m^3 per day to facilitate the future expansion in line with the potential needs of new development projects.

In addition, the existing trunk transfer system between Tai Po Water Treatment Works and Sheung Shui Water Treatment Works will also be upgraded to cater for the medium-term fresh water demand arising from the planned developments in the Northern New Territories (including Kwu Tung North, Fanling North, Lok Ma Chau Loop) and other new developments in Fanling/Sheung Shui areas.

To meet the long-term water demand, we would also engage consultants to carry out a feasibility study to formulate a water supply scheme, taking into account the potential increase in water demand arising from the development of the Northern Metropolis, as well as the relevant water supply strategy including the requirement of a new water treatment works to enhance the reliability and resilience of the water supply system.

擴建牛潭尾濾水廠的預計每日濾水量
Projected Daily Water Treatment Capacity of the Ngau Tam Mei Water Treatment Works Extension

現有水濾量約：
Current Capacity at:

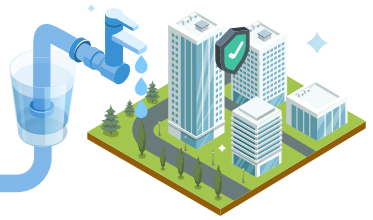
230 000
立方米
m^3

第一階段擴建後濾水量可達：
Capacity after first-stage expansion will increase to

440 000
立方米
m^3

未來擴建後濾水量可達
Capacity after future expansion will increase to

640 000
立方米
m^3



可持續運作
Sustainable Operations

我們一向致力在每個工程推展階段及設施營運多方面融入可持續發展的元素，透過一系列環保和智慧措施優化流程、提升用戶體驗，同時達致減少能源消耗、實現減碳排放及減輕對環境影響，藉此推動設施營運的可持續發展：

We integrate sustainable development considerations into every stage of project delivery and facet of our operations. We are dedicated to enhancing our sustainability performance through a wide array of green and smart initiatives, aiming at optimising process and experience, reducing energy consumption, decarbonising our operations and mitigating environmental impacts:

綜合管理
Integrated Management

數碼轉型
Digital Transformation

能源和碳管理
Energy and Carbon Management

發展可再生能源
Renewable Energy Development

減低環境影響
Environmental Mitigation

生物多樣性保育工作
Biodiversity Conservation

綜合管理

我們訂立了一套完善的政策、指引和管理系統，配合一系列的員工培訓，提升員工在品質、環境、能源和資產管理等方面的知識，令我們能持續改善服務質素，並確保我們的服務及設施營運符合國際標準，這些管理包括：

- ISO 9001:2015 - 品質管理系統
- ISO 14001:2015 - 環境管理體系 （新水務項目）
- ISO 55001:2014 - 資產管理系統
- ISO 50001:2018 - 能源管理系統

INTEGRATED MANAGEMENT

To ensure quality and continuous improvements, as well as to align our services and operations with international standards, we have established a set of policies, guidelines and management systems coupled with staff training comprising aspects of quality, environmental, energy and asset management. These include:

- ISO 9001:2015 - Quality Management Systems
- ISO 14001:2015 - Environmental Management Systems for new waterworks projects
- ISO 55001:2014 - Asset Management Systems
- ISO 50001:2018 - Energy Management Systems

數碼轉型

為提供創新的數碼服務方便客戶和公眾，我們將成立「數字水務辦公室」，並展開數碼轉型之旅，為香港未來的智慧水務管理制定了長遠路線圖。

請於「啟動」章節，閱讀有關數碼轉型的專題故事。

能源和碳管理

ISO 50001 能源管理系統

作為香港最大的能源用戶之一，本署是香港特區政府首個獲得 ISO 50001:2011 能源管理系統認證的部門。為展現本署持續追求卓越能源管理的承諾，我們已完成提升能源管理系統認證至 ISO 50001 的最新版本，新的認證將覆蓋整個供水網絡，包括原水的收集、貯存、輸送及過濾等設施，以至食水與海水的各類供應及分配設施，總共涵蓋超過 220 個水務設施。

次氯酸鈉溶液投放系統

我們目前營運 22 個海傍海水抽水站，為香港近 85% 的人口每日平均供應 76 萬立方米的沖廁用海水。為進一步節省能源，我們計劃在海傍海水抽水站安裝更節能的次氯酸鈉溶液投放系統，用作消毒海水。

在今年，將軍澳海水抽水站和小西灣海水抽水站已完成安裝次氯酸鈉溶液投放系統並開始投入運作。九龍南二號海水抽水站、荃灣海水抽水站和西灣河海水抽水站現正進行系統的安裝工程，預計於二零二四年底之前投入運作。

DIGITAL TRANSFORMATION

With a view to delivering innovative digitalised services and bringing convenience to the customers and members of the public, we will establish the Digital Water Office to embark on a digital transformation journey for setting a long-term roadmap for Hong Kong's future smart water management.

Read our feature story on digital transformation in the "Enable" section.

ENERGY AND CARBON MANAGEMENT

ISO 50001 Energy Management System

As one of the city's largest energy consumers, we are the first Hong Kong SAR Government department to obtain the ISO 50001:2011 Energy Management System certification. To demonstrate our commitment to achieving continuous excellence in energy management, we have completed the upgrade of our ISO 50001 certification to the latest version covering the entire water supply chain. This ranges from collection, storage, transfer and treatment of raw water to the supply and distribution of fresh water and salt water spanning across more than 220 waterworks installations.

Sodium Hypochlorite Dosing Systems

Currently, we operate 22 seafront salt water pumping stations, which supply an average of 760 000 m^3 of salt water per day for toilet flushing to about 85% of Hong Kong's population. In order to achieve energy saving, we have planned to install more energy-efficient sodium hypochlorite dosing systems (SHDS) in the seafront salt water pumping stations to disinfect salt water.

During the year, SHDS have been put into operation at Tseung Kwan O Salt Water Pumping Station (SWPS) and Siu Sai Wan SWPS. The installation of SHDS at Kowloon South No.2 SWPS, Tsuen Wan SWPS and Sai Wan Ho SWPS was in progress and would be commissioned by 2024.

減少碳足跡

我們已經完成五座辦公室大樓的碳審計工作。隨著節能措施相繼實施，例如我們在部分辦公室大樓以更高能源效益的水冷式冷氣設備取代風冷式冷氣設備，以減少整體溫室氣體排放。

以下設施已完成碳審計工作：

- 長沙灣大樓
- 九龍灣大樓
- 北角大樓
- 天水圍大樓
- 龍翔道機電工場

除了為辦公大樓進行年度碳審計外，我們亦已開始分階段對每年用電量較高的水務基礎建設進行碳排放評估。在第一階段，我們委任顧問對四個典型的水務基礎建設包括濾水廠、食水及海水抽水站進行碳審計，務求有系統地以科學根據進一步優化能源效益。該評估預計於二零二五年底前完成。

Carbon Footprint Reduction

We have completed carbon audits for 5 of our office buildings. With the implementation of energy-saving measures, such as the replacement of air-cooled chiller plant with higher energy-efficient water-cooled chiller plant in some of our office buildings, we made progress in reducing our overall greenhouse gas emissions.

Carbon audits have been completed for:

- Cheung Sha Wan Building
- Kowloon Bay Building
- North Point Building
- Tin Shui Wai Building
- Lung Cheung Road Mechanical and Electrical Workshop

Apart from conducting annual carbon audits in our office buildings, we have initiated carbon emissions assessment by phases on our waterworks infrastructures with high annual electricity consumption. In the first phase, a consultant has been assigned to carry out carbon audit on 4 of our typical waterworks infrastructures which include water treatment works, fresh and seawater pumping stations with a view to identifying areas for energy improvement using a systematic and scientific approach. The assignment was scheduled for completion by 2025.

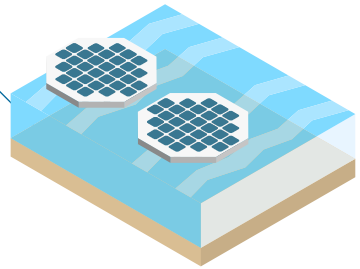
發展可再生能源

我們致力發展可再生能源，為《香港氣候行動藍圖 2050》出一分力。在管理轄下的水務設施時，我們透過使用水上或陸上太陽能發電系統、水力發電廠等創新及先進技術，積極開發可再生能源，從而有效減低設施的碳排放。

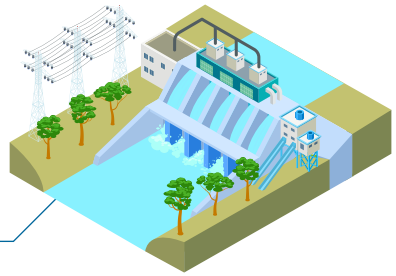
RENEWABLE ENERGY DEVELOPMENT

The development of renewable energy contributes towards Hong Kong's Climate Action Plan 2050. Pivoting innovation as well as technological advancement, we seek to manage our waterwork assets with due consideration to the decarbonisation target through renewable energy generation via various sources including floating and land-based solar power systems and hydropower plants.

太陽能板發電系統
solar photovoltaic system



水力發電站
hydropower plant



內聯閉式水力發電裝置
in-line hydropower harnessing device (IHHD)

浮動太陽能板發電系統

水務署於二零一七年至二零二二年期間，為石壁水塘、船灣淡水湖及大欖涌水塘各安裝了一套 100 千瓦的浮動太陽能板發電系統。我們的長遠計劃是在香港的水塘逐步安裝大型浮動太陽能發電場。

Floating Photovoltaic Systems

The WSD has completed the implementation of 100kW-capacity floating photovoltaic (FPV) systems at the Shek Pik, Plover Cove and Tai Lam Chung Reservoirs between 2017 and 2022. Our long-term plan is to progressively implement large-scale floating solar farms at impounding reservoirs in Hong Kong.

我們在石壁水塘、船灣淡水湖和大欖涌水塘安裝浮動太陽能板發電作為先導計劃，並為香港日後興建大型浮動太陽能板發電場奠下良好基礎。

Pilot FPV projects at the Shek Pik Reservoir, Plover Cove Reservoir and Tai Lam Chung Reservoir have built a solid foundation for the future development of large-scale floating solar farms at impounding reservoirs in Hong Kong.

發展太陽能發電場為政府最大的可再生能源項目

我們正計劃在大埔船灣淡水湖及將軍澳新界東南堆填區分別建造 5 兆瓦及 10 兆瓦的大型浮動太陽能發電場，藉此推動大規模發展及更廣泛應用可再生能源。生產的電力將直接供應鄰近的白沙頭洲原水抽水站及將軍澳海水化淡廠等水務設施。

上述兩個項目完成後將成為政府截至現時為止最具規模的可再生能源計劃，充分展示我們在克服香港地理限制等種種挑戰而所作出的努力，以及我們推展大型可再生能源項目的決心。

Developing Solar Farms as Government's Largest Renewable Energy Projects

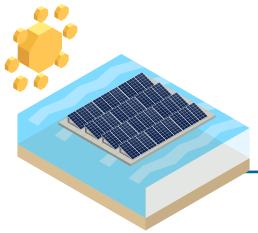
We are planning to construct a large-scale floating solar farm with a capacity of 5 MW at Plover Cove Reservoir in Tai Po and a large-scale solar farm with a capacity of 10 MW at the South East New Territories (SENT) Landfill in Tseung Kwan O. These projects aim to promote the widespread and large-scale development of renewable energy for direct use by nearby water facilities at the Harbour Island Raw Water Pumping Station and the Tseung Kwan O Desalination Plant.

Upon completion, these two projects will be the Government's largest renewable energy initiatives to date, which demonstrate our commitment and pioneering efforts in overcoming the geographical constraints of Hong Kong to generate large-scale renewable energy projects.

16 000 000 千瓦時 kWh

太陽能發電場生產的可再生能源達到

of renewable energy by solar farms



=

每年節省

Saving annual electricity consumption of

4 800

households

戶家庭的用電量

=

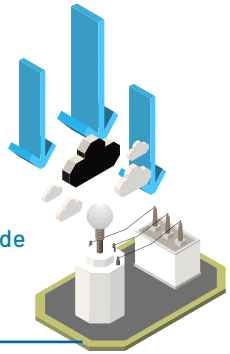
每年減少約

Reducing

11 200

metric tonnes of carbon dioxide emissions annually.

公噸二氧化碳排放量

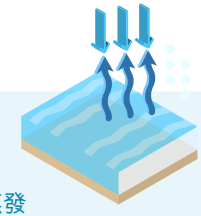


在水塘安裝浮動太陽能發電系統的好處

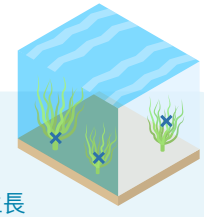
除了利用來自陽光的可再生能源之外，在水塘安裝浮動太陽能發電系統還有其他的好處，包括：

Benefits of Floating FPV Systems on Reservoirs

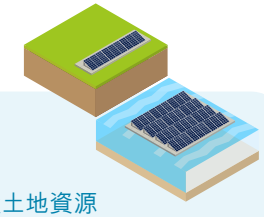
Apart from harvesting renewable energy from the sun, there are additional benefits of installing FPVs over the reservoir surface, which include



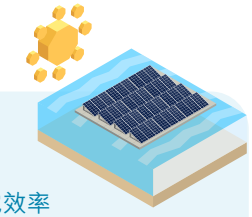
減少水份蒸發
Reducing water evaporation



抑制藻類生長
Suppressing algae growth



省卻珍貴土地資源
Saving precious land resources



獲取更高的發電效率
Yielding a higher solar panel power generation efficiency

水力發電站

繼香港首個和第二個水力發電站分別在屯門濾水廠和沙田濾水廠落成後，我們正於馬鞍山濾水廠興建一個新水力發電站，生產可再生能源並供應就近水務設施。工程現正進行中，預計於二零二六年內完成。

了解更多水力發電站
Learn more about hydropower plant

Hydropower Plants

Following the establishment of Hong Kong's first and second hydropower plants at Tuen Mun Water Treatment Works and Sha Tin Water Treatment Works respectively, we are constructing another hydropower plant at Ma On Shan Water Treatment Works to employ renewable energy in waterworks installations. The construction is in progress and has been scheduled for completion in 2026.

內聯閉式水力發電裝置

我們一直致力研究應用不同創新及尖端技術，積極進行實地測試，以期優化系統並以可持續發展的模式運行。我們現正著手在「智管網」的部分監測區域安裝內聯閉式水力發電裝置，該裝置能有效將地下水管網絡中多餘的水能量轉化為電力，為智能供水網絡的實時監測和數據傳輸裝置提供電力。

隨著早前我們成功在「智管網」多個站點安裝並試行內聯閉式水力發電裝置，我們正逐步在合適的「智管網」站點安裝內發電裝置。為能進一步擴大發電裝置的應用範圍，我們已與香港理工大學合作開發一套新一代的內聯閉式水力發電裝置，提高其效能以供水流量較低的「智管網」站點使用。

In-line Hydropower Harnessing Devices

The WSD is constantly exploring latest applications of innovative technologies for field trials to achieve sustainable operations. Leveraging the in-line hydropower harnessing device (IHHD) which enables the conversion of surplus water power in the underground water pipework into renewable energy, we are installing IHHDs in some of the District Metering Areas (DMAs) established under the Water Intelligent Network (WIN) to power monitoring and transmission equipment for real-time monitoring of the smart water supply network.

Following the satisfactory deployment of pilot IHHDs to the WIN sites, we are progressing to install more IHHDs in suitable WIN sites, as well as developing the next generation of IHHDs in collaboration with the Hong Kong Polytechnic University to cater for more WIN sites with lower flow conditions and enhanced power supply control with a view to increasing the scale of deployment.

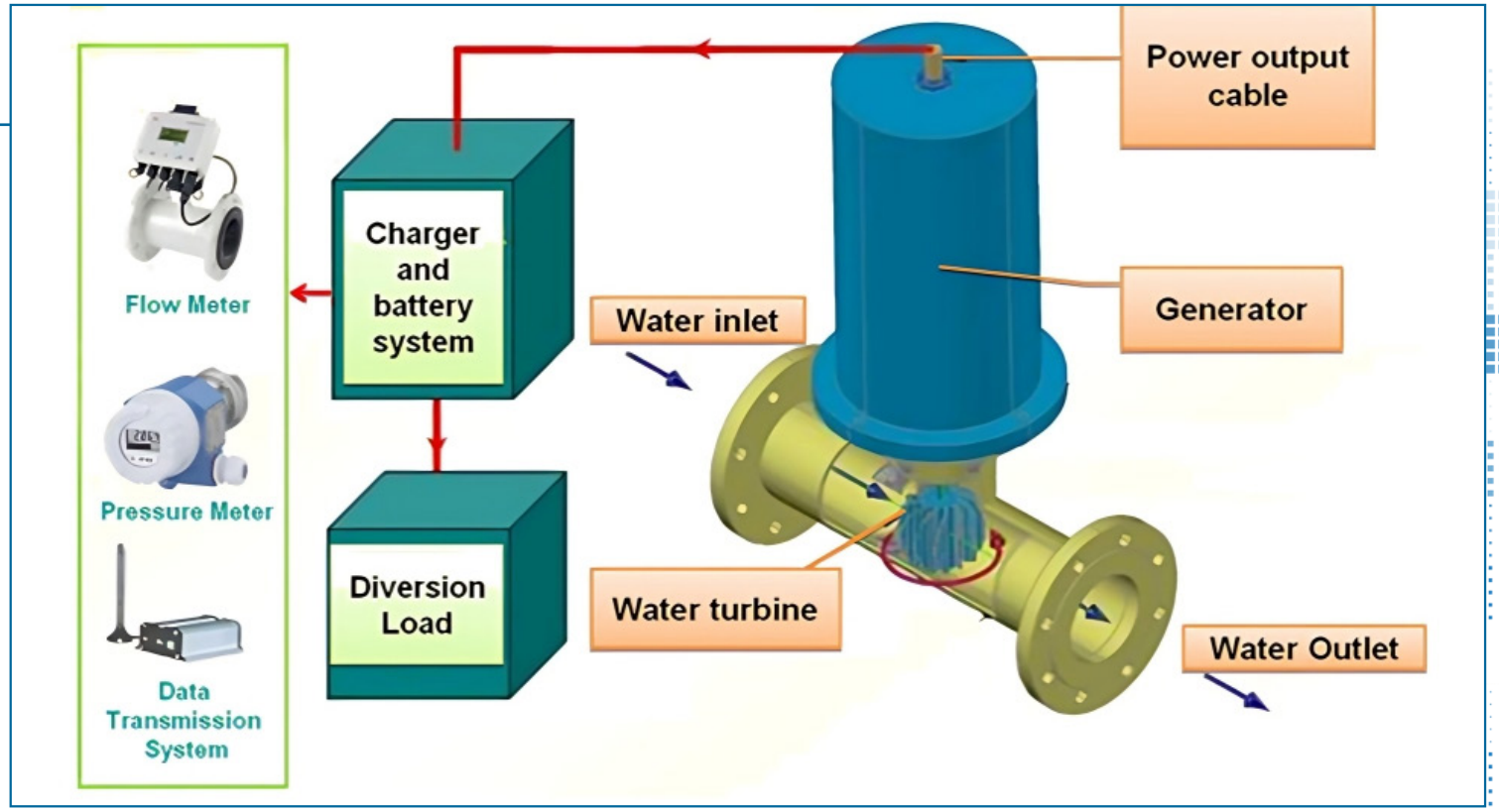
內聯閉式水力發電裝置憑藉在城市供水管道的創新應用，榮獲第四十八屆「日內瓦國際發明展」(2023) - 金獎。為了在香港建立一個穩建全面的水務設施和服務的研發中心，我們將繼續推進水務創新，並與區內和國際同行分享我們在智慧水務技術的應用和相關經驗，從而幫助水務行業應對在智能監測滲漏和水壓不尋常變動等相關問題。

The IHHD was commended for winning the Gold Medal in the 48th International Exhibition of Inventions Geneva 2023 for its innovative applications in urban water supply pipelines. With the objective to establishing Hong Kong as a robust R&D Centre for water utilities and services, we will continue our water innovations, as well as share our IHHD experience and applications for reference by our regional and international counterparts, thereby helping the water industry address the challenges of smart monitoring for water leakage and pressure spikes.

