

Annual and Sustainability Report

2023/2024



newWater
A PRODUCT OF PUB

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REPORTING SCOPE AND PERIOD

PUB's inaugural Annual and Sustainability Report combines the previously separate Annual Report and Sustainability Report. It documents PUB's organisational strategies, developments, initiatives, performance and achievements from 1 April 2023 to 31 March 2024 ("FY2023"). Where available, the prior years' ("FY2022" and "FY2021") data has been included for comparison. The reporting scope of sustainability performance data in the Appendix is in accordance with, and goes beyond, GreenGov.SG reporting requirements. For enquiries on this report, please email us at pub_one@pub.gov.sg.

REPORTING STANDARDS AND INTERNAL AUDIT

This report has been prepared in accordance with the GRI Sustainability Reporting Standards ("GRI Standards"). Internal Audit has conducted a review of PUB's sustainability reporting process and disclosure of sustainability performance data on pages 37-42. No material issues were identified during this review.

ABOUT PUB: OUR VITAL ROLE

Our Mission

Supply good water.
Reclaim used water.
Tame storm water.
Resist rising seas.

Our Vision

Water for Every One.
Everyone for Water.

Singapore's National Water Agency

PUB is a statutory board under the Ministry of Sustainability and the Environment (MSE). As Singapore's National Water Agency, PUB is responsible for the collection, production, distribution and reclamation of water in an integrated manner (refer to [link](#) for more details). PUB is also the National Coastal Protection Agency to lead, coordinate and explore Whole-of-Nation efforts to protect Singapore's coastline.

Chairman's Message

GRI [2-6] [2-22]



Chiang Chie Foo

Chairman
PUB
Singapore's National Water Agency

The world, as we see it today, is in an uncertain, and perhaps even dangerous, state. The war in Europe and the Middle East has continued unabated. Tensions and flashpoints, be it arising from differences in ideology or other reasons, in various parts of the world, including in our part of the world, remain unresolved. Geo-politics, technology advances, economic competition, climate change and social concerns have not made governance any easier.

In the critical infrastructure space, as in the energy, transportation and water spaces, the confluence of engineering, systems, operations, security and climate change have thrown up new challenges for operators and management. It is no longer a business-as-usual approach, or simply an economic efficiency approach. Hardiness and resilience of the entire system must be given their due priority.

The Singapore Water Story

In Singapore, water remains an existential issue. Today, we are a leading example

of sustainable water management. Singaporeans enjoy good, clean water with the turn of a tap; our distribution losses are among the world's lowest; we have significantly reduced our flood-prone areas while transforming our waterways into beautiful and vibrant community spaces. PUB, as the national water agency, will have to hold up this system that we have inherited, and continue to deliver on its mission. Our predecessors have built a robust system with good and sound engineering, and our people are trained and equipped to run successful operations with good and desirable outcomes. Through the diligence and hard work of past and present PUB colleagues, we have established ourselves as the top in the global ranking for good, safe drinking water, as well as a global leader in the treatment and reclamation of wastewater. Nonetheless, we continue to transform and be ready for the future without compromising on the robust system, sound engineering and effective and efficient operations. Indeed, the Singapore Water Story is a journey of transformation and overcoming the odds.

Technological advances and climate change will have a profound impact on PUB's ability to achieve our mission in an efficient manner with a low carbon footprint. Climate change will see longer, drier periods, more intense rainstorms and rising sea levels in Singapore, bringing urgency to address and adapt to these climate risks. We are also a significant energy consumer, and we will have to use technology to optimize and minimize the use of energy in our plants. Research and development, be it a new membrane, or a new process, will play a big part in this.

A Smart AI-enabled PUB

Five years ago, PUB embarked on a transformation journey to be a Smart PUB with a future-ready workforce. We have made tremendous progress and PUB is now ready to push and progress to the next level of being a Smart AI-enabled PUB. This is only the start of this new journey and it will require the skills and tenacity of everyone in PUB to achieve this vision. Indeed, through using AI and data

Chairman's Message

GRI [2-6] [2-22]

analytics, PUB can exploit the rich pool of good quality data in our water system to boost efficiency, reduce our carbon footprint, and upkeep our water assets.

While AI and digitalization can transform the way we work through new systems and processes, and catalyze organizational efficiency, they also increase our exposure to increasingly sophisticated cyberattacks that target essential services and supply chains. More so, if AI is used as a rogue tool. Cybersecurity defence to safeguard our data and systems is a necessary requirement for a strong and resilient PUB. Cyber resilience is a vital part of PUB's digital transformation.