點滴話你知
Did you know?

新一代的內聯閉式水力發電裝置以「系統」整體運作為原理，為「智管網」的監測和數據傳輸裝置提供電力。系統由多個部分組成，包括利用水管中多餘的水能量轉換為零碳電力的集成渦輪發電機；用於快速安裝至水管的短管，應對食水供應管網晝夜流量特徵的充電器和電池系統，以及消耗剩餘電力和防止集成渦輪發電機組轉速過快的分散負載。

The new generation of the IHHD works "as a system" to power the monitoring and transmission equipment for the smart water network. It is composed of various components, namely, an integrated turbine-generator for harnessing surplus water power in the pipeline for generating zero-carbon electricity; a short pipe for swift installation to a pipeline, a charger and battery system for dealing with diurnal flow characteristics of the fresh water distribution network, and a diversion load for dissipating surplus electricity and preventing over-speeding of the integrated turbine-generator unit.



減緩氣候變化

ISO 環境管理系統

我們致力在水務工程的各個階段包括規劃、設計及建造的過程盡量降低對環境造成的影響。我們每年在《 ISO 14001:2015 環境管理系統》的框架下訂立新方向和目標，讓我們在環境管理系統及環境保護方面持續進步。

現場生產氯氣

在十二間主要濾水廠的消毒設備升級工程完成後，我們隨即全面使用現場氯氣生產的設備取代液態氯，令食水供應的質素、安全及可靠性均得到顯著改善。水務署已大規模使用現場生產氯氣技術用作食水消毒以供香港市民使用，其規模更是全球之冠。

透過採用先進的臭氧水處理技術，濾水廠的氯消耗量減少30%。隨著二零二三年九月我們將所有剩餘液態氯的庫存耗盡，我們無須再為氯氣在運輸和貯存過程中發生洩漏的風險而擔憂。

ENVIRONMENTAL MITIGATION

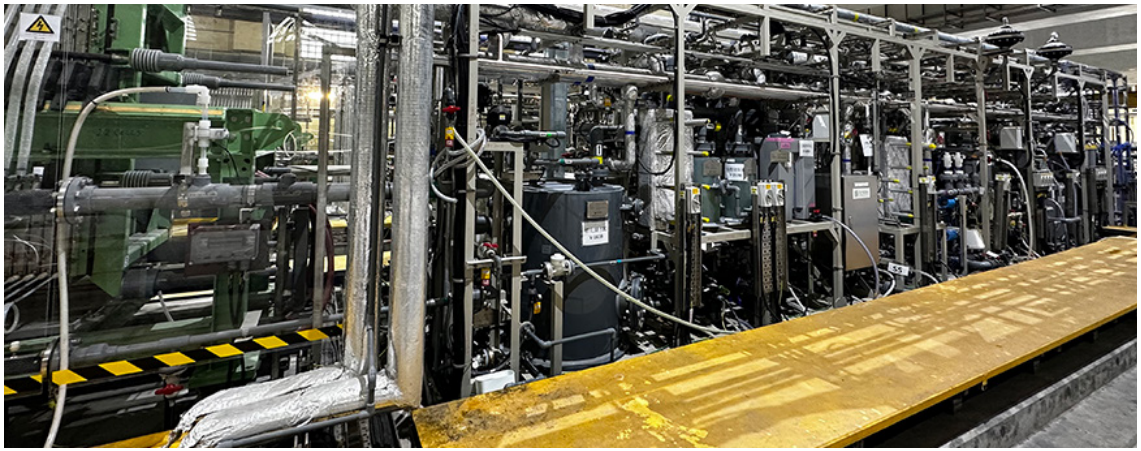
ISO Environmental Management System

We strive to minimise the environmental impacts arising from our waterworks construction throughout the planning, design and construction processes. Each year, new objectives and targets are established under the ISO 14001:2015 Environmental Management System (EMS) to continually improve our EMS and environmental performance.

Onsite Chlorine Gas Generation

Following the completion of upgrading disinfection facilities from liquid chlorine to onsite chlorine generation at our 12 major Water Treatment Works (WTWs), the on-site chlorine gas generation facilities are put into operation enhancing the quality, safety and reliable supply of drinking water. The WSD has extensively applied the technology of generating chlorine gas on-site for disinfecting drinking water to the Hong Kong population, the scale of which is the first of its kind in the world.

Through adopting the advanced ozone water treatment technology, the chorine consumption in WTWs could be reduced by 30%. With the depletion of the remaining liquid chlorine stock from September 2023, we have also eliminated the potential risk of chlorine leakage during transportation and storage.



提高生物多樣性

根據前環境局制定的《生物多樣性策略及行動計劃 2016-2021》，水務署繼續在漁農自然護理署的支持下，致力加強天然溪澗和引水道的保育工作，以改善和盡量減少維修工程對生態造成的影響。此外，我們將繼續尋找機會，為政府的生物多樣性保育工作及國家《生物多樣性策略及行動計劃》作出貢獻，同時提高公眾意識和社區參與度。

灌溉水塘中的浮動人工生態棲息地

為提高水塘生物多樣性並美化景觀，我們於二零一八至二零二二年間推行先導計劃，於洪水坑灌溉水塘建設人工生態浮島並展開生態調查，成效令人滿意。有見及此，我們計劃於大嶼山十塱灌溉水塘開展另一個人工生態浮島項目，現時正在向大嶼山保育基金申請撥款，預期於二零二五年中展開工程。

水塘的釣魚期

有見公眾對垂釣的興趣日益增加，我們於二零二一年推出先導計劃，放寬個別水塘的釣魚期並進行評估，評估的結果顯示此舉對供水的可靠性及安全性沒有構成明顯影響。故此在二零二二年四月起我們將計劃擴大至所有水塘（包括 17 個水塘及 9 個灌溉水塘）。我們將繼續定期監測水塘的水質和抽取樣檢驗，以確保水塘的水質優良。

ENHANCING BIODIVERSITY

Under the "Biodiversity Strategy and Action Plan 2016-2021" (BSAP) formulated by the then Environment Bureau, the WSD continues to contribute efforts in enhancing conservation of natural streams and catchwaters by improving practices in and minimising ecological impacts from our maintenance works, with the support of the Agriculture, Fisheries and Conservation Department. In addition, we will continue seeking opportunities to contribute to the Government's efforts on biodiversity conservation and to Mainland's national BSAP while promoting public awareness and community involvement.

Artificial ecological floating platforms in irrigation reservoirs

With a view to enhancing biodiversity of the reservoir and its surrounding landscape, we launched a pilot project from 2018 to 2022 to establish artificial ecological floating platforms and carry out ecological surveys at Hung Shui Hang Irrigation Reservoir. Following the satisfactory outcome of the pilot project, we have embarked on another artificial ecological floating platforms at Shap Long Irrigation Reservoir on Lantau Island. We are currently applying funding from the Lantau Conservation Fund and it is anticipated that the new project will commence in mid-2025.

Fishing Period in Reservoirs

In view of increasing public interest in fishing, we have relaxed the fishing period in all reservoirs (including 17 reservoirs and 9 irrigation reservoirs) since April 2022 following a pilot scheme in 2021 which has shown no appreciable impact on the reliability and safety of the water supply. We will continue to conduct regular water monitoring and sampling in reservoirs to ensure good water quality.

水塘釣魚期放寬，讓公眾享受釣魚的樂趣。

Fishing period in reservoirs has been relaxed to enable public enjoyment.

客戶服務
Customer Services

提升服務質素 應付客戶增長

我們一直秉承以客為本的核心理念，竭誠提供適時、高效及以客為本的服務。我們不斷探索嶄新和有效措施，滿足客戶的不同需求，同時促進低碳及經濟繁榮。

我們透過利用不同新興技術致力從多方面提升服務質素，務求提供方便、靈活和高效的服務。

ENHANCING SERVICES TO MEET CUSTOMER GROWTH

As part of our core values, we strive to enhance customer satisfaction in delivering responsive, efficient and customer-oriented services. We are constantly exploring new and effective ways to meet the diverse needs of our customers while underpinning a thriving and low-carbon economy.

Through emerging technologies, we have implemented a number of enhancements to provide convenient, flexible and efficient services.

客戶數目
Number of Customer Accounts

財政年度 Financial Year	2019-20	2020-21	2021-22	2022-23	2023-24
客戶數目 Number of Customer Accounts	3 077 800	3 115 900	3 159 000	3 196 800	**3 230 100**

多元化的付款方法

為了進一步方便客戶，我們提供更多元化的繳費方式，當中包括自動轉賬、自動櫃員機、繳費靈、轉數快、支票、電話理財和網上繳費。我們將繼續探索更多付款方式的選擇，滿足客戶的不同需要。

電子賬單服務

我們為客戶提供電子賬單服務，助其輕鬆管理水費單及減少紙張消耗，並提供多項增值服務，例如即時以電郵接收最新賬單、享獲額外延長繳費限期一個月（水費結算期為一個月的高用水量用戶除外）、接收繳費提示電郵，以及查閱過去兩年的用水和付款記錄。截至二零二四年三月三十一日，超過 214 800 名客戶已選用電子賬單。

水務署流動應用程式

「水務署流動應用程式」提供最新資訊，包括賬單摘要、催繳通知、暫停供水通告，以及有關水務署的計劃和服務的最新消息。用戶亦可以利用應用程式：

- 以二維碼於便利店或透過轉數快繳付帳單，無須出示實體水費單。
- 接收來自 452 個區議會劃分選區或大型屋苑的暫停供水通告。

Diversified Payment Options

To bring greater convenience to customers, we provide diversified payment options for water bills. These include autopay, ATM, PPS, FPS (Faster Payment System), cheque, phone and internet banking. We will continue to explore other payment options for meeting the varied needs of our customers.

E-Bill Service

We offer e-bill service to help customers manage their water bills with ease and reduce paper consumption. Additional value-added benefits are provided, including instantly receiving new bills by email, enjoying one-month extension of payment due date (except for high water consumption consumers who are billed at monthly intervals), getting email payment reminders, and viewing water consumption records and payment history for the last two years. As at 31 March 2024, over 214 800 customers have subscribed to e-bill service.

WSD Mobile App

Our mobile application "WSD Mobile App" provides updated information including bill summary, reminders, water suspension notices as well as the latest news about the WSD's initiatives and services. Users can make use of the app to conduct the following:

- make payments at convenience stores or through FPS by using the QR code provided without the need to present paper water bills.
- receive water suspension notices from among 452 sub-districts or concerned Large Housing Estates.

免費下載「水務署流動應用程式」
Download the WSD Mobile App for free

Android 版本
Android version

iOS 版本
iOS version

提升供水申請服務

為方便水喉業界和市民大眾，水務署正計劃透過一套新的供水申請管理系統來提升服務。新系統將於數碼平台運作，用於接收和處理供水申請。該系統的可行性研究經已完成，並將於二零二六年起分階段實施。

現時個別類型的供水申請已可經由電子渠道遞交，主要涵蓋村屋、簡單水管工程（包括指定行業如飲食業、理髮店、美容店、洗衣店及牽涉分拆水錶的商鋪）、採用建築信息模擬（BIM）的工程項目、公司的流動水錶申請、以及向水務監督提出施工要求。

此外，為方便水喉業界查閱有關水管工程及提交申請的最新指示和指引，我們於二零一八年起推出了《樓宇水管工程技術要求》和《申請供水指引》，並每年檢視和更新該兩份刊物。於更新期間的所有新政策和指引將透過通函發布。另外，我們亦透過定期舉行會議作為與業界溝通的平台。

暫停供水自動通告系統

為加強與客戶溝通，我們正逐步設立一套以地理訊息系統為本的「暫停供水自動通知系統」，主動通知因緊急暫停食水供應而受影響的客戶。在水管發生緊急故障時，該系統能協助我們識別因緊急維修而需要關閉的閥門和暫停使用的水管，從而確認供水受影響的建築物並通知相關人士。

我們成功透過水務署流動應用程式以「暫停供水自動通知系統」發布通知，涵蓋各個大型屋苑（即不少於 1 000 個住宅單位的屋苑）的管理處及當中個別用戶。在二零二二年，我們已經擴大服務範圍至大型屋苑內緊急暫停沖廁水的通知服務。我們計劃在二零二四年開始將服務範圍進一步擴大至小型屋苑（即不少於兩座及有 100 至 1 000 個住宅單位的屋苑），屆時無論牽涉大型 / 小型屋苑的緊急暫停食水或沖廁水通知均能以該系統發送。

Service Enhancement for Water Supply Applications

With a view to providing convenience to the plumbing trade and members of the general public, the WSD is planning a service enhancement through a new water supply application management system. The new system will run on a digital platform for receiving and processing applications for water supply. The feasibility study of the system was completed and the system will be implemented in phases starting from 2026.

Electronic submission channel is now in place for the water supply applications covering village-type houses, simple plumbing works (including selected business trade such as food business, barber & beauty shops and laundries, and separate meters), design projects adopting the Building Information Modelling (BIM) technology, portable meter applications from companies, as well as request for work to be carried out by the Water Authority.

In addition, in order to provide easy reference for the plumbing trade to identify the latest instructions and guidelines on the requirements on plumbing works and submissions, we have promulgated "Technical Requirements for Plumbing Works in Buildings" and "Guide to Application for Water Supply" since 2018, and both publications will be reviewed and updated annually. In between the two updates, any new policies and guidelines will be promulgated by means of Circular Letters. Moreover, we have established a communication platform with the trade through regular meetings.

Water Suspension Notification System

To enhance customer communications, we are progressively developing a geographic information system (GIS)-based Water Suspension Notification System ("WATSUN") to proactively notify affected customers in the event of emergency suspension of fresh water supply. At times of emergency failure in water mains, the WATSUN could assist to identify the valves to be closed and the sections of water mains to be isolated for emergency repair works, thereby identifying the buildings to be affected and notifying the concerned parties.

Following the successful rollout of WATSUN covering the notifications to both management offices of Large Housing Estates (LHEs), i.e. estates with no less than 1 000 housing units, and individual consumers in LHEs through the WSD Mobile App, we have further extended the service to cover emergency flushing water supply suspension affecting LHEs since 2022. From 2024, we have planned for extending the notification service to cover emergency suspension of both fresh water and flushing water supplies affecting Small Housing Estates (SHEs), i.e. estates with at least two blocks and housing units between 100 and 1000.

為合資格水喉匠提供電子牌照

隨著「智方便」流動應用程式推出後，自二零二二年三月起，我們提供電子牌照選項，允許合資格水喉匠透過網上申請方式取得數碼格式的牌照。電子牌照具有防偽特色，並可透過二維碼連結到水務署的持牌水喉匠名冊，驗證有效期等牌照相關資料。

推出電子牌照服務後，申請者無論在何時何地均可以在網上辦理牌照申請服務，無須親臨發牌辦事處領取傳統紙本水喉匠牌照。截至二零二四年三月，我們已向合資格水喉匠發出約 910 張新或續領的電子牌照。

聊天機器人和語音分析

為提升客戶服務，讓客戶可迅速獲取資訊和支援，我們在水務署網站引入了人工智能聊天機器人技術。聊天機器人可處理來自公眾的簡單查詢，並能提供與住宅用水帳戶的相關資訊。

在二零二二年開發語音分析系統後，我們正積極探討將人工智能技術延伸至「對話式語音機器人」。我們正在改良語音機器人直接接收客戶指示的能力，藉以提升客戶電話諮詢中心的個案處理量、運作效率及服務質素。我們計劃在二零二五年完成系統改良並開始投入服務。

自動船舶食水售賣機

為進一步優化向船舶提供食水售賣服務，我們於屯門食水售賣站增設的自動船舶食水售賣機已於二零二三年十二月十一日正式投入服務。

該自動船舶食水售賣機提供 24 小時售水服務，讓海上作業人士在任何時候均可補給食水。售賣機現時接受八達通付款，並計劃陸續加入其他電子支付方式，以便客戶能更快捷、更便利地購買食水。

Provision of Electronic Licence for Eligible Plumbers

With the launch of "iAM Smart" mobile application, we have provided an option for electronic licence (e-licence) since March 2022 allowing eligible plumbers to apply for licence in digital format through online application. The e-licence contains anti-counterfeit features and enables verification of licence information such as its validity period through a link to the WSD's Licensed Plumber Directory via the QR code.

The provision of e-licence allows applicants to conduct online licensing application services round the clock without the need to visit the licensing offices in person to get plumber's licences in conventional paper format. Up to March 2024, we have dispatched about 910 e-licences to eligible plumbers applying for new or renewal of licence.

Chatbot and Speech Analytics

To enhance customer service with fast access to information and support, we are applying the artificial intelligence (AI) chatbot technology to the WSD's website which can handle simple enquires from the public and provide information on domestic account related matters.

With the development of the Speech Analytic System, since 2022, we have been actively exploring the extension of AI technology by developing "conversational voicebot". We are currently enhancing the voicebot to directly take instructions from customers which has been scheduled for commissioning in 2025, with a view to enhancing the case handling capability, operational efficiency and service quality of the WSD Customer Telephone Enquiry Hotline.

Automatic Shipping Water Selling Machine

To further enhance the service of selling fresh water to replenish ships, we have commenced the operation of a new automatic shipping water selling machine at the Tuen Mun Water Selling Kiosk on 11 December 2023.

The automatic shipping water selling machine provides a 24-hour water selling service for better convenience of marine workers to replenish fresh water anytime. The machine accepts Octopus payments at this stage. Other electronic payment means will be added to facilitate procurement of fresh water by customers efficiently through various convenient means.

成就
EMPOWER

透過提升能力、持續創新和促進合作，共同應對供水的種種挑戰。

Addressing water challenges through building competencies, sustaining innovations and fostering collaborations.

我們的員工
Our People

賦予能力 服務更佳

我們堅信要保障服務維持高水平，必須由提升員工的知識、技能、安全和健康水平開始。透過鼓勵知識傳承、加強協作和推動學習文化，讓我們能更容易融入日新月異的新技術及適應越趨加劇的氣候變化，從而持續提升服務質素，啟發員工的潛能，取得更大成就。

EMPOWERING OUR PEOPLE TO SERVE BETTER

We believe the provision of outstanding service starts with empowering our staff with enhanced knowledge, skills, safety and wellness. Through fostering knowledge, collaboration and learning culture, we are embracing and adapting to the rapid shifts in climate and technologies to continuously enhance our services, as well as enable our staff to flourish and achieve greater success.

人員編制
Staff Establishment

財政年度 Financial Year	2019/20	2020/21	2021/22	2022/23	2023/24
初級人員 Junior Staff	416	418	412	411	**354**
一般及共通職系人員 General & Common Grades Staff	1 673	1 688	1 679	1 679	**1 675**
督察及技術人員 Inspectorate & Technical Staff	2 127	2 163	2 221	2 214	**2 231**
專業人員 Professional Staff	387	398	397	396	**402**
總數 Total	4 603	4 667	4 709	4 700	**4 662**

學習和發展

水務署致力促進員工發展專業和個人技能，從中發掘自己的長處和潛能。我們的「水務專業學院」以互動形式提升學習體驗，包括：

- **系統化課程**旨在為不同專業和職系的員工提供多個學習階段，強化他們的技能發展、能力提升和職業晉升各方面，務求切合不同員工的學習需求並支援各個階段的專業發展。
- **知識分享課程和活動**
- 透過知識管理平台提供**個人化培訓活動**

Learning and Development

At the WSD, we seek to help staff members develop their professional and personal skills for bringing out their strengths and potential. The WSD AQUA-DEMY offers a dynamic approach to enhancing learning experiences via the following ways:

- **Structured curriculum** catered for different disciplines and grades with tiers of learning for skills development, capability enhancement and career advancement, meeting individual learning needs and supporting different stages of professional development
- **Knowledge sharing programmes and events**
- **Personalised training** via the Knowledge Management Portal

在二零二三至二四年度，我們提供了
In 2023-24, we provided

12 224

個員工培訓工日，
man-days of training,

16%

培訓工日增加 16%，促進員工在跨領域方面的學習。
increase in training man-days, empowering our staff with cross-disciplinary learning.

知識管理

在水務署，知識是我們十分重要的一項策略性資產。透過不斷累積經驗、積極探索和分享，並將知識妥善整理以便查閱，將有助我們提高創新思維，應對日益複雜的營運環境。知識管理 (KM) 不單是一種概念，它能提升我們的應變能力、推動創新，持續改善服務和營運效率，以滿足瞬息萬變的環境和社區需求，並幫助我們逐漸邁向成功的道路。

Knowledge Management

At the WSD, we attach great importance to knowledge as a strategic asset. We actively cultivate, capture, share and make knowledge accessible with a view to enhancing our ability to innovate and adapt in an increasingly complex operating environment. Knowledge management (KM) is not just a concept but a driving force behind our success. It enhances our resilience, drives innovation, and improves our services and operations for meeting the evolving needs of the environment and community.

知識管理循環成就無縫共享

知識管理包含在線及離線的知識分享活動。在知識管理循環中，參加者先集中以面對面互動為主的面授形式，繼而慢慢夾雜並增加以在線的平台學習。當中分享活動均有全程錄影並儲存在知識管理平台上，確保這些重要知識得以妥善保存以供日後作離線閱覽。

每年我們均會舉辦一系列多元化的知識管理活動促進知識交流，例如附有主題的「知識管理茶座」和技術研討會，我們亦會在員工參加國際論壇後安排分享會。這些活動均會有實時直播，以便其他辦公室的員工能參與其中，在過程中識別重要的知識並作深入討論，最後轉化為新知識並為部門的未來發展出一分力。

於二零二三年，我們推出了專為前線同事而設的學習平台《師兄秘笈》系列，促進資訊交流，並適時提供技術發展的最新動態。平台讓來自不同團隊及具備不同技能的同事聚首一堂，讓前線同事能全面應付客戶的不同需要。

A Comprehensive KM Cycle for Seamless Sharing

Comprising both offline and online knowledge sharing activities, the KM cycle begins with hybrid events where participants engage in face-to-face interactions, and then transitions to the online platforms. All video recordings and shared materials from these events are archived in the KM Portal to ensure critical knowledge is captured and can be accessed in the future.

Every year, a series of diverse KM events are conducted to facilitate knowledge exchange, such as themed KM Café, Technical Seminars and Sharing Sessions following staff participation in international conferences. Broadcast in real time to also include out-stationed offices, these events enable the identification and discussion of crucial knowledge, which is then converted into new knowledge for future development of the Department.

In 2023, we introduced the "Buddy Secrets" Series, a dedicated learning platform tailored to our frontline colleagues, which aims to foster information exchange and provide timely updates on technical developments. This new initiative brings in colleagues from diverse teams with different technical expertise, providing frontline colleagues with a comprehensive understanding of the ever-evolving customer landscape.

培養持續學習文化
Fostering a Culture of Continuous Learning

超過
Over

1220

人次
man-time

參與了
participated in

15

項知識管理活動
Knowledge Management activities

靈活知識管理平台

一站式知識管理平台「點聚」自二零一九年推出以來，廣受各階級員工的好評。這個平台內容豐富，集合不同互動資訊，包括影片、熱門題目和趨勢、訪談、研究、貼士及指引等，提供了一個集中平台給員工學習新知識和技能，以及分享不同見解和實踐經驗。平台內含有趣和資訊豐富的影片，吸引員工參與，幫助部門建立持續學習和創新的優良文化。

此外，「點聚」亦內設多項實用功能，例如培訓報名截止日期及證書到期日均有提示功能，以便員工妥善規劃自己的進修之路。

Versatile KM Portal

Since its launch in 2019, the one-stop KM Portal has received widespread acclaim from staff members across all levels. This comprehensive platform offers a wealth of knowledge, interactive resources and tools, including videos, key topics and trends, interviews, research, tips and guidelines, providing a centralised hub for learning new knowledge and skills, as well as sharing insights and best practice. The engaging and informative videos have further raised staff participation, fostering a culture of continuous learning and innovation throughout the organisation.

Moreover, the KM Portal goes beyond content delivery. It embeds useful functionalities, including training enrolment and certificate expiry and renewal reminders, enabling staff members to effectively plan their learning journeys.

一站式知識管理平台促進合作、學習和創新
One-Stop KM Portal Empowering Collaboration, Learning and Innovation

【培訓活動管理系統】綜合報名及查閱個人培訓紀錄的一站式平台

【說好水廠故事】水廠六兄弟 土炮創無限【有片即看】

知識管理平台以數碼無障礙及容易上手的設計，內含的知識存庫包羅萬有，成為員工學習與發展不可或缺的工具。

The digital accessibility, user-friendly features and comprehensive archive have established the KM Portal as an indispensable tool for staff learning and development.

全新推出的《師兄秘笈》系列適時為前線的同事提供技術的最新動態並促進資訊交流。

The newly launched "Buddy Secrets" Series connects frontline staff for timely technical updates and information sharing.

透過在將軍澳海水化淡廠實地考察，以沉浸式體驗加深同事的學習印象。

Site visits to the TKO Desalination Plant deepen learning through immersive experience.

知識管理平台的影片系列讓同事輕鬆獲得寶貴的見解和經驗。

The KM Video Series provides an easy access to valuable insights and experiences.

職業健康及安全

我們致力保障員工及水務工程項目中所有工作人員在執行職務期間的健康和安全，並按需要進一步加強措施，力求堅守安全的標準。

水務工程合約意外率一直處於低水平，對此我們感到十分自豪。展望將來，我們將會加強培訓，提高員工和承建商的工程安全意識，並在工地及不同的施工工序採用「安全智慧工地系統」(4S)，為工地人員提供安全的工作環境，力求將意外率進一步降低。

OCCUPATIONAL HEALTH AND SAFETY

We are committed to protecting the health and safety of our staff in the workplace as well as workers in waterworks contracts. Where needed, we will introduce and enhance measures to uphold the safety standards.

We take pride in our consistently low accident rate in our waterworks projects. We are dedicated to lowering the accident rate even further in future. To do this, we enhance training to raise staff and contractors' awareness of construction safety, as well as adopt Smart Site Safety System (4S) in construction activities/sites for providing a safe working environment for site personnel.

二零二三至二四年度水務工程合約意外率
Accident Rate in Waterworks Contracts 2023-24

0.11

意外率為
accident rate

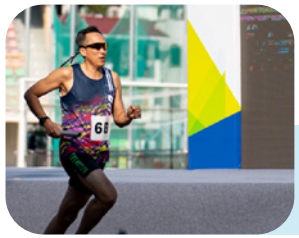
低於所有公務部門公務工程合約的意外率平均值(0.18)。
which is lower than the average 0.18 accident rate for Public Works Contracts across all Works Departments.

員工和職場健康

我們相信維持員工的身心健康有助他們更加投入工作，提升工作表現及創新思維。在水務署，我們透過參與各式各樣的體育活動和比賽，以及舉辦不同的康樂和有益身心的活動，致力建立共融的工作環境及促進團隊合作，令員工能在工作與生活取得平衡，並加強政府各部門之間的聯繫。

STAFF AND WORKPLACE WELL-BEING

We believe a healthy body and mind will contribute to an engaged workforce, driving high performance and innovation. At the WSD, we seek to build an inclusive workplace, promote work-life balance, encourage teamwork, as well as strengthen bonding between government counterparts through a variety of sports events and competitions, recreational activities and wellness programmes.



建造業運動會暨慈善同樂日 2023
Construction Industry Sports Day cum Charity Fun Day 2023

建造業開心跑 2024
Construction Industry Happy Run 2024

中華電力龍舟邀請賽 2023
CLP Dragon Boat Friendship Cup 2023

水務署周年晚宴 2023
WSD Annual Dinner 2023

水務署聖誕午餐 2023
WSD Christmas Lunch 2023

水務署周年頒獎典禮 2023
Annual Presentation 2023

我們亦會定期舉行會議，討論員工及職場健康相關的議題，並舉辦宣傳活動，推廣健康和愉快的工作環境。例如我們簽署了《好心情 @ 健康工作間約章》，向員工宣傳「健康飲食」、「體能活動」和「精神健康」等健康資訊。

We also hold meetings on a regular basis to discuss matters of concern relating to staff and workplace well-being, and organise awareness campaigns to promote a healthy and joyful workplace. For example, we have signed the Charter of Joyful@Healthy Workplace and developed communications to promote various health messages such as "Healthy Eating", "Physical Activity" as well as "Mental Health" to our staff.

服務社區

我們的團隊一向希望能為構建更好的社區盡一分力。為此，我們致力啟發我們的員工及社區廣大市民為下一代樹立良好榜樣，為社會帶來更多正能量。

水務署於二零零二年成立義工隊，鼓勵員工積極參與不同社區和慈善活動，培養他們的使命感，拓闊技能和視野，貢獻社區並令自己的生活變得更有意義。我們的同事透過踴躍參與各式各樣的義工活動如探訪和服務弱勢社群、師友計劃、環境保育、籌款運動和活動支援工作等，回應社區的不同需求。以下是二零二三至二四年度的重點項目：

SERVING THE COMMUNITY

Our people are a force for good. We are empowering our people as well as those in the community to develop and share skills for the future, thereby creating a positive impact in society.

Established in 2002, the WSD Volunteer Team encourages staff members to make active contributions to various community and charitable causes, fostering a sense of purpose, expanding their skills and perspectives, and enriching their lives and the community. From visits and services to vulnerable groups and mentorship programme, to environmental conservation, fundraising and event support, our colleagues take part in a wide range of activities serving diverse needs of the community. Below are project highlights for 2023-24:

「水知園」幼稚園教育活動

Education activities for kindergarten at WSD H_2OPE Centre

「書出愛心」舊書義賣活動

Books for Love charity sale

保育水資源的植樹活動

Tree-planting for water resources conservation

社區外展服務

Community outreach service

為弱勢社群籌集善款

Raising fund for the disadvantaged

支援籌款活動

Support to fundraising events

參與「友・導向」師友計劃

Youth mentorship and engagement

為長者進行水泵和電力維修

Plumbing and electricity maintenance for the elderly

二零二三至二四年度員工義工的社區服務
Staff Volunteering in Community Services in 2023-24

於二零二三至二四年度，我們的員工共參與
In 2023-24, our colleagues engaged in

204 項義工活動，貢獻了
volunteer activities contributing

3 688 個社區服務時數。
man-hours of community service.

員工義工服務（工時）
Staff Volunteer Service (Man-hours)

財政年度 Financial Year	2019-20	2020-21	2021-2022	2022-2023	2023-24
工時 Man-hours	3 153*	1 000*	1 208*	1 624*	**3 688**

* 註：鑑於二零一九冠狀病毒病疫情，二零二零年年初起有多項活動被取消。所有義工活動由二零二三年年初起已逐步恢復如常。
* Note: A lot of activities had been cancelled since early 2020 due to the COVID-19 epidemic, and all voluntary activities have progressively resumed to normal from early 2023.

我們對社區的貢獻備受認可，獲得「建造業義工獎勵計劃」及「香港傑出義工獎」等多個獎項。（詳情請參閱「獎項及認可」章節）

Our community contributions were recognised by a number of awards from the Construction Industry Volunteer Scheme and the Hong Kong Volunteer Awards. (See details in the Awards and Recognition section)

我們的社區
Our Community

推廣智慧用水的文化

為了延續市民惜水的習慣並進一步控制食水需求增長，我們與學校、工商業界及非政府機構緊密合作，為特定對象舉辦公眾教育活動，務求推動更多市民響應及支持，提高成效。

PROMOTING WATER-WISE CULTURE

To sustain water-cherishing behaviour and effect positive changes in containing the growth of fresh water demand, we leverage both public education campaigns and a targeted approach in close collaboration with schools, commercial and industrial sector as well as non-government organisations to mobilise support and enhance effectiveness.

「不缺水的未來由你開始」比賽

在二零一九冠狀病毒病疫情的影響下，香港每天的人均食水用量高達 150 公升。為了讓公眾正視珍惜用水的重要性，水務署推出了「不缺水的未來由你開始」活動，透過電視、電台以及水務署的社交媒體向公眾傳遞節約及精明用水的訊息。在未來一年我們將舉辦更多宣傳和教育活動並將其範圍進一步擴大，鼓勵更多市民參與活動，藉此將訊息帶到社區各處。

"Save Water Today for a Sustainable Future" Campaign

The fresh water domestic per capita consumption in Hong Kong has peaked as high as 150 litres per day due to the COVID-19 epidemic. To raise public awareness, the WSD launched the "Save Water Today for a Sustainable Future" Campaign aiming to urge the public to conserve and use water wisely. Messages were broadcast via TV and radio as well as WSD's social media channels. In the coming year, more publicity and education activities will be organised to increase engagement and expand community outreach.

在二零一九冠狀病毒病疫情期間，市民提高了個人及公共衛生意識，令用水習慣改變，促使年度食水用量顯著增加。

The COVID-19 epidemic has changed people's water-using behaviour in strengthening personal and public hygiene, resulting in a significant increase in the annual fresh water consumption.

在二零二四年二月開始的「不缺水的未來由你開始」活動推出了主題曲，呼籲大眾節約用水。

Launched in February 2024, the "Save Water Today for a Sustainable Future" Campaign developed a theme song appealing to the public to conserve water.

保護水資源壁畫
Water Conservation Murals

我們在全港六座指定水務署大樓（包括辦事處及抽水站）的外牆以色彩奪目的壁畫粉飾，藉此在區內宣傳珍惜食水。

Colourful murals of different designs have adorned the facades of 6 selected WSD buildings (including offices and pumping stations) across the territory promoting water conservation.

壁畫中內含珍惜食水的訊息，旨在吸引在附近途經的市民注意，呼籲他們盡一分力。
Murals depicting water conservation messages captivating the attention of passersby urging their contributions in cherishing water resources.