Our Continued Search for Solutions

We do not have all the answers to these pressing challenges. PUB must tap on the collective expertise and experience of our friends and partners, other water agencies, the industry and academics to address and adapt to the changing environment,

including that brought about by climate change, while navigating an increasingly complex cyber landscape. PUB has established a Coastal Protection Expert Panel comprising international experts to advise and support PUB in staying abreast of international best practices and coastal adaptation solutions. At the recent Singapore International Water Week 2024, we also signed eight PUB Memorandums of Understanding, which will facilitate knowledge exchange and transfer between PUB and other organizations, in the areas of innovation, energy-efficient water treatment, resource circularity and climate resiliency. We have also formed a Cybersecurity Expert Panel to provide guidance to PUB on our cyber approaches and plans.

PUB will continue to invest in research & development (R&D) and seek out new and better ways of doing things. This is not new to PUB – we have embodied the spirit of innovation since the beginning of our water story. For example, NEWater's genesis dates

back to the 1970s, when the Singapore Government commissioned a study to determine the feasibility of producing reclaimed water. While technology at that time was expensive and not matured, PUB persevered in our research and monitored the landscape. The reverse osmosis membrane technology eventually became cost-effective, efficient and reliable for us in the 1990s. Following a successful demonstration plant, PUB opened the first two NEWater factories in Bedok and Kranji in 2003 and closed the water loop. Today, NEWater proudly stands as one of our National Taps.

This willingness to experiment with new solutions is ingrained in PUB's DNA. This will assure us of reliable and sustainable operations for the long-term. Since 2002, we have supported more than 770 R&D projects with a total value of about \$918 million. These projects contribute towards our ambitious goals for a sustainable water system, such as net zero emissions by 2045 and energy self-sufficient water reclamation plants.

The Next Chapter

I am confident that PUB will rise above our challenges and build a sustainable and resilient water system for future generations to come. I would want to place on record my thanks and appreciation for all PUB Board members for their ideas, suggestions and contributions for the betterment of PUB and Singapore, and to PUB Management and all our PUB colleagues for having the will, spirit and gumption to grow PUB into what it is today – a world-recognised national water agency. We have to continue in this journey of upholding our standing, and delivering water security – our taps will continue to flow with clean and safe drinking water – to all Singaporeans, and delivering on our vision of a smart, AI-enabled PUB. I am confident that PUB Management and our PUB colleagues will make it happen. This will enable PUB to be a significant component of Singapore's continuing success story.

Chief Executive's Message

GRI [2-6] [2-22]



Ong Tze Chin

Chief Executive
PUB
Singapore's National Water Agency

Singapore's Water Story is one where we strove to overcome existential challenges to deliver a resilient and sustainable water system for Singapore. Through long-term planning, we now have 17 reservoirs, compared to three in 1963 when PUB was formed. We have built up our Four National Taps, including the weather-resilient sources of NEWater and desalinated water, through sustained investments in technology and infrastructure. We have put in place an innovative and world-class drainage system that has reduced the size of flood-prone areas in Singapore to less than 0.04% of our total land area.

Taking on Climate Adaptation

As we embark on the next chapter of Our Water Story, PUB will need to address three strategic challenges. The first is climate change. The impact of climate change is largely felt through water. PUB, as Singapore's national water agency, stands at the forefront of Singapore's climate adaptation efforts.

Results from the Third National Climate Change Study show that Singapore will not only experience more wet and dry extreme weather, but also accelerating mean sea level rise. From 2024, PUB and other public agencies will embark on technical studies to study the reclamation of "Long Island" off East Coast Park. The "Long Island" will not only address the coastal protection of Singapore's East Coast, it will also enhance the East Coast area's flood resilience and add another reservoir to enhance our water supply. Our site-specific studies (SSSs), which seek to formulate tailored coastal protection measures for diverse segments of Singapore's coastline, are progressing steadily. With the commencement of our most recent study for the segment of the Northwest Coast from Lim Chu Kang to Woodlands in August 2023, our SSSs now cover City-East Coast, the whole of the Northwest Coast, and Jurong Island (led by JTC).

We will also continue to strengthen our flood resilience to prepare for more frequent and extreme rain events. For

example, we will commission the dual-function Alkaff Lake within Bidadari Park this year. It will serve as a stormwater retention pond to temporarily hold stormwater runoff during heavy rain and provide recreational spaces for residents and the community during dry weather. We also target to complete the Syed Alwi Pumping Station by 1Q 2025 – this will prevent backflow from Rochor Canal from flowing to the low-lying Jalan Besar area during intense storms, enhancing the flood resilience of the area.

Responding to Increasing Demand

PUB's second strategic challenge is to continue meeting the growing demand for water supply and used water treatment. As part of our long-term infrastructure development, PUB has been constructing the Deep Tunnel Sewerage System Phase 2 (DTSS2), which will convey used water to Tuas Water Reclamation Plant (TWRP) for NEWater production. We completed the tunnelling

Chief Executive's Message

GRI [2-6] [2-22]

works for DTSS2 in 2023 – a significant milestone. When DTSS2 and TWRP are completed, they will provide additional capacity for used water treatment and expand our NEWater capacity to meet water demand.

We are looking ahead at new infrastructure projects to meet this demand. Kranji Water Reclamation Plant (KWRP) and Kranji NEWater Factory will be redeveloped by around 2035 to increase their treatment capacities and support upcoming developments in northern and north-western Singapore. Advanced technologies, such as membrane bioreactor and thermal hydrolysis process, will be adopted in KWRP to produce higher quality treated effluent and achieve higher land use efficiency.

AI and digitalisation are also critical to PUB's effort to meet these growing demands. The new TWRP will be a smart plant, with the introduction of Digital Twins such as 6D Building Information

Modeling, Advanced Process Control systems and autonomous systems that will make our work safer and less labour-intensive. Taken together, these measures will raise productivity at TWRP by about 35% from 1 million gallons/day of used water treated per worker to 1.35 million gallons/day per worker.

PUB is also taking steps to manage water demand growth from our customers. In 2024, we introduced mandatory water recycling requirements for new projects in the water-intensive wafer fabrication, electronics and biomedical industries. To support the industry in adopting more water-efficient practices and technologies, PUB has also increased the funding cap for water recycling projects from \$1 million to \$5 million under the Water Efficiency Fund in 2023. To date, close to 400 grants have been awarded to companies for water efficiency projects. All in all, these projects will save Singapore 70 million litres of water each day.

Supporting Lifelong Learning

The third strategic challenge that PUB faces is the changing nature of our workforce. With longer careers and transformed job roles, PUB needs to provide opportunities for lifelong learning and growth to meet the expectations of new workforce entrants and the needs of existing workers.

To facilitate the professional development of our workforce, PUB launched the Enhanced Professional Development Framework to enable our staff to continue to learn, grow and remain competent, even as our operating environment changes. In 2023, 100% of our staff participated in training, including in emerging areas such as sustainability. On average, each officer invested about 50 hours in training in the year. At the same time, some 28% of our staff have signed up for elective courses beyond their job competency requirements to upskill

themselves for the future. In addition, PUB continued to support and co-sponsor our staff to attain professional certification in engineering and other fields, and to upgrade themselves in institutes of higher learning.

PUB's Mission at the Core

Even as PUB takes steps towards addressing these 3 strategic challenges, the core of our work remains unchanged – supply good water, reclaim used water, tame storm water and resist rising seas. I thank all our stakeholders – the public, businesses, the research community, our PUB union – for working with us all these years to write our water story. I am confident that through our sustained partnership, PUB will continue to provide a resilient and sustainable water system for Singapore.

Board of Directors

GRI [2-9]



Chiang Chie Foo
Chairman,
PUB



Goh Si Hou
Chief Executive,
PUB
(Tenure till 31 Oct 2023)



Ong Tze Chin
Chief Executive,
PUB
(Tenure from 1 Nov 2023)



**Abu Bakar
Bin Mohd Nor**
Group Chairman,
M Kapital Holdings
Pte Ltd



Ang Yiting
Associate Editor,
SPH Media Trust –
Lianhe Zaobao



Aurill Kam
Director,
Legal Clinic LLC



Eugene Leong
Deputy Secretary
(Policy),
Ministry of Education



John Ng
Chief Executive Officer,
YTL PowerSeraya
Pte Ltd



Jonathan Yap
Chief Executive Officer,
CapitaLand
Development



Low Teck Seng
Senior Vice President,
Sustainability &
Resilience,
National University
of Singapore



Ngiam Le Na
Deputy Chief Executive
(Operations),
DSO National
Laboratories



Sanjeev Kumar Tiwari
General Secretary,
Amalgamated Union
of Public Employees



Susan Hwee
Head of Group Retail,
United Overseas Bank
Limited



Wee Ai Ning
Chief Investment Officer,
Avanda Investment
Management



Yong Kwet Yew
Emeritus Professor of
Civil and Environmental
Engineering,
National University of
Singapore

Organisational Structure

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Corporate and Sustainability Governance

GRI [2-9] [2-12] [2-13] [2-14][2-17]

Corporate Governance

The PUB Board provides **strategic oversight** and has overall responsibility for PUB's organisational functions and goals. By leveraging the collective expertise of its 14 Board Members from the private and public sectors in areas such as finance, strategic planning, management and sustainability, the PUB Board provides strategic guidance to PUB Senior Management in the development of policies and strategies to advance PUB's mission. The responsibilities of the PUB Board are regulated by the Public Utilities Act and other legislative requirements.