施勳道
Severn Road

上環
Sheung Wan

糖水道
Tong Shui Road

將軍澳
Tseung Kwan O

北角
North Point

大環
Tai Wan

前深水埗配水庫參觀活動
Ex-Sham Shui Po Service Reservoir Visiting Programme

歷史悠久的前深水埗配水庫經過多項文物保育並加裝服務措施後，現時已活化成為展覽地點。水務署為公眾舉辦了多場導賞團展示保育的成果，並為日後的保育工作收集意見。這座百年古蹟為公眾提供了一個良好的教育平台，讓市民了解香港食水供應系統的歷史，並能更深體會其歷史建築設計和內部結構的美學。

Following restoration works and service enhancements to revitalise the historic service reservoir into an exhibition site, the WSD has arranged guided tours for public appreciation, as well as sought views on future conservation efforts. The century-old monument provides a good public education platform to understand the history of the fresh water supply system in Hong Kong, and appreciate the aesthetic design and internal structures of the historic building.

前深水埗配水庫結合羅馬建築風格的花崗岩支柱、紅磚拱券及混凝土拱頂天花，活化後訪客得以窺探百年間香港食水供應的歷史。

Featuring Roman architecture style granite piers, red brick arches and concrete cove ceilings, the revitalised Ex-Sham Shui Po Service Reservoir offers a precious glimpse of Hong Kong's water supply history over the past 100 years.

牛潭尾濾水廠開放日 2023
Ngau Tam Mei Water Treatment Works Open Day 2023

我們在二零二三年十一月份舉辦了一連兩日的牛潭尾濾水廠開放日，透過專題展覽介紹水務署近年的主要水務工程項目，以及我們在項目中應用的智能科技，藉此加深公眾對水務署的認識。

A two-day Ngau Tam Mei Water Treatment Works Open Day event was organised in November 2023 with thematic exhibitions to raise public knowledge of the WSD's major waterworks development projects in recent years as well as its wide applications of smart technologies.

開放日吸引了 1500 多名市民蒞臨參觀，包括學生及專業團體。

The event attracted over 1500 members of the public to visit, including students and professional groups.

我們在開放日期間展示了東江水水管改善工程中使用的喉管，藉此加深公眾對項目的認識。

A pipe segment of the Improvement Works to Dongjiang water main was showcased during the Open Day to enhance public understanding of the project.

「滴滴遊蹤深導行」參觀活動

自二零一九年舉辦「滴滴遊蹤深導行」參觀活動以來，公眾透過導賞團到訪水務署轄下各項水務設施，加深對水資源的認識，並鼓勵他們共同努力為下一代保護水資源。

導賞團共設三個主題及七個參觀地點，以互動形式為參加者講解水務署的日常運作及供水基礎設施內複雜的供水流程，讓他們了解食水的珍貴，藉此宣揚珍惜食水，人人有責的訊息。在二零二三至二四年度疫情過後，所有導賞團均順利舉行，參與人數超過 14 600 人次。

"Excursion with Water Save Dave" Visiting Programme

Established since 2019, the "Excursion with Water Save Dave" Visiting Programme aims to raise public knowledge about water resources and encourage their collective efforts in protecting our water resources for future generations via a guided tour of the WSD's various waterworks facilities.

Under the Programme which comprises 3 thematic topics with a total of 7 visiting locations, participants could learn more through an interactive mode about the daily operations of the WSD, the complex dynamics of our water supply infrastructure, as well as the reason for conserving water both at individual and collective levels. In 2023-24 post-epidemic, all guided tours were held successfully with over 14 600 participants.

了解更多
Learn more

導賞主題

- *我們的水資源*
- *水務文物徑*
- *食水處理和品質控制*

參觀地點

- *萬宜水庫*
- *船灣淡水湖*
- *九龍水務文物徑*
- *大潭水務文物徑*
- *馬鞍山濾水廠*
- *牛潭尾濾水廠*
- *大埔濾水廠*

Guided tour themes

- *Our Water Resources and Nature*
- *Waterworks Heritage Trails*
- *Fresh Water Treatment and Quality Control*

Visiting locations

- *High Island Reservoir*
- *Plover Cove Reservoir*
- *Kowloon Waterworks Heritage Trail*
- *Tai Tam Waterworks Heritage Trail*
- *Mai On Shan Water Treatment Works*
- *Ngau Tam Mei Water Treatment Works*
- *Tai Po Water Treatment Works*

惜水運動
Cherish Water Programmes

除了提高市民的節約意識和推廣智慧用水的生活外，我們亦與學校、企業及非政府機構等目標群組合作，提高節約用水的成效。

Apart from promoting conservation awareness and water-wise living amongst members of the public, we have also collaborated with targeted groups such as schools, enterprises and non-government organisations to enhance effectiveness in conserving water.

「惜水大使計劃 2023/24」計劃 – 「惜水料理達人挑戰」

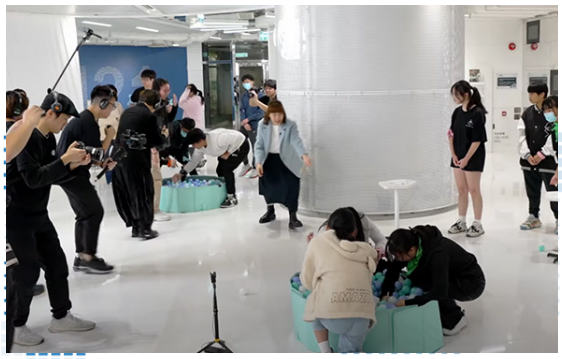
水務署自二零一八年起舉辦「惜水大使計劃」，提高年青人在珍惜食水方面的參與度，鼓勵他們向公眾推廣惜水的生活方式。於二零二三 / 二四的學年年度，計劃成功從 55 間學校中招募過 350 名學生參加並成為「惜水大使」，推廣惜水的飲食文化。

我們邀請了藝人 「阿正 」作為計劃的「星級惜水大使」，於二零二三年十二月主持「惜水交戰」遊戲日，為學生大使灌輸惜水知識和烹飪技巧。當日的比賽更拍攝成遊戲節目，在水務署媒體頻道上播放，宣傳節約用水。

Cherish Water Ambassador Scheme 2023/24 – Water-Saving Culinary Challenge

With the objective to enhance youth engagement in water conservation, the WSD has launched the "Cherish Water Ambassador Scheme" since 2018, which motivates students to advocate a water-saving lifestyle to the public. In the 2023/24 academic year, the Scheme successfully recruited over 350 students as "Cherish Water Ambassadors" from 55 local secondary schools to promote a water-saving dining culture.

As the "Celebrity Cherish Water Ambassador", Artiste "Ah Jeng" hosted a game challenge in December 2023 providing student ambassadors with water-saving knowledge and tips on cooking. The challenge was filmed as a game show and made available on the WSD media channels to promote water conservation.



「惜水學堂」節約用水教育計劃
"Cherish Water Campus" Integrated Education Programme

為培養年青一代良好的節約用水習慣，我們推出專門為幼稚園和小學而設的「惜水學堂」節約用水教育計劃，透過多元化的教材，結合理論與實踐，拓寬學生對水資源的認識，並提高他們對節約用水的意識及促進其可持續發展的重要性。

To nurture good water-saving habits amongst the young generation, we have launched a dedicated "Cherish Water Campus" Integrated Education Programme (IEP) for kindergartens and primary schools. The Programme aims to broaden students' knowledge about water resources and raise their awareness about water conservation and sustainability by integrating theory with practice with the aid of diversified teaching materials.

參與「惜水學堂」節約用水教育計劃的學校數目：

Number of schools participated in the "Cherish Water Campus" Integrated Education Programme:

433

間小學

primary schools

462

間幼稚園

kindergartens

我們於二零二三年五月舉辦了「節約用水週」，透過「慳水 Bingo 大作戰」和「我理想的節水城市」繪畫比賽等活動讓小學生明白珍惜用水的重要性。此外，我們亦於二零二三年三至四月展開了「惜水小手冊」活動及二零二三年九月舉辦了「惜水貼紙及標語」親子創作比賽，提醒幼稚園學生應及早養成節約用水的良好習慣。以下是比賽中獲獎的作品：

The "Cherish Water Campus" Water Saving Week in May 2023, comprising the "Water Saving BINGO Challenge" and "My Ideal Water Saving City" Drawing Competition, was held to encourage primary school students to understand the importance of cherishing water. Furthermore, we organised other water saving activities, including "Cherish Water Booklet" Activity in March and April 2023 and "Cherish Water Sticker and Slogan" Design Competition in September 2023 for kindergarten students to raise their awareness of saving water. Below are winning entries of respective competitions:

小學組
Primary Schools

「我理想的節水城市」繪畫比賽

"My Ideal Water Saving City" Drawing Competition

冠軍（初小組）

Champion (Junior Level)

冠軍（高小組）

Champion (Senior Level)

幼稚園組
Kindergartens

「惜水貼紙及標語」 親子創作比賽

"Cherish Water Sticker and Slogan" Design Competition

冠軍（幼稚園）

Champion (Kindergarten)

教學資源豐富的電子學習平台
E-learning Platform with Enhanced Teaching Resources

水務署設有電子學習平台，內含經改良及優化的《知水 • 惜水》教材，讓中學生加深對水資源及節約用水的認識。教材涵蓋與水有關的科目、討論題目、STEAM 活動、圖表解說和照片，務求讓學生平衡各方面思考節約用水的議題，及其對社會發展和水資源可持續發展的重要性。

To equip secondary school students with a better understanding of water resources and conservation, we have also provided an e-learning platform with enhanced teaching kit "Water: Learn & Conserve". These cover water-related subjects, discussion topics, STEAM activities, illustrative diagrams and photographs, aiming to foster a balanced consideration of water conservation, social development and the importance of water resource sustainability.

水務署電子學習平台《知水 • 惜水》

WSD E-learning platform "Water: Learn & Conserve"

為家庭和外籍家庭傭工提供小貼士
Tips for Families and Foreign Domestic Helpers

我們亦鼓勵全民響應減少用水和用水流失，透過教育年輕一代及其家人（包括外籍家庭傭工）節約用水，養成智慧用水的生活方式。

We also encourage every citizen to reduce water use and loss, and join our cause in educating the younger generation and their families (including foreign domestic helpers) to conserve water and lead a water-wise lifestyle.

建立企業承諾協作平台
Building Collaboration Platform for Enterprise Commitment

隨著首個 **ECH2O -「商約」惜水運動**成功爭取各界別對節約用水作出承諾，水務署與環保促進會將會在二零二四至二五年繼續舉辦活動。

香港的非住宅用水量龐大，約佔全港總用水量的 45%。「商約」惜水運動為工商機構提供一個合作平台，致力減少非住宅用水。該運動涵蓋多個部分，包括簽署惜水承諾、委任「惜水經理」、宣傳教育（例如攤位、網絡研討會、工作坊和展覽）、改善設備，以及嘉許計劃。

參與 ECH2O -「商約」惜水運動的物業在其員工和持份者的大力支持下，總用水量大幅降低。

Following the success of the inaugural **"ECH_2O - Enterprises Cherish Water Campaign"** in seeking multi-sectoral commitment in water conservation, the WSD has continued the campaign for 2024-25 in collaboration with the Green Council.

The Campaign serves as a collaboration platform for commercial and industrial organisations to reduce non-domestic water use which accounts for approximately 45% of the total water consumption in Hong Kong. It covers different components which include the signing of charter, appointment of "Water Conservation Manager", education and promotion activities (e.g. booths, webinars, workshops and exhibitions), equipment improvement; as well as an award recognition programme.

Participating premises of the ECH_2O - Enterprises Cherish Water Campaign have achieved a significant reduction in overall water consumption with support from their employees and stakeholders.

活動獲得商會和不同行業協會的正面回應
Positive response from commerce chambers and industry associations

共有約 Some **700** 個工商機構**簽署約章承諾珍惜用水**。
commercial and industrial organisations have **pledged to commit to cherishing water**.

同心協心 推動行動

為有效推行精明用水及應對與日俱增的水資源風險，我們必須匯聚各界力量及加強合作。年內，我們與不同團體建立合作關係，支持各大社區活動，使節約和安全用水的訊息能深入社會的每個角落。

FOSTERING SYNERGIES TO INSPIRE ACTION

Concerted efforts and collaboration are critical drivers to inspiring the wise use of our water resources and addressing the growing water risks. During the year, we built partnerships and provided support in various community activities to widen our reach to all walks of life and amplify our messages on water conservation and safety.

環保嘉年華 2024
Green Carnival 2024

水務署作為環保嘉年華的支持機構，在嘉年華設置遊戲攤位「食物虛擬水對對碰」，推廣在日常生活中適當選擇食物及精明用水。我們的攤位獲得廣大市民支持，並獲得「最喜愛攤位佈置大獎」。

As the supporting organisation, the WSD set up a game booth named "Match the Food Virtual Water Cards" to advocate wise use of water in selecting food in daily life. Our booth enjoyed public support and won the "Favourite Booth Decoration Award".

點滴揹水行 2023
Walk & Fun 2023

時任水務署副署長周世威先生在活動的起步禮擔任主禮嘉賓並致詞，藉此提醒公眾珍惜食水的重要性。該步行運動旨在為尼泊爾和柬埔寨的山區居民籌款，籌得善款將用於該區的水利建設項目，為當地提供淨水設施。水務署亦設置攤位遊戲，讓一家大小能全員參與並寓教於樂。

The then Deputy Director of Water Supplies, Mr CHAU Sai-wai, officiated the kick-off ceremony and gave a speech remarks, raising public awareness of the importance of water conservation. The walkathon aims to raise funds for water-related projects in rural areas of Nepal and Cambodia which could bring clean water facilities to their communities. The WSD also set up a game booth to provide family edutainment.

活水・行 2023
Walk for Living Water 2023

水務署與愛德基金會（香港）合辦「活水• 行 2023」活動，吸引超過 300 位參加者，籌集的資金用於改善東南亞貧困村莊的食水和衛生設施。時任水務署署長邱國鼎先生為起步禮擔任主禮嘉賓，並為活動致詞和頒獎。此外，水務署亦在活動設置攤位遊戲，並透過社交媒體呼籲大眾參與。

The WSD and the Amity Foundation (Hong Kong) co-organised the "Walk for Living Water 2023" attracting over 300 participants to raise funds for improving access to clean water and sanitation facilities in poor villages in South East Asia. As the officiating guest of the kick-off ceremony, the then Director of Water Supplies, Mr Tony YAU Kwok-ting delivered a speech and presented the awards. Besides, the WSD solicited public participation on its media channels and arranged a game booth at the event.

氣候行動嘉許計劃 2022-23 總決賽暨頒獎典禮
Climate Action Recognition Scheme 2022-23 Grand Final cum Award Ceremony

該計劃旨在為改善氣候出一分力的下一代企業家提供協助，並動員社區力量作出有意義的氣候行動。作為計劃的支持機構，水務署助理署長 / 發展馬漢榮先生頒發獎項予以氣候行動為主題的青年創業培育計劃的得獎者。

As the supporting organisation, the Assistant Director / Development, Mr Wilson MA Hon-wing presented awards to the winners of climate action youth entrepreneurship programme. The Scheme aims to develop next generation of climate entrepreneurs and mobilise the community towards meaningful climate actions.

香港綠色日 2023
Hong Kong Green Day 2023

水務署作為香港綠色日 2023 的支持機構，在啟動禮上出動了在社交媒體擁有 45 000 多名粉絲的水務署吉祥物滴惜仔，吸引大小朋友齊來參與。我們亦在啟動禮上設置遊戲攤位，向公眾宣傳節約用水。

Performed at the kick-off ceremony, the WSD Mascot - Water Save Dave who have over 45 000 followers in the social media attracted people of all ages. As the supporting organisation, WSD set up a game booth at the ceremony promoting water conservation.

揹水一戰 2024
Race for Water 2024

為全力支持揹水一戰 2024 活動，水務署透過網上媒體平台宣傳活動，並派出義工隊為活動提供支援。水務署助理署長 / 發展馬漢榮先生出席活動並擔任主禮嘉賓。他在致詞中鼓勵參加者在日常生活中與家人和朋友一同保護珍貴的水資源。

The WSD promoted the charity event through online media platforms and our volunteer team also provided event support. Mr Wilson Ma, Assistant Director/Development, attended the event as the guest of honour. In his speech, he encouraged participants to inspire their family and friends to conserve precious water resources in their daily lives.

「著綠狂奔」2024
Green Run 2024

水務署助理署長 / 發展馬漢榮先生（左二）及總工程師 / 發展 (2) 葉家駿先生（左一）一同主持活動的起步禮，並與千名跑手一同參與「一公里綠色領袖賽」慈善跑以示支持。

Joined with a thousand runners to support the charity race, Mr. Wilson MA Hon-wing, Assistant Director/ Development and Mr. Gary YIP Ka-chun, Chief Engineer/Development (2) (second and first from left) officiated the kick-off ceremony and showed support by joining the "1 KM Green Leaders Race".

加強與區議會交流
Enhancing Exchange with District Councils

水務署一向十分重視與社區保持緊密聯繫。我們透過加強區內溝通工作，包括召開會議探討市民關注的議題，用心聆聽市民的意見和建議，藉此加深社區對水務署服務和設施的認識。於二零二三至二四年年度，我們繼續邀請不同地區的區議員參觀水務設施，向他們介紹水務署的工作並提供相關資訊。

At the WSD, we attach great importance to maintaining close ties and enhancing communications at the community level for raising knowledge about the WSD's services and facilities, conducting meetings to discuss matters of concern, as well as taking views and suggestions. During 2023-24, we continued our invitations to the Members from various District Councils and arranged guided tours at waterworks installations to provide information about WSD's work.

西貢區議會於二零二三年四月二十五日參觀馬鞍山濾水廠。

Sai Kung District Council visited Ma On Shan Water Treatment Works on 25 April 2023.

北區區議會於二零二三年七月二十八日參觀石湖墟再造水廠 。

North District Council visited Shek Wu Hui Water Reclamation Plant on 28 July 2023.

東區區議會於二零二三年八月二日參觀水知園。

Eastern District Council visited H_2OPE Centre on 2 August 2023.

放眼世界
Our Global Network

合作推進水務管理

為香港提供優質且可持續的供水服務是我們一直秉承的抱負。我們投入參與國際性水務專業團體，並與海內外國際同業緊密合作，以探索與水務管理相關的創新科技和最佳實務方案、提升實力，以及分享我們的見解及解決方案，與其他智慧用水的城市優勢互補。

PARTNERING FOR ADVANCING WATER MANAGEMENT

As part of our vision to excel in providing quality and sustainable water supply in Hong Kong, we join the global knowledge hubs for water professionals and work in close collaboration with our regional and international counterparts. We seek to explore the latest innovations, technologies and best practices of water management; build capacity; as well as contribute insights and solutions adding value to the work of many other water-wise cities.

水務署投入參與以下世界頂尖的水務公用事業網絡和知識平台，以汲取可持續發展和智慧水務管理的實踐和創新資訊，並連繫水務行業具影響力的領導者：

- 國際水協會
- 國際海水化淡協會*
- 國際公用事業專業網絡*
- 國際水利與環境工程學會
- 美國水務協會*
- 智能供水網絡論壇*

* 註：中文譯名

The WSD joins the following international leading water utility networks and knowledge hubs to access sustainable and smart water practices and innovations, and collaborate with thought leaders of the water sector:

- International Water Association (IWA)
- International Desalination Association
- Leading Utilities of the World
- International Association for Hydro-Environment Engineering and Research
- American Water Works Association
- Smart Water Networks Forum

在二零二三至二四年年度，我們參加了多個地區性及國際性的活動和會議，在水務管理、最佳實務方案和未來趨勢等方面積極學習及作經驗分享。當中包括：

During 2023-24, we participated in various regional and international events and conferences for learning as well as sharing water management insights, best practices and future trends. These include:

第 5 屆粵港澳大灣區水務論壇

該論壇由粵港澳大灣區 11 個供水機構合辦並以「聚水務智慧，創綠美灣區」為主題，讓大灣區水務公用事業的領袖及從業員合共超過 400 名代表能聚首一堂，就區內供水、低碳、智慧水務、排水和污水處理範疇的各項議題交換意見。

時任水務署署長邱國鼎先生在活動的高峰論壇發言，並參與論壇中的專家 / 院士對話交流環節。行程中亦參觀了松山湖水廠，該水廠為目前全亞洲規模最大以單一工程項目建成的綜合式濾水廠。

The 5th Guangdong-Hong Kong-Macao Greater Bay Area Water Forum

Targeted at the leaders and practitioners of the water utilities in the Greater Bay Area (GBA), the forum with the theme "Smart Waterworks for a Greater Bay Area (GBA)" was co-organised by 11 water supply organisations and attended by over 400 representatives to exchange views on subjects including water supply, low-carbon and smart waterworks, drainage and sewage.

The then Director of Water Supplies, Mr Tony Yau spoke at the CEO Summit, took part in a dialogue session with experts and academicians and visited the Songshanhu Water Treatment Plant, the largest all-in-one process water treatment plant in Asia that was completed in a single phase.

新加坡國際水周 2023

於二零二三年六月舉行的新加坡國際水周匯聚了 350 位全球水務公共事業和業界領袖，在高層高峰會中討論氣候變化及水資源可持續發展等方面正面臨的挑戰，並分享相關經驗與解決方案。

新加坡國際水周的水務領袖訪問系列邀請了時任水務署署長邱國鼎先生就多個議題分享觀點和經驗，包括應對氣候變化影響、以多元化水資源提升應對氣候的應變能力、採用智慧科技及促進夥伴合作關係，為未來建立兼具可持續發展及應變能力的水資源。

Singapore International Water Week Spotlight 2023

Bringing together 350 global water utility and industry leaders, the Singapore International Water Week (SIWW) Spotlight was a high-level summit held in June 2023 to share experiences and solutions in tackling climate and water sustainability challenges.

The SIWW Water Leaders Interview Series invited the then Director of Water Supplies, Mr Tony Yau to share views and experiences on addressing climate change impacts, building climate resilience with diversified water resources, adopting smart technologies, and fostering partnerships to build a sustainable and resilient water future.

時任水務署署長邱國鼎先生（前左五）在高峰會中與全球水資源公用事業領袖和從業者合照。

The then Director of Water Supplies, Mr Tony Yau (5th from left, front row) pictured with leaders and practitioners of global water utilities at the summit.

環球水務高峰會 2023

在高峰會上，時任水務署副署長周世威先生以「香港智慧供水的改革」為題發表演講，分享我們在打造多元化水資源（如海水化淡、再造水及中水）方面的經驗以及應用數碼科技減碳，以提升供水的應變能力和效率。

Global Water Summit 2023

At the Summit, the then Deputy Director of Water Supplies, Mr CHAU Sai-wai gave a presentation on "Game Changer of Smart Water Supply in Hong Kong", sharing our experiences in diversifying water sources (such as desalinated, reclaimed and grey water), as well as applying digital technologies to decarbonise operations with a view to transforming water supply with enhanced resilience and efficiency.

第 13 屆智能供水網絡論壇年度會議

作為這個全球論壇的成員之一，我們參加了於二零二三年五月在蘇格蘭格拉斯哥舉行的年度會議，主題為「智慧供水成主流」。會議以線上及現場的混合模式進行，讓全球公共事業代表就數碼孿生、智能水錶、擴展創新、智慧水務工程和數據管理的最新發展和最佳實務作討論，水務署團隊從中亦獲益良多。

The 13th Smart Water Network Forum Annual Conference

As a member of this global Forum, we attended the annual conference held in a hybrid format in May 2023 in Glasglow, Scotland. Under the theme "Making Smart Water Mainstream", the WSD team has benefited from discussions by global utility speakers on the latest developments and best practices regarding digital twins, smart metering, scaling innovation, smart waterworks and data management.

第 18 屆世界水資源大會 – 北京

由國際水資源協會及內地水利部門合辦的「世界水資源大會」於北京舉行，以「水與萬物：人與自然和諧共生」為主題，旨在推廣以科學方法管理水資源並作經驗分享。時任水務署署長邱國鼎先生在會上以「以提高應變能力、創新和可持續發展為方針成就供水轉型，為食水安全風險做好準備工作」為題演講。

The 18th World Water Congress - Beijing

Jointly hosted by the International Water Resources Association and the Ministry of Water Resources of the Mainland, the Congress held in Beijing aims to facilitate experience sharing and promote a scientific approach to water resources management under the theme "Water for All: Harmony between Human and Nature". The then Director of Water Supplies, Mr Tony Yau gave a presentation on "Preparation and Risk for Water Security – Transforming Water Supply with Resilience, Innovation and Sustainability" at the event.

第 40 屆國際水利與環境工程學會大會

國際水利與環境工程學會（IAHR）的世界大會匯聚了頂尖專家，就氣候引致的水資源變化、應變管理、人工智能及智慧水資源管理等議題發表演講。在大會中時任水務署副署長周世威先生於會上以「香港供水系統的智慧技術應用」為題演講。

The 40th IAHR World Congress

The International Association for Hydro-environment Engineering and Research (IAHR) World Congresses brought together leading experts to speak on topics including climate-induced changes to water resources, adaptive management, artificial intelligence (AI) and smart water management. The then Deputy Director of Water Supplies, Mr CHAU Sai-wai delivered a speech on the "Implementation of Smart Technologies in Water Supply System in Hong Kong" during the event.

第二屆全國節水產業創新發展大會

該大會旨在加強政府、業界、學界、研究界別的多方合作，促進水務的智慧及低碳發展。大會在深圳舉行，透過與內地同行的交流，水務署團隊得以了解內地節水相關的最新計劃和技術，以及循環再用水的項目資訊。

The 2nd Water-Saving Industry Innovation and Development Conference

The conference held in Shenzhen aims to strengthen multi-sectoral collaboration amongst government, industry, academia and research industries in accelerating smart and low-carbon development of water industry. Through the exchange with the Mainland counterparts, the WSD team learned about its latest water-saving plans, technologies and recycled water utilisation projects.

第九屆泛珠三角區域水務會議

珠江三角洲地區的東江水是我們其中一個重要的水源。該會議就全國水務網絡建設、水資源分配、河川流域保護與治理、節約用水措施，以及流域防洪措施等方面提供最新資訊。

The 9th Pan-Pearl River Delta Regional Water Conference

Dongjiang water in the Pearl River Delta region is one of our key water supply sources. The Conference provides key updates on the national water network construction, water resources allocation, river basin conservation and governance, water conservation initiatives as well as river basin flood control measures.

掌握市場趨勢

年內，水務署團隊出席多項活動和會議，以掌握行內最新的先進技術和可持續發展建築方法的相關資訊，以提高水務管理和運營效益。其中包括：

- *「建築智慧國際峰會 2024」*
- *「地理資訊軟件技術大會」*
- *「2024 內地與香港建築論壇」*
- *「組裝合成」建築法供應鏈大會*
- *新工程合約年會 2023*

KEEP ABREAST OF MARKET TRENDS

Throughout the year, the WSD team attended a number of events and conferences to stay up-to-date with the latest developments on advanced technologies and sustainable construction methods for enhancing waterworks management and operation efficiency. These included:

- *Building SMART International Summit 2024*
- *Geospatial Information Software Technology Conference*
- *Mainland and Hong Kong Construction Forum 2024*
- *Modular Integrated Construction (MiC) Supply Chain Conference*
- *NEC Annual Conference 2023*

財務及水費
Finance and Water Charges

水費

與世界其他主要城市相比，香港客戶為優質食水所繳付的費用相對低廉。除了一九九六年七月修訂的非本地船隻用水收費外，水費自一九九五年二月至今亦一直維持不變。

WATER CHARGES

Customers in Hong Kong pay less for high-quality fresh water than their counterparts in most major cities around the world. Water charges have not been revised since February 1995 (other than the charge for non-local vessels, which was last revised in July 1996).

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，以四個月為期計算：

SCALE OF CHARGES

Fresh water for domestic use (other than flushing) is charged by four-month periods, with rates set out in a four-tier system as follows:

	每單位 (1立方米) 收費 Charging rate per unit of one cubic metre
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 (註一)(Note 1)
第三級 — 再繼後的19個單位 Tier 3 for the next 19 units	$6.45 (註二)(Note 2)
第四級 — 餘下單位 Tier 4 for the remainder	$9.05 (註三)(Note 3)

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 different rates as follows, based on the purpose of consumption.

用途 Purpose	每單位（1立方米）收費 Charging rate per unit of one cubic metre
商業 Trade	$4.58 (註四)(Note 4)
建築 Construction	$7.11 (註五)(Note 5)
航運（非本地船隻）Shipping (Non-local Vessels)	$10.93 (註六)(Note 6)
航運（本地船隻）Shipping (Local Vessels)	$4.58 (註七)(Note 7)
航運以外的任何用途（非本地船隻），並以預先繳費票繳交水費 Any purpose other than Shipping (Non-local Vessels) where payment is made against a prepaid ticket	$4.58 (註七)(Note 7)
沖廁水每四個月的收費率 Flushing per four-month period － 首30個單位 for the first 30 units － 餘下單位 for the remainder	免費 Free $4.58 (註七)(Note 7)

海水沖廁費用全免。
Sea water for flushing is supplied free of charge.

註一：一九七九年推出水費分級制度時，第二級收費的目標是大致收回每單位的淨生產成本，即按照水錶記錄的耗水量計算每單位的總生產成本（包括固定資產平均淨值的目標回報率）減去每單位的差餉補貼。於二零二三至二四年度，每單位的淨生產成本為 12.9 元，遠超 4.16 元的收費水平，主要因為水費自一九九五年起並無任何變動。

註二：一九七九年推出水費分級制度時，第三級收費的目標是大致收回每單位的總生產成本，即按照水錶記錄的耗水量計算每單位的平均生產成本（包括固定資產平均淨值的目標回報率）。於二零二三至二四年度，每單位的總生產成本 18.1 元，遠超 6.45 元的收費水平，主要因為水費自一九九五年起並無任何變動。

註三：第四級收費定價比第三級收費高出約 40%，以阻止過量及浪費用水。

註四：一九九二年前，商業用途的收費與住宅用戶第二級收費相同。自一九九二年起，商業用途的收費修訂至高於住宅用戶第二級收費水平，旨在減少對非住宅用戶的補貼。

註五：一九九二年前，建築用途的收費與住宅用戶第三級收費相同。自一九九二年起，建築用途的收費修訂至高於住宅用戶第三級收費水平，旨在減少對非住宅用戶的補貼。

註六：航運（非本地船隻）收費於一九九六年作出修訂，當時收費水平訂為高於每單位總生產成本的 40%，目的是阻止非本地船隻在香港取水。

註七：此等收費與商業用途收費相同。

Note 1. When the tariff structure was introduced in 1979, the charge for the second tier was to recover approximately the net unit production cost, which meant the full unit production cost (including a target rate of return on average net fixed assets (ANFA)) less the average contribution from rates per unit, calculated based on the quantity of the metered consumption. In 2023-24, the net unit production cost is $12.9, which is materially higher than the charging rate of $4.16, mainly because water tariffs have not been changed since 1995.

Note 2. When the tariff structure was introduced in 1979, the charge for the third tier was to recover approximately the full unit production cost, which meant the average production cost per unit (including a target rate of return on ANFA), calculated based on the quantity of the metered consumption. In 2023-24, the full unit production cost is $18.1, which is materially higher than the charging rate of $6.45, mainly because water tariffs have not been changed since 1995.

Note 3. The fourth tier is set about 40% higher than the third tier to discourage extravagant and wasteful use of water.

Note 4. Prior to 1992, the charging rate for trade purposes was equal to the second-tier rate for domestic purposes. Commencing from 1992, the charging rate for trade purposes was set higher than the second-tier rate for domestic purposes mainly to reduce the subsidy to non-domestic consumers.

Note 5. Prior to 1992, the charging rate for construction purposes was equal to the third-tier rate for domestic purposes. Commencing from 1992, the charging rate for construction purposes was set higher than the third-tier rate for domestic purposes mainly to reduce the subsidy to non-domestic consumers.

Note 6. The charging rate for shipping (non-local vessels) was last revised in 1996. At that time, it was set at 40% above the full unit production cost to discourage the taking of water in Hong Kong.

Note 7. These charging rates were set at the rate equal to the charging rate for trade purposes.

自一九九八至九九年度起，水務經營帳目包括各項補貼收入後仍錄得虧損，需依靠政府一般收入補助。二零二三至二四年度錄得虧損30.4 億元，成本回收率為 75.4%。政府會繼續定期檢討水費，審慎考慮「用者自付」及「收回服務成本」的原則、社會經濟情況、用戶負擔能力、水務營運財政狀況、持份者的意見等因素。

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，旨在悉數收回提供服務的成本。於二零一八至一九年度，25 項法定收費項目已作調整，修訂自二零一九年三月二十九日起生效。

水費收入總覽

於二零二三至二四年度，約 16% 住宅用戶毋須支付任何水費；44% 達到第二級水費，需繳付每單位 4.16 元水費；19% 需繳付第三級水費，即每單位 6.45 元；餘下 21% 需繳付第四級水費，即每單位 9.05 元的水費。於二零二三至二四年度，290 萬住宅用戶（包括無須繳付水費之用戶）的每月平均水費為 44 元。根據政府統計處的住戶開支統計調查，水費及排污費開支約相等於住戶每月平均開支的 0.3%。

水費收入（按用戶類別劃分）

過去五年按用戶類別劃分的水費收入分析如下：

Waterworks operations, after including revenue from various contributons, have seen deficits since 1998-99, and thus are subsidised by the Government's General Revenue. In 2023-24, the deficit was $3 042.2M and the cost recovery rate was 75.4%. The Government continues to review the water tariff periodically, taking into consideration the "user-pays" and "full-cost recovery" principles and a number of factors, including the economic situation, social affordability, financial performance of waterworks operations and the views of stakeholders.

Other than water charges, there are 25 statutory fee items stipulated in the Waterworks Regulations (Cap. 102A). The WSD periodically review these fee items in accordance with the Government-wide "user pays" principle, which aims to recover the full cost of providing services. During the year 2018-19, 25 statutory fee items have been revised effective from 29 March 2019.

PROFILES OF THE REVENUE FROM WATER CHARGES

During this financial year, about 16% of domestic customers were not required to pay water charges, 44% paid up to the tier 2 rate of $4.16 per unit, 19% paid up to the tier 3 rate of $6.45 per unit, and 21% paid up to the tier 4 rate of $9.05 per unit. For the WSD's 2.9 million domestic customers, the average water charge in 2023-24, including those not required to pay any charge, was $44 per month. According to the Census & Statistics Department household expenditure survey, the water and sewage charges amount to about 0.3% of the average monthly household expenditure.

WATER CHARGES (BY SECTOR)

An analysis of the water charges by sector over the past five years is outlined as follows:

27.9(33.3)	財政年度（百萬元） Financial Year ($million)					% (23/24)
	19/20	20/21	21/22	22/23	23/24	
商業 Trade	727 (905)	277 (828)	298 (890)	301 (904)	**725 (941)**	**27.9 (33.3)**
住宅 Domestic	1 643 (1 643)	1 867 (1 867)	1 768 (1 768)	1 678 (1 678)	**1 529 (1 529)**	**58.9 (54.1)**
政府 Government	172 (172)	148 (148)	162 (162)	170 (170)	**177 (177)**	**6.8 (6.2)**
其他# Others#	165 (182)	125 (177)	128 (180)	132 (182)	**164 (181)**	**6.4 (6.4)**
總收入 Total	2 707 (2 902)	2 417 (3 020)	2 356 (3 000)	2 281 (2 934)	**2 595 (2 828)**	**100.0 (100.0)**

包括沖廁用淡水
Includes fresh water for flushing

括號內數字為實際水費收入加上水費寬減額。
Figures in brackets are actual water charges received plus concession.