PUB Senior Management, led by the Chief Executive, **sets, implements and reviews** policies and strategies to achieve PUB's goals. By managing the financial, operational, and human resources of the organisation, PUB Senior Management drives PUB to achieve our mission.

Sustainability Governance

PUB's Chief Executive is assisted by the PUB Sustainability Committee in the management of key sustainability issues, such as decarbonisation, green financing, and sustainability reporting. The PUB Sustainability Committee is chaired by PUB's Deputy Chief Executives, with members comprising Directors from each PUB Department. To ensure that sustainability is embedded within the organisation, PUB has a Sustainability Working Group (chaired by the Chief Sustainability Officer) which consists of Department representatives. The Sustainability Working Group supports the Sustainability Committee in the coordination, implementation and tracking of sustainability initiatives at the department level.

Climate change impacts every part of PUB's mission. PUB is tackling rising sea levels as Singapore's Coastal Protection Agency, and we must manage the energy requirements of our operations as we transition to a low-carbon future. A Board Sustainability Committee (BSC) was formed on 1 April 2023, and is convened biannually to provide **technical expertise and strategic guidance** in areas such as coastal protection, energy sustainability and decarbonisation.



PUB's Key Organisational Risks

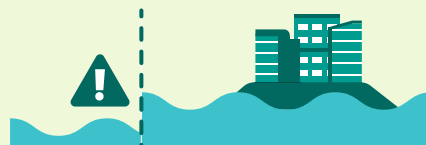
Overview

PUB faces several key strategic challenges. First, climate change. Singapore's Third National Climate Change Study (V3) projects higher temperatures, more dry and wet extremes, and an accelerating increase in mean sea levels for Singapore and Southeast Asia by the end of the century. This will affect PUB's mission.

At the same time, PUB will face increasing demands as both the economy and population grow. There will be greater demand for water, which in turn increases the amount of used water that needs to be treated. Together with a slower-growing workforce and cost pressures arising from the transition to a low-carbon economy, inflation and supply chain disruptions, PUB will need to find new ways of operating effectively and efficiently. We will need to implement energy-efficient treatment technologies and processes in our facilities to reduce operating costs. We will harness technology and digital solutions to transform both our operations and workforce.

The nature of PUB's workforce will continue to change, with longer careers, transformed job roles and an evolving operational environment. PUB will need to provide opportunities for lifelong learning and growth to meet the expectations of new workforce entrants and the needs of existing staff.

Climate Risks



Sea level rise is a serious threat for low-lying islands like Singapore. PUB must take timely action in concert with other government agencies and private landowners to protect our coastlines and prevent potential flooding of low-lying areas, which could disrupt lives and livelihoods.



Extreme rainfall could temporarily exceed the capacity that drains are designed for, resulting in flash floods. PUB adopts a system-level "Source, Pathway, Receptor" approach to enhance flood resilience and reduce flood risk.



Climate change can also stress our water supply through more **erratic rainfall patterns**. PUB is building up capacity for weather-resilient water sources, such as NEWater and desalinated water, to ensure a sustainable water supply.

Demographic Risks

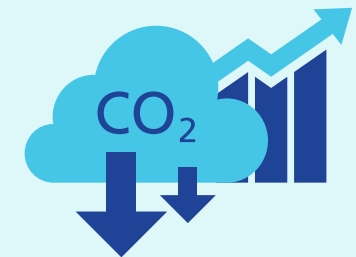


With the **changing nature of the workforce**, PUB will continue to provide lifelong opportunities for staff to further professional development and take on transformed job roles.



A **slower growing workforce** means PUB must raise the productivity and efficiency of our workforce. PUB needs to transform by leveraging digitalisation, artificial intelligence (AI), and new technological tools. Our workforce must also continuously upskill ourselves to become a more productive and future-ready organisation.

Financial Risks



Increasing water demand, reliance on climate-resilient water sources and the **transition to a low-carbon economy** can increase grid-based electricity consumption, resulting in higher energy costs.



Supply chain disruptions and the increased costs of goods and services can impact operating and capital expenditures. Since 2017, average electricity market tariffs, costs of essential chemicals and construction costs in Singapore have increased by more than 30%.

PUB's Material Topics

GRI [3-2]

The management of PUB's Material Topics allows PUB to address our key organisational risks. Please refer to [Appendix 1](#) for PUB's Approach to Materiality Assessment.