收入及開支分析

水費收入包括一般水費、各項收費、牌費，以及可收回支出的工程費用。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開支、購買東江水的成本、折舊、運作及行政開支。過去五年的收入及開支分析如下：

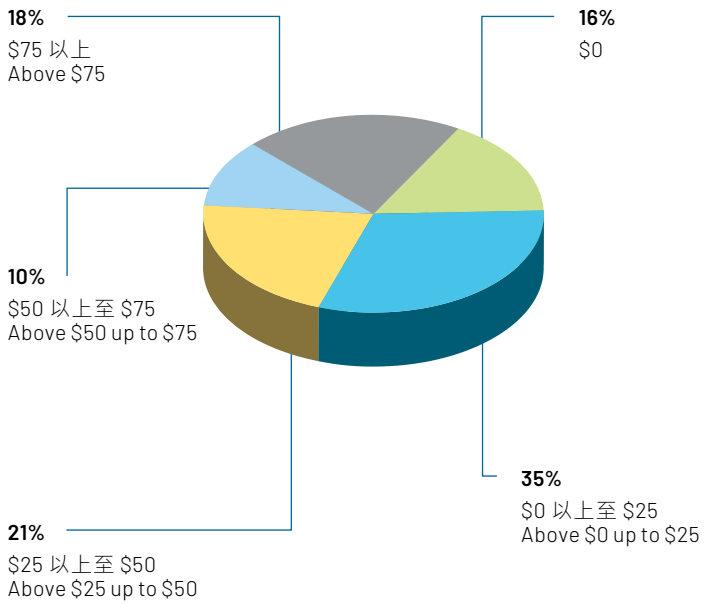
ANALYSIS OF REVENUE AND EXPENDITURE

Revenue collections include chargeable water supplies, fees, licences, and reimbursable works. In preparing the Waterworks Operating Accounts which present the WSD's financial results and positions on an accrual accounting basis, the revenues include non-cash items, mainly contributions from rates, contributions on free allowance, and water supplies to Government establishments. The total operating costs include mainly staff costs, Dongjiang water purchase costs, depreciation, operating and administration expenses. An analysis of the revenue and expenditure over the past five years is as follows:

收入（百萬元）
Revenue ($million)

財政年度 Financial Year	19/20	20/21	21/22	22/23	23/24
一般水費 Chargeable Supplies	2 534.8	2 268.5	2 193.6	2 110.8	**2 418.2**
差餉補貼 Contribution from Rates	3 146.7	2 856.4	2 888.1	2 864.7	**4 231.3**
差餉寬減補貼 Government Contribution on Concession of Rates	2 340.3	2 622.2	2 252.6	2 285.4	**907.2**
水費寬減補貼 Government Contribution on Concession of Water Charges	195.2	603.3	644.5	653.5	**232.8**
免費用水補貼 Government Contribution on Free Allowance to Consumers	1 083.3	1 129.8	1 171.5	1 084.1	**1 233.2**
政府用水 Supplies to Government Establishments	172.0	148.3	162.1	169.8	**176.6**
各項收費、存款利息及其他 Fees, charges, interest from deposits and others	72.6	35.4	28.5	77.2	**131.4**
總額 **Total**	9 544.9	9 663.9	9 340.9	9 245.5	**9 330.7**

二零二三／二四 年度住宅用戶每月水費分佈圖
Distribution of Household Average Monthly Bills 2023/24



開支（百萬元）
Expenditures ($million)

財政年度 Financial Year	19/20	20/21	21/22	22/23	23/24
員工開支 Staff costs	2 195.0	2 042.7	1 973.0	1 973.1	**2 031.8**
運作及行政開支 Operating and administration expenses	2 094.1	2 453.7	2 389.8	2 454.1	**2 836.3**
購買東江水的成本 Dongjiang water purchase cost	4 810.9	4 821.4	4 856.6	4 965.3	**5 049.0**
折舊 Depreciation	2 120.5	2 171.2	2 181.5	2 266.4	**2 455.8**
總額 Total	11 220.5	11 489.0	11 400.9	11 658.9	**12 372.9**

本署致力以符合成本效益的方式提供服務，並在固定資產、設備、資訊科技及人力資源方面投入大量資源，藉此提高運作效益及員工生產力，務求滿足市民對更優質服務的需求。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。這是我們實現抱負和使命的基本法則。

The WSD is committed to providing services as cost-effectively as possible, and has made substantial investments in fixed assets, equipment, information technology and human resources to improve operational efficiency and staff productivity to meet the public's demand for a higher quality of services. Our customers and the public at large can rest assured that the WSD will exercise strict financial discipline and be very cost-conscientious in delivering quality services to meet customer demands. This is the WSD's underlying approach to achieving its vision and missions.

水務 - 經營帳目
二零二三／二零二四年度回顧

截至二零二四年三月三十一日止的財政年度

工作方面 Activities
按照水錶記錄的淡水耗水量下降1.8% Metered fresh water consumption decreased by 1.8%

WATERWORKS – OPERATING ACCOUNTS
REVIEW OF THE YEAR 2023-24

For the year ended 31 March 2024

財務表現 Financial Performance
收入上升0.9% Revenue increased by 0.9%
開支上升6.1% Expenditure increased by 6.1%
虧損由二零二二／二三年度的24.1億元升至二零二三／二四年度的30.4億元 Deficit increased from $2,413.4 million in 2022-23 to $3,042.2 million in 2023-24
按固定資產平均淨值計算的回報率由二零二二／二三年度的-3.2%降至二零二三／二四年度的-3.8% Return on Average Net Fixed Assets decreased from -3.2% in 2022-23 to -3.8% in 2023-24

經營帳目

截至二零二四年三月三十一日止的財政年度

OPERATING ACCOUNTS

For the year ended 31 March 2024

		註 Note	2024 (百萬元) $M	2023 (百萬元) $M
收入	Revenue	2	**9 330.7**	9 245.5
開支	Expenditure	3	**12 372.9**	11 658.9
虧損	**Deficit**	1(h)	**(3 042.2)**	(2 413.4)

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

衡量財務表現的指標

截至二零二四年三月三十一日止的財政年度

FINANCIAL PERFORMANCE MEASURES

For the year ended 31 March 2024

		註 Note	2024(百萬元)$M	2023(百萬元)$M
固定資產平均淨值	Average net fixed assets (ANFA)	1(g) and 4	**79 162.9**	75 014.2
實際回報額	Actual return		**(3 042.2)**	(2 413.4)
目標回報額	Target return		**1 187.4**	1 125.2
按固定資產平均淨值計算的實際回報率	Actual return as % of ANFA	1(f)	**(3.8%)**	(3.2%)
按固定資產平均淨值計算的目標回報率	Target return as % of ANFA		**1.5%**	1.5%

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

財務狀況表

於二零二四年三月三十一日

STATEMENT OF FINANCIAL POSITION

As at 31 March 2024

		註 Note	2024(百萬元)$M	2023(百萬元)$M
可動用淨資產	**Net assets employed**			
固定資產	**Fixed assets**	1(b),1(c) and 4	**80 533.1**	77 792.6
流動資產	Current assets	1(d) and 5	**3 027.4**	2 843.6
流動負債	Current liabilities	6	**(2 940.7)**	(2 890.6)
流動資產/(負債)淨值	**Net current assets/ (liabilities)**		**86.7**	(47.0)
			80 619.8	77 745.6
財政來源	**Financed by**			
公共資本帳目	**Public capital account**	1(h) and 7	**80 619.8**	77 745.6

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，其收回成本已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開支。

(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計折舊列出。

(c) 折舊

(i) 折舊是根據固定資產成本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攤銷。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%
— 海水	5%
機電工程、機器及設備	4%-20%
水錶	8.33%
電腦硬件、軟件及系統	10%-33.33%
車輛	10%-20%

(ii) 建造中的資產並沒有折舊撥備。

Notes to 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 to amortise the cost of fixed 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%-20%
Meters	8.33%
Computer hardware, software and system	10%-33.33%
Motor vehicles	10%-20%

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

(d) 現有存貨

重要的現有存貨以加權平均法，按成本值計值。

(e) 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應計開支。

(f) 按固定資產平均淨值計算的實際回報率

溢利或虧損與固定資產平均淨值的比率計算。

(g) 固定資產平均淨值

固定資產平均淨值是指總固定資產值減去累計折舊在期初及期末兩項數值的簡單平均數。

(h) 虧損

由於水務監督沒有獨立的法定身份，其財政資源均視為政府一般收入的一部分，而有關虧損亦會於這項公用事業的公共資本帳目中調節。

(d) Stocks in Hand

Stocks in Hand are valued at cost using the weighted average cost method to the extent that they are material.

(e) 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.

(f) Actual Return on ANFA

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

(g) 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 accumulated depreciation.

(h) 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 utility.

2. 收入

2. Revenue

9,330.7		2024 (百萬元) $M	2023 (百萬元) $M
收費供水	Chargeable supplies	**2 418.2**	2 110.8
差餉補貼	Contribution from rates	**4 231.3**	2 864.7
政府對寬減計劃的補貼	Government contribution on concessions	**1 140.0**	2 938.9
政府為用戶提供免費用水的補貼	Government contribution on free allowance to consumers	**1 233.2**	1 084.1
政府樓宇用水	Supplies to Government establishments	**176.6**	169.8
收費、牌照及可收回支出的工程	Fees, licences and reimbursable works	**19.9**	26.6
存款利息	Interest from deposits	**111.5**	50.6
		9 330.7	9 245.5

政府對寬減計劃的補貼包括差餉及水費兩部分：

(i) 政府對二零二二／二三年度及二零二三／二四年度的差餉寬減計劃的補貼分別為22.854億元及9.072億元，以彌補於該年度因實行差餉寬減措施而造成的差額；及

(ii) 政府對二零二二／二三年度及二零二三／二四年度的水費寬減計劃的補貼分別為6.535億元及2.328億元，以彌補於二零二二年四月一日至二零二三年七月三十一日因實行非住宅用戶的淡水收費寬減措施而造成的差額。

政府為用戶提供免費用水補貼的計算方法，是把二零二二／二三年度及二零二三／二四年度分別為11.4元和12.9元的淡水每單位淨生產成本（已包括按固定資產平均淨值計算的目標回報額，在相關年度分別為每單位1.4元和1.5元），乘以按照水錶記錄淡水耗用量內的免費用水補貼用量。

The Government contribution on concessions comprises two parts:

(i) Government contribution on concession of rates of $2,285.4M in 2022-23 and $907.2M in 2023-24 to cover the shortfall in contribution from rates resulting from the concession of rates granted during the years; and

(ii) Government contribution on concession of water charges of $653.5M in 2022-23 and $232.8M in 2023-24 to cover the shortfall in chargeable supplies resulting from concession of water charges for fresh water consumption for non-domestic purposes from 1 April 2022 to 31 July 2023.

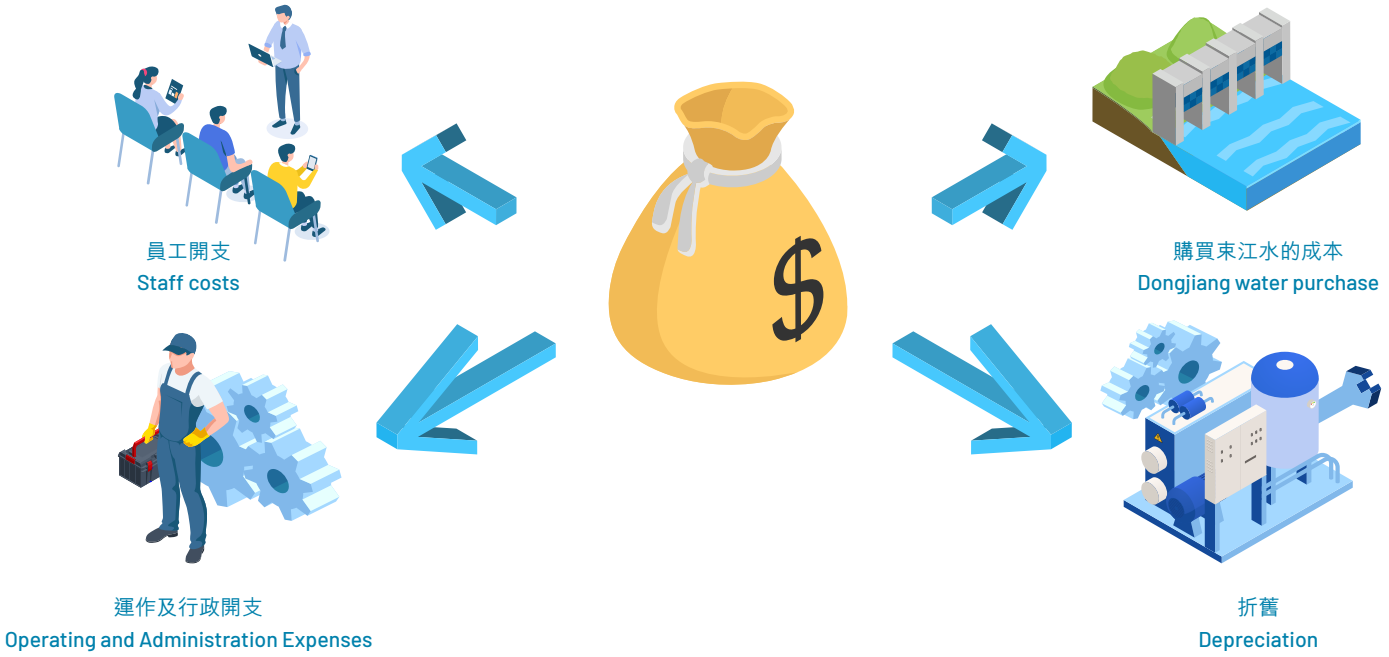
The calculation of Government contribution on free allowance to consumers is based on the fresh water net unit production cost of $11.4 and $12.9 for the years 2022-23 and 2023-24 respectively, which has included a target return on ANFA of $1.4 and $1.5 per unit for the respective years, multiplied by the quantity of metered fresh water consumption within the free allowance quantity.

3. 開支

3. Expenditure

		2024(百萬元)$M	2023(百萬元)$M
員工開支	Staff costs*	**2 031.8**	1 973.1
運作及行政開支	Operating and administration expenses*	**2 836.3**	2 454.1
購買東江水的成本	Dongjiang water purchase cost	**5 049.0**	4 965.3
折舊	Depreciation	**2 455.8**	2 266.4
		12 372.9	11 658.9

* 帳目不包括「防疫抗疫基金」撥款推行的創造職位計劃所涉及的開支。
* The expenditure relating to Job Creation Scheme funded under the Anti-epidemic Fund have been excluded.



4. 固定資產

4. 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)$M	海水沖廁設施 Salt Water Flushing (百萬元)$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	循環再用水供應 Recycled Water Supply (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**											
二零二三年四月一日	At 1 April 2023	77 378.2	242.2	525.2	16 590.4	702.0	1 661.2	443.2	113.2	-	15 736.9	113 392.5
添置	Additions	-	3.1	6.8	-	-	-	-	4.3	-	5 183.3	5 197.5
轉撥	Transfers	8 220.2	5.2	19.7	234.6	-	-	-	22.3	627.7	(9 129.7)	-
處置	Disposals	(1.0)	(8.5)	-	(0.3)	-	-	(19.1)	(11.8)	-	-	(40.7)
二零二四年三月三十一日	**At 31 March 2024**	**85 597.4**	**242.0**	**551.7**	**16 824.7**	**702.0**	**1 661.2**	**424.1**	**128.0**	**627.7**	**11 790.5**	**118 549.3**
累計折舊	**Accumulated Depreciation**											
二零二三年四月一日	At 1 April 2023	24 751.0	168.5	412.9	8 005.3	504.4	1 331.1	359.8	66.9	-	-	35 599.9
該年折舊	Charge for the year	1 743.8	11.5	21.2	594.4	9.3	28.3	24.1	11.8	11.4	-	2 455.8
處置後轉回	Written back on Disposals	(0.8)	(7.6)	-	(0.3)	-	-	(19.1)	(11.7)	-	-	(39.5)
二零二四年三月三十一日	**At 31 March 2024**	**26 494.0**	**172.4**	**434.1**	**8 599.4**	**513.7**	**1 359.4**	**364.8**	**67.0**	**11.4**	**-**	**38 016.2**
帳面淨值	**Net Book Value**											
二零二四年三月三十一日	**At 31 March 2024**	**59 103.4**	**69.6**	**117.6**	**8 225.3**	**188.3**	**301.8**	**59.3**	**61.0**	**616.3**	**11 790.5**	**80 533.1**
二零二三年三月三十一日	At 31 March 2023	52 627.2	73.7	112.3	8 585.1	197.6	330.1	83.4	46.3	-	15 736.9	77 792.6

帳目不包括搬遷食水及海水配水庫和濾水廠往岩洞工程項目的資本開支。
The capital expenditure relating to the relocation of fresh water and salt water service reservoirs and water treatment works into caverns have been excluded.

5. 流動資產

5. Current Assets

		2024 (百萬元) $M	2023 (百萬元) $M
現有存貨	Stocks in Hand	**180.8**	156.5
應收帳項	Debtors	**432.7**	297.6
與庫務署的往來帳	Current Account with the Treasury	**2 413.9**	2 389.5
		3 027.4	2 843.6

6. 流動負債

6. Current Liabilities

		2024 (百萬元) $M	2023 (百萬元) $M
用戶和承建商的按金	Consumers' and contractors' deposits	**2 403.9**	2 379.5
應付帳項	Creditors	**536.8**	511.1
		2 940.7	2 890.6

7. 公共資本帳目

公共資本帳目指政府在這項公用事業的投資。

7. Public Capital Account

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

77,745.6		2024 (百萬元) $M	2023 (百萬元) $M
四月一日結餘	Balance as of 1 April	**77 745.6**	72 291.4
本年度的虧損	Deficit for the year	**(3 042.2)**	(2 413.4)
政府的額外現金投資	Additional cash investment by the Government	**5 916.4**	7 867.6
三月三十一日結餘	**Balance as at 31 March**	**80 619.8**	77 745.6

8. 承擔

於二零二四年三月三十一日及二零二三年三月三十一日，未於經營帳目作出撥備的未償還承擔如下：

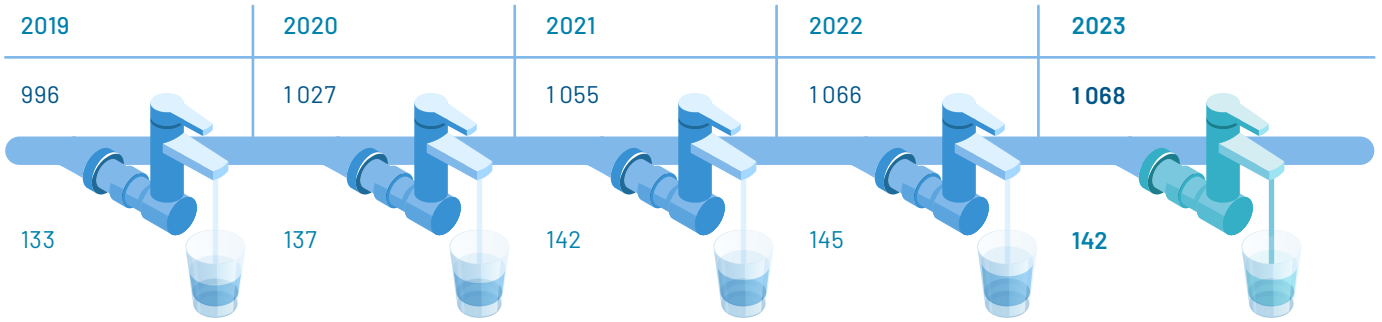
8. Commitments

Outstanding commitments as at 31 March 2024 and 31 March 2023 not provided for in the operating accounts were as follows:

		2024(百萬元)$M	2023(百萬元)$M
(i)基本工程項目、物業、機器及設備以及非經常資助金	(i) Capital works projects, property, plant and equipment and capital subvention	**24 689.4**	26 061.5
(ii)非經常性開支	(ii) Non-recurrent expenditure	-	-
(iii)投資	(iii) Investments	-	-
(iv)貸款及非經常性撥款補助金	(iv) Loans and non-recurrent grants	-	-
		24 689.4	26 061.5

數據一覽
Data Summary

二零一九至二三年全年食水用量及人均用水量
Annual Fresh Water Consumption and Per Capita Consumption 2019 – 2023



二零一九至二三年全港人口及獲食水供應人口
Population in Hong Kong and Population Served with Fresh Water 2019 – 2023

年份 Year	2019	2020	2021	2022	2023
全港人口*（百萬） **Population in Hong Kong*** (million)	7.51	7.48	7.41	7.35	**7.54**
獲食水供應人口（百萬） **Population served with fresh water** (million)	7.51#	7.48#	7.41#	7.35#	**7.54#**

* 根據政府統計處公佈的年中人口數字。
* Based on the mid-year population figures released by the Census and Statistics Department.
# 全港超過 99.9% 人口獲食水供應。
# Over 99.9% of the population in Hong Kong is served with fresh water.

二零一九至二三年全年海水用量及獲海水供應人口
Annual Salt Water Consumption and Population Served with Salt Water 2019 – 2023

年份 Year	2019	2020	2021	2022	2023
全年海水用量（百萬立方米） **Annual Salt Water Consumption** (million m³)	307	318	321	319	**323**
獲海水供應人口（百萬） **Population Served with Salt Water** (million)	6.33	6.31	6.27	6.21*	**6.38**

* 在二零二二年，儘管沖廁用海水供應網絡的覆蓋率輕微上升，但由於全港年中人口下跌，獲海水供應人口相比二零二一年亦因而有所減少。
* In 2022, notwithstanding the slight increase in the network coverage of salt water supply for flushing, the population served with salt water is less than that in 2021 due to the decline in Hong Kong's mid-year population.

二零二三年四月至二零二四年三月的食水水質

香港特別行政區政府於二零二一年四月二十二日公布了最新的香港食水標準，當中包括 60 個水質參數。市民可參閱水務署網頁了解香港食水標準。

政府亦訂立了食水感官準則，以確保食水的感官質量，如味道和氣味等。

食水樣本是從濾水廠、海水化淡廠、配水庫、食水缸、供水接駁點及用戶水龍頭抽取。

這時段內供應至客戶的香港食水水質達標率躋身世界發達國家及城市前列，食水水質優良。

Drinking Water Quality for the Period of April 2023 - March 2024

The Government of the Hong Kong Special Administrative Region promulgated on 22 April 2021 the latest Hong Kong Drinking Water Standards ("HKDWS") which includes 60 water quality parameters. The public may visit the WSD website for information on HKDWS.

The Government has also established the Aesthetic Guidelines ("AG") in ensuring the aesthetic quality, such as the taste and odour, of the drinking water in Hong Kong.

Drinking water samples were taken at water treatment works, desalination plant, service reservoirs, fresh water tanks, connection points and consumers' taps.

The compliance rate of the quality of drinking water supplied to customers in Hong Kong during this period is high amongst developed countries and cities and the drinking water is of excellent quality.

甲、香港食水標準
Part A. Hong Kong Drinking Water Standards

參數	Parameter	單位 Unit	監測結果 Monitoring Data (04/2023 - 03/2024)			香港食水標準標準值 Standard Value in HKDWS	達標(註釋 1) Compliance(Note 1)
			最低值 Minimum	最高值 Maximum	平均值 Average		
艾氏劑和狄氏劑	Aldrin & 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	✓
鋇	Barium	毫克/公升 mg/L	0.002	0.026	0.015	≤ 1.3	✓
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	< 0.002	< 0.002	< 0.002	≤ 0.7	✓
硼	Boron	毫克/公升 mg/L	< 0.02	0.83	0.19	≤ 2.4	✓
溴酸鹽	Bromate	微克/公升 μg/L	< 1	1.7	< 1	≤ 10	✓

參數	Parameter	單位 Unit	監測結果 Monitoring Data (04/2023 - 03/2024)			香港食水標準標準值 Standard Value in HKDWS	達標(註釋 1) Compliance(Note 1)
			最低值 Minimum	最高值 Maximum	平均值 Average		
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	✓
四氯化碳	Carbon tetrachloride	微克/公升 μg/L	< 0.5	< 0.5	< 0.5	≤ 4	✓
氯酸鹽	Chlorate	微克/公升 μg/L	< 10	120	29	≤ 300	✓
氯丹	Chlordane	微克/公升 μg/L	< 0.05	< 0.05	< 0.05	≤ 0.2	✓
氯	Chlorine	毫克/公升 mg/L	< 0.1	1.5	0.8	≤ 5	✓
亞氯酸鹽	Chlorite	微克/公升 μg/L	< 10	< 10	< 10	≤ 700	✓
氯仿	Chloroform	微克/公升 μg/L	< 50	63	< 50	≤ 300	✓
鉻	Chromium	毫克/公升 mg/L	< 0.001	0.001	< 0.001	≤ 0.05	✓
銅	Copper	毫克/公升 mg/L	< 0.003	0.61	0.020	≤ 2	✓
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	< 0.5	1.0	< 0.5	≤ 70	✓
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	< 0.1	< 0.1	< 0.1	≤ 0.4	✓
二氯乙酸鹽	Dichloroacetate	微克/公升 μg/L	<2	14	4.2	≤ 40	✓
二氯乙腈	Dichloroacetonitrile	微克/公升 μg/L	< 2.5	3.2	< 2.5	≤ 20	✓
1,4-二氯苯	1,4-Dichlorobenzene	微克/公升 μg/L	< 75	< 75	< 75	≤ 300	✓

參數	Parameter	單位 Unit	監測結果 Monitoring Data (04/2023 - 03/2024)			香港食水標準標準值 Standard Value in HKDWS	達標(註釋1) Compliance(Note 1)
			最低值 Minimum	最高值 Maximum	平均值 Average		
1,2-二氯乙烷	1,2-Dichloroethane	微克/公升 μg/L	< 7.5	< 7.5	< 7.5	≤ 30	✓
二氯甲烷	Dichloromethane	微克/公升 μg/L	< 5	< 5	< 5	≤ 20	✓
1,4-二噁烷	1,4-Dioxane	微克/公升 μg/L	< 1.5	4.1	< 1.5	≤ 50	✓
異狄氏劑	Endrin	微克/公升 μg/L	< 0.15	< 0.15	< 0.15	≤ 0.6	✓
乙苯	Ethylbenzene	微克/公升 μg/L	< 75	< 75	< 75	≤ 300	✓
氟化物	Fluoride	毫克/公升 mg/L	0.18	0.56	0.49	≤ 1.5	✓
六氯丁二烯	Hexachlorobutadiene	微克/公升 μg/L	< 0.15	< 0.15	< 0.15	≤ 0.6	✓
鉛	Lead	毫克/公升 mg/L	< 0.001	0.009	< 0.001	≤ 0.01	✓
林丹	Lindane	微克/公升 μg/L	< 0.5	< 0.5	< 0.5	≤ 2	✓
汞	Mercury	毫克/公升 mg/L	< 0.00005	< 0.00005	< 0.00005	≤ 0.006	✓
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	Microcystin-LR	微克/公升 μg/L	< 0.5	< 0.5	< 0.5	≤ 1	✓
禾草特	Molinate	微克/公升 μg/L	< 1.5	< 1.5	< 1.5	≤ 6	✓
一氯乙酸鹽	Monochloroacetate	微克/公升 μg/L	< 2	<2	< 2	≤ 20	✓
鎳	Nickel	毫克/公升 mg/L	< 0.001	0.024	0.002	≤ 0.07	✓
硝酸鹽(以 NO_3- 計)	Nitrate (as NO_3-)	毫克/公升 mg/L	< 2.5	15	4.5	≤ 50	✓
亞硝酸鹽(以 NO_2- 計)	Nitrite (as NO_2-)	毫克/公升 mg/L	< 0.004	0.005	< 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	✓
高氯酸鹽	Perchlorate	微克/公升 μg/L	< 1	4.1	<1	≤ 70	✓
硒	Selenium	毫克/公升 mg/L	< 0.003	< 0.003	< 0.003	≤ 0.04	✓

參數	Parameter	單位 Unit	監測結果 Monitoring Data (04/2023 - 03/2024)			香港食水標準標準值 Standard Value in HKDWS	達標(註釋 1) Compliance(Note 1)
			最低值 Minimum	最高值 Maximum	平均值 Average		
西瑪三嗪	Simazine	微克/公升 μg/L	< 0.5	< 0.5	< 0.5	≤ 2	✓
苯乙烯	Styrene	微克/公升 μg/L	< 5	< 5	< 5	≤ 20	✓
特丁津	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	✓
甲苯	Toluene	微克/公升 μg/L	< 175	< 175	< 175	≤ 700	✓
總三鹵甲烷	Total trihalomethanes	比率總和(註釋2) sum ratio(Note 2)	0	0.53	0.22	比率總和 ≤ 1 sum ratio ≤ 1	✓
三氯乙酸鹽	Trichloroacetate	微克/公升 μg/L	< 2	17	4.9	≤ 200	✓
氟樂靈	Trifluralin	微克/公升 μg/L	< 5	< 5	< 5	≤ 20	✓
鈾	Uranium	毫克/公升 mg/L	< 0.0002	0.0004	< 0.0002	≤ 0.03	✓
二甲苯	Xylenes	微克/公升 μg/L	< 125	< 125	< 125	≤ 500	✓
總 α 活度	Gross alpha (α) activity	貝可/公升 Bq/L	< 0.1	< 0.1	< 0.1	≤ 0.5	✓
總 β 活度	Gross beta (β) activity	貝可/公升 Bq/L	< 0.2	< 0.2	< 0.2	≤ 1.0	✓
埃希氏大腸桿菌	Escherichia coli	菌落數/100毫升 cfu/100mL	0	0	0	0	✓

註釋

1. "✓" 表示這時段內抽取的食水樣本的食水水質均完全符合香港食水標準。
2. 總三鹵甲烷的比率總和不得超出 1，其計算方式如下：

$$\frac{\text{溴仿含量}}{\text{其香港食水標準值}} + \frac{\text{一溴二氯甲烷含量}}{\text{其香港食水標準值}} + \frac{\text{二溴一氯甲烷含量}}{\text{其香港食水標準值}} + \frac{\text{氯仿含量}}{\text{其香港食水標準值}}$$

Notes

1. "✓" indicates full compliance of drinking water quality with the HKDWS in all drinking water samples taken during this period.
2. Sum ratio of total trihalomethanes should not exceed 1, as calculated by:

$$\frac{\text{Bromoform}}{\text{its HKDWS}} + \frac{\text{Bromodichloromethane}}{\text{its HKDWS}} + \frac{\text{Dibromochloromethane}}{\text{its HKDWS}} + \frac{\text{chloroform}}{\text{its HKDWS}}$$

乙、感官準則
Part B. Aesthetic Guidelines

參數	Parameter	單位 Unit	監測結果(註釋1) Monitoring Data(Note 1) (04/2023 - 03/2024)			準則值 Guideline Value	達標(註釋2) Compliance(Note 2)
			最低值 Minimum	最高值 Maximum	平均值 Average		
鋁	Aluminium	毫克/公升 mg/L	0.02	0.14	0.02	≤ 0.2	✓
色度	Colour	Hazen	< 5	< 5	< 5	≤ 15	✓
鐵	Iron	毫克/公升 mg/L	0.02	0.26	0.02	≤ 0.3	✓
錳	Manganese	毫克/公升 mg/L	< 0.01	0.02	< 0.01	≤ 0.08 註釋3 Note 3	✓
2-甲基異莰醇	2-Methyl-isoborneol (MIB)	納克/公升 ng/L	< 5	45	10	≤ 50	✓
氣味	Odour	–	無異味 Unobjectionable			無異味 Unobjectionable	✓
酸鹼值(水溫25℃時)	pH at 25 ℃	–	7.2	9.2	8.3	6.5 - 9.5	✓
味道	Taste	–	無異味 Unobjectionable			無異味 Unobjectionable	✓
混濁度	Turbidity	NTU	0.1	3.0	0.2	≤ 3	✓
鋅	Zinc	毫克/公升 mg/L	< 0.01	0.13	< 0.01	≤ 1.5	✓

註釋

1. 以上參數是有關香港食水的感官質量。水質超過感官準則值一般不會導致健康問題，但可能會導致較差的感官質量。
2. "✓" 表示這時段內抽取的食水樣本的食水水質均完全符合感官準則。

Notes

1. The above parameters relate to the aesthetic quality of drinking water in Hong Kong. The exceedance of which could cause objectionable aesthetic effects but will not cause health concerns in general.
2. "✓" indicates full compliance of drinking water quality with the AG in all water samples taken during this period.

丙、香港食水的一般特性
Part C. General Properties of the Drinking Water in Hong Kong

參數	Parameter	單位 Unit	監測結果[註釋1] Monitoring Data[Note 1] (04/2023 - 03/2024)		
			最低值 Minimum	最高值 Maximum	平均值 Average
導電率（水溫25℃時）	Conductivity at 25 ℃	μS/cm	61	259	145
溫度	Temperature	℃	15.0	35.3	24.8
總鹼度（以 $CaCO_3$ 計）	Total alkalinity (as $CaCO_3$)	毫克/公升 mg/L	7	54	27
總硬度（以 $CaCO_3$ 計）	Total hardness (as $CaCO_3$)	毫克/公升 mg/L	6	66	38
鈣	Calcium	毫克/公升 mg/L	1.0	22	13
鎂	Magnesium	毫克/公升 mg/L	0.4	2.3	1.5
氯化物	Chloride	毫克/公升 mg/L	< 5	49	14
硫酸鹽	Sulphate	毫克/公升 mg/L	5	29	11
正磷酸鹽（以 PO_4 計）	Ortho-phosphates (as PO_4)	毫克/公升 mg/L	< 0.01	0.07	< 0.01
二氧化硅（以 SiO_2 計）	Silica (as SiO_2)	毫克/公升 mg/L	0.3	13	9.0

註釋

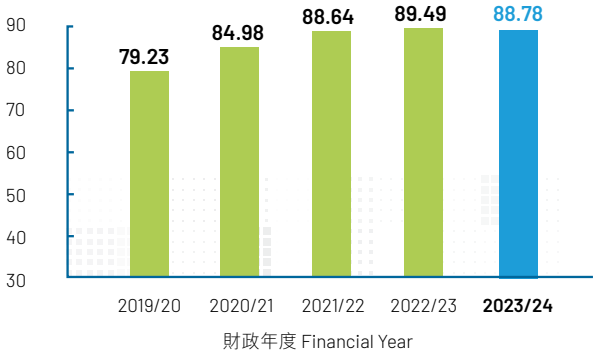
1. 以上項目是有關香港食水的一般物理和化學特性。香港食水標準及感官準則並不包括這些項目，因此沒有以上項目的標準值或準則值。

Notes

1. The above parameters relate to the general physical and chemical properties of the drinking water in Hong Kong. The HKDWS and AG do not include these parameters and hence there are no standard values or guideline values for them.

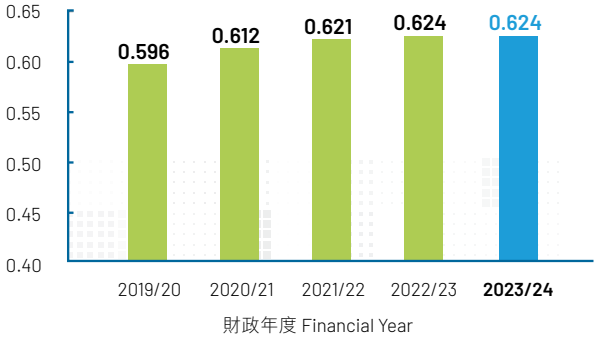
人均耗電量（食水及原水）
Per Capita Electricity Consumption (Fresh Water and Raw Water)

千瓦時/每人/每年 kWh/head/year



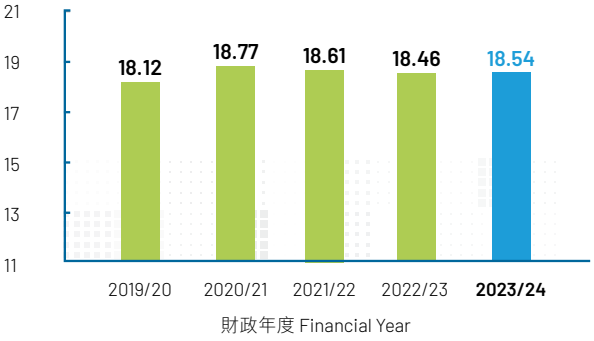
每單位耗電量（食水及原水）
Unit Electricity Consumption (Fresh Water and Raw Water)

千瓦時/立方米 kWh/m³



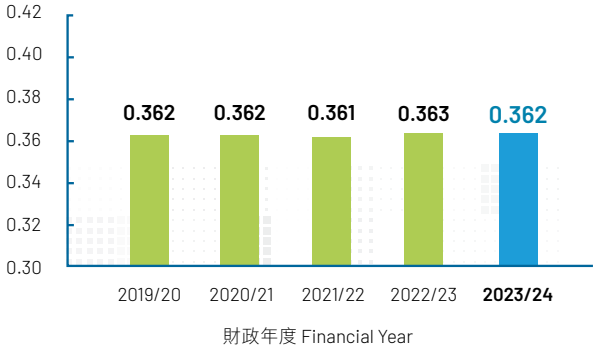
人均耗電量（海水）
Per Capita Electricity Consumption (Salt Water)

千瓦時/每人/每年 kWh/head/year



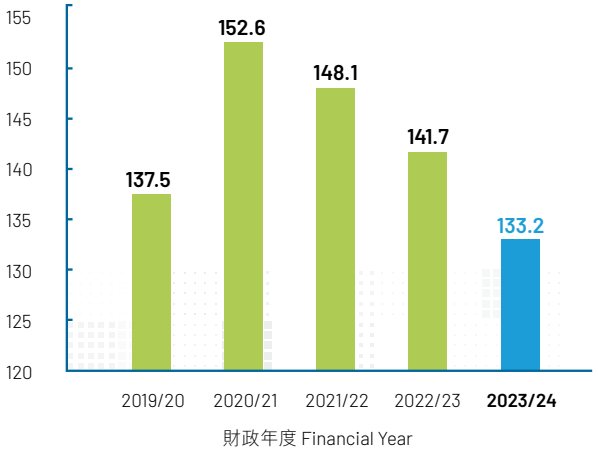
每單位耗電量（海水）
Unit Electricity Consumption (Salt Water)

千瓦時/立方米 kWh/m³



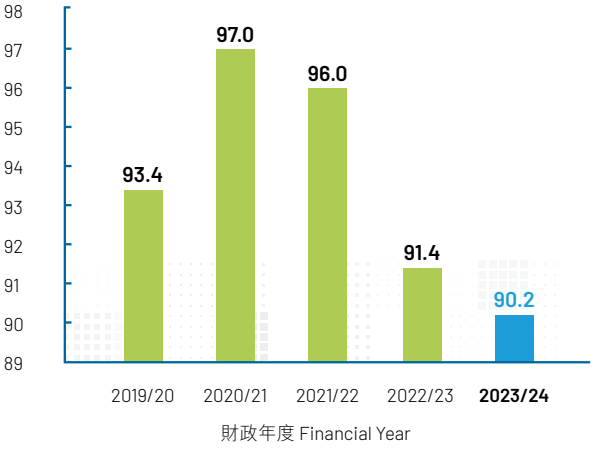
人均住宅食水用量
Per Capita Domestic Fresh Water Consumption

公升/日 Litres/day



人均沖廁水用量（食水及海水）
Per Capita Flushing Water Consumption (Fresh Water and Salt Water)

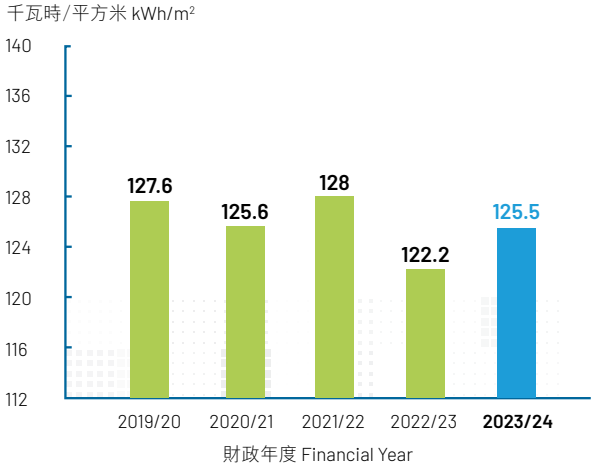
公升/日 Litres/day



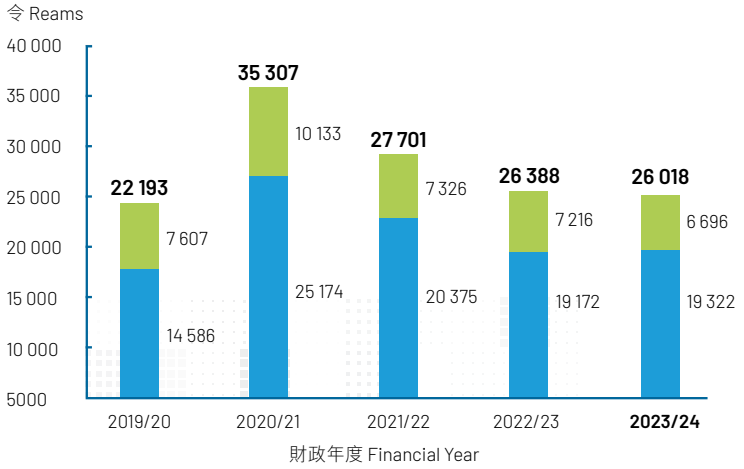
註：人均沖廁水用量（食水及海水）是根據本港的沖廁水總用量計算而得。

Notes: Per Capita Flushing Water Consumption (Fresh Water and Salt Water) is based on Hong Kong's total flushing water consumption.

辦公室每單位樓面面積的耗電量
Office Electricity Consumption Per Unit Floor Space



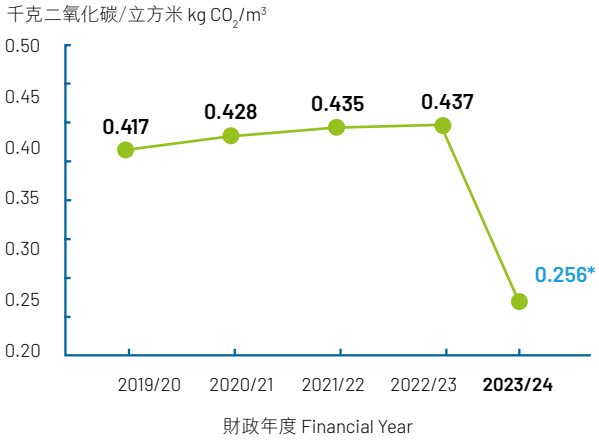
耗紙量
Paper Consumption



註釋
由於二零二零年第一季實施特別上班安排，原定預計於二零一九至二零年度訂購的 1 752 令無木漿紙張和 5 442 令再造紙張延遲至二零二零至二一年度。

Notes
1 752 reams of wood-free paper and 5 442 reams of recycled paper originally planned to be ordered in 2019/20 was deferred to 2020/21 due to the special work arrangements implemented in the first quarter of 2020.

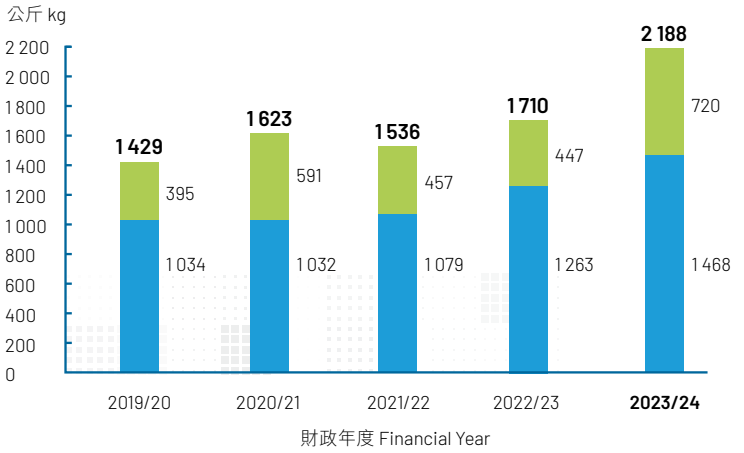
水務署因使用電力處理食水而產生的溫室氣體排放
Greenhouse Gas Emissions Incurred From Electricity Used for Fresh Water Processing by the WSD



* 上述的排放系數取自相應年度並以中華電力有限公司及香港電燈有限公司的數據作參考。

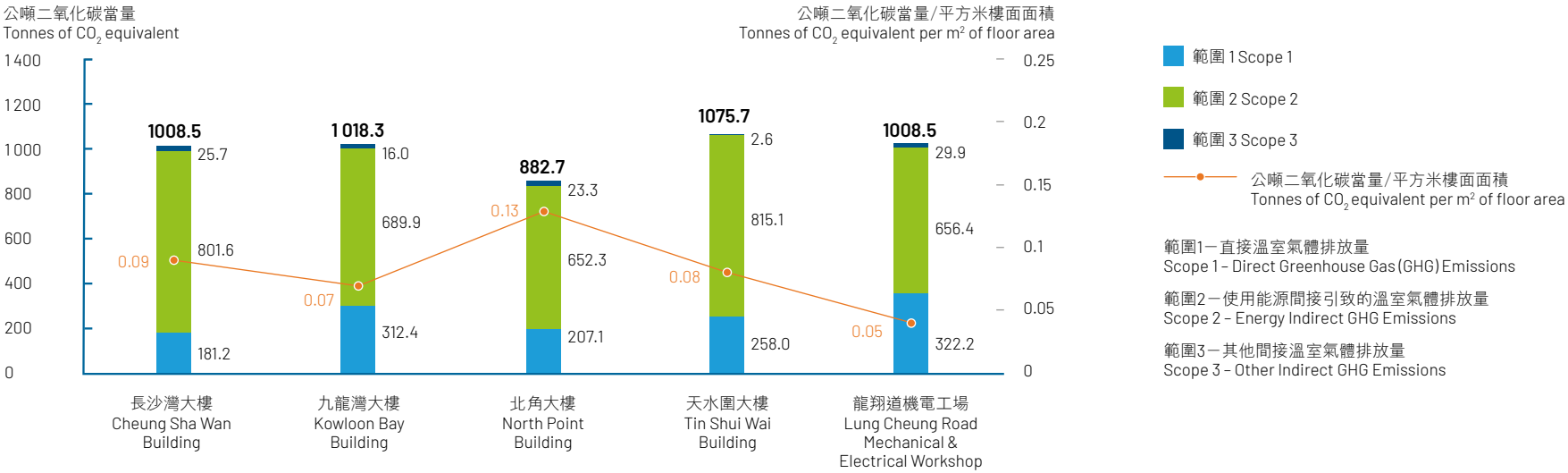
* The emission factor applied corresponds to each respective year with reference to CLP Power Hong Kong Limited and HK Electric

內部工作所需揮發性有機化合物耗用量
VOC Consumption for In-house Work



VOC：揮發性有機化合物
Volatile organic compound

碳審計報告
Carbon Audit Report



範圍1－直接溫室氣體排放量
Scope 1 – Direct Greenhouse Gas (GHG) Emissions

範圍2－使用能源間接引致的溫室氣體排放量
Scope 2 – Energy Indirect GHG Emissions

範圍3－其他間接溫室氣體排放量
Scope 3 – Other Indirect GHG Emissions

可再生能源產量
Renewable Energy Generated

財政年度 Financial Year	2019-20	2020-21	2021-22	2022-23	2023-24
水務設施中的太陽能板發電系統的發電量（千瓦時）（見下面的註釋） Renewable Energy (RE) Generated by Land-based Photovoltaic (PV) Panels in Waterworks Installations (kWh) (see Note below)	28 940	230 257	267 438	278 782	**287 079**
水塘浮動太陽能板發電系統的發電量（千瓦時） RE Generated by Floating PV Systems in Impounding Reservoirs (kWh)	200 428	209 007	211 811	269 896	**220 472**
濾水廠中的水力發電系統的發電量（千瓦時） RE Generated by Hydropower Plant at Water Treatment Works (kWh)	1 491 819	1 478 767	1 510 453	1 421 976	**817 378**
總量（千瓦時） Total (kWh)	1 721 187	1 918 031	1 989 702	1 970 654	**1 324 929**
減少二氧化碳排放當量（公斤）【全港性的溫室氣體排放系數預設值為0.7公斤/千瓦時】 Equivalent Reduction in CO_2 Emission (kg) [The territory-wide default value of the emission factor is 0.7 kg/kWh]	1 204 831	1 342 622	1 392 791	1 379 458	**927 450**

註：欣澳海水抽水站的可再生能源發電系統的發電量，為 12 千瓦太陽能板發電系統和 2.5 千瓦風力發電系統的總和。
Note: The RE generated from Sunny Bay Salt Water Pumping Station is the summation of both 12kW PV system and 2.5kW wind turbine system.

公用集調車輛資料
Information on Vehicle Pool Transport

財政年度 Financial Year	投入運作的政府車輛 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)		
	2021-22	2022-23	2023-24	2021-22	2022-23	2023-24	2021-22	2022-23	2023-24
柴油 Diesel	112	126	**163**	273 899	269 231	**331 335**	1 343 851	1 302 188	**1 654 347**
汽油 Petroleum	104	98	**60**	264 289	247 757	**108 298**	1 491 913	1 452 705	**695 767**
混合（汽油/電力）Hybrid (Petrol/Electric)	1	1	**1**	620	589	**605**	13 590	12 376	**11 821**
液化石油氣 LPG	11	10	**10**	47 599	46 148	**45 690**	129 778	125 810	**117 396**
電力 Electricity	13	12	**12**	–	–	**–**	65 972	67 816	**84 510**

排放
Emissions

（以公噸計）(Figures in Tonnes) 財政年度 Financial Year	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		
	2021-22	2022-23	2023-24	2021-22	2022-23	2023-24	2021-22	2022-23	2023-24	2021-22	2022-23	2023-24
直接廢氣排放 Direct emissions												
車輛（柴油） Vehicle fleet (diesel)	730	704	**866**	-	-	**-**	2	3	**4**	-	-	**-**
車輛（汽油） Vehicle fleet (petrol))	561	585	**257**	-	-	**-**	1	1	**-**	-	-	**-**
車輛（液化石油氣）Vehicle fleet (LPG)	84	77	**77**	-	-	**-**	-	-	**-**	-	-	**-**
間接廢氣排放 Indirect emissions												
耗用電（九龍及新界） Electricity consumed (Kowloon and New Territories)	278 889	281 734	**280 295**	38	27	**24**	189	188	**202**	6	6	**6**
耗用電（港島） Electricity consumed (Hong Kong Island	50 107	49 086	**49 188**	6	10	**6**	36	32	**28**	1	1	**1**
總量 Total	330 371	332 186	**330 683**	44	37	**30**	228	224	**234**	7	7	**7**

附錄
Appendices

附錄一

客戶諮詢中心

香港區

灣仔客戶諮詢中心
灣仔告士打道 7 號入境事務大樓 1 樓

九龍區

大角咀客戶諮詢中心
大角咀鐵樹街 41 號地下

新界區

沙田客戶諮詢中心
沙田上禾輋路 1 號沙田政府合署 3 樓

大埔客戶諮詢中心
大埔汀角路 1 號大埔政府合署 4 樓

屯門客戶諮詢中心
屯門屯喜路 1 號屯門政府合署 7 樓

APPENDIX I

Customer Enquiry Centres

Hong Kong

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

Kowloon

Tai Kok Tsui Customer Enquiry Centre
G/F, 41 Tit Shu Street, Tai Kok Tsui

New Territories

Sha Tin Customer Enquiry Centre
3/F, Sha Tin Government Offices, 1 Sheung Wo Che Road, Sha Tin

Tai Po Customer Enquiry Centre
4/F, Tai Po Government Offices, 1 Ting Kok Road, Tai Po

Tuen Mun Customer Enquiry Centre
7/F, Tuen Mun Government Offices, 1 Tuen Hi Road, Tuen Mun

附錄二

客戶查詢及申請服務的統計數字

APPENDIX II

Statistics on Customer Enquiries and Requests for Service

個案數目 Number of Enquiries and Requests	年份 Year				
	2019	2020	2021	2022	2023
書面、傳真及電郵 Letter, Fax and Email	266 624	290 771	316 721	290 202	**264 699**
電話 Telephone	836 767	859 836	846 353	676 319	**630 748**
親身 Counter	317 921	232 078	315 435	262 351	**263 669**
總數 Total	1 421 312	1 382 685	1 478 509	1 228 872	**1 159 116**

附錄三

客戶投訴的統計數字

APPENDIX III

Statistics on Customer Complaints

投訴數目 Number of Complaints	年份 Year				
	2019	2020	2021	2022	2023
與帳戶有關的投訴# Account-Related#	94	679	544	60	**27**
與帳戶無關的投訴 Non-Account-Related	5 828	6 519	7 174	6 601	**6 446**
總數 Total	5 922	7 198	7 718	6 661	**6 473**

由區議會、立法會及申訴專員轉介與帳戶有關的投訴。
Account-related complaints from District Councils, Legislative Council and The Ombudsman.

附錄四

二零二三至二四年度繳費方式的統計數字

APPENDIX IV

Statistics on Mode of Payment 2023/24

繳費方式 Mode of Payment	交易數目 No. of Cases	百分比 Percentage (%)
親身繳費 In person	3 077 000	38.0
郵寄 By post	45 000	0.6
自動轉帳 Autopay	868 000	10.7
繳費靈 Payment by Phone Service (PPS)	475 000	5.9
自動櫃員機 ATM	188 000	2.3
網上繳費 Internet	3 443 000	42.5
總數 Total	**8 096 000**	**100.0**

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

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

匯率
除另有說明外，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。

Exchange Rates
When dollars are quoted in this report, they are, unless otherwise stated, Hong Kong dollars. Since 17 October 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
WATER SUPPLIES DEPARTMENT

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傳真：(852) 2824 0578
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互聯網地址：http://www.wsd.gov.hk

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Telephone：(852) 2824 5000
Facsimile: (852) 2824 0578
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