Pillar	Material Topic	Why Topic is Material
1. Water and Sustainable Management	1.1 Sustainable Water System	Water security and resilience is central to PUB's mission.
	1.2 Coastal Protection and Flood Resilience	Coastal protection and flood resilience are necessary to enable Singapore to adapt to climate change-induced sea level rise, and more frequent and intense storms.
	1.3 Decarbonisation	Climate change and rising water demand will increase reliance on energy-intensive water sources. We must manage our energy, waste and carbon footprint for sustainable development.
	1.4 Resource Circularity	
2. People and Partnerships	2.1 Our People: Healthy, Safe, Competent	A healthy, safe and future-ready workforce sustains PUB's current and future operational needs.
	2.2 Customers and Community	PUB cannot achieve our mission alone. Strong partnerships with our customers, businesses, industry and the wider community are essential for mission success.
3. Business Excellence	3.1 Risk Management	Risk management helps us identify and manage complex threats to our business, such as ensuring the security of our digital systems and data. The development of new, energy efficient infrastructure contributes to our long-term financial and sustainability goals.
	3.2 Financial Sustainability	

PILLAR ONE: WATER AND SUSTAINABLE MANAGEMENT

1.1 Sustainable Water System

GRI [2-23] [2-24] [2-25] [3-3] [303-1]

PUB has built up a resilient and sustainable water system founded on three broad strategies: Sustainable Supply, Sustainable Demand and Sustainable Operations.

Singapore's water demand is projected to almost double by 2065 in tandem with economic and population growth, with the non-domestic sector accounting for two-thirds of this demand. PUB is working with businesses and households to manage water demand and encourage them to adopt initiatives and solutions that improve their water efficiency and help conserve water. To ensure the security and sustainability of our water supply, we will need to maintain long-term investments in water infrastructure and improve the supply of weather-resilient water sources, such as NEWater which is reclaimed from used water.

Sustainable Supply

To ensure that PUB can continue to supply good quality water and reclaim used water in the long-term, we have already begun to put in place the necessary infrastructure to meet future needs. This is especially pertinent given the long lead-time required to build our infrastructure. Beyond that, we are also introducing additional measures to safeguard our waterways, reservoirs and sewerage system.

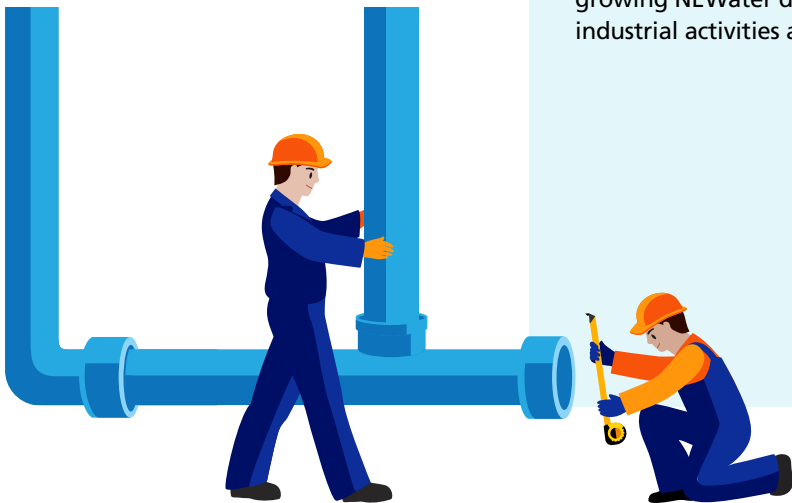
Completion of Subsea Tunnel from Tuas NEWater Factory to Jurong Island

The expected completion of Changi NEWater Factory 3 in 2026 and Tuas NEWater Factory 1 in 2027 will enhance our NEWater supply.

PUB completed a 6m diameter subsea tunnel from the future Tuas NEWater Factory to Jurong Island on 1 November 2023. Laying of NEWater pipes in the subsea tunnel are ongoing and expected to be completed by 1Q 2025. This pipeline will help to meet growing NEWater demand and support industrial activities at Jurong Island.



NEWater pipelines from the future Tuas WRP to Jurong Island.



PILLAR ONE: WATER AND SUSTAINABLE MANAGEMENT

1.1 Sustainable Water System

GRI [2-23] [2-24] [2-25] [3-3] [303-1]

Completion of DTSS2 Tunnelling Works

The Deep Tunnel Sewerage System Phase 2 (DTSS2) is a major used water infrastructure. Used water from the western half of Singapore is conveyed via gravity through DTSS2 to Tuas Water Reclamation Plant, which recycles used water and enhances Singapore's long-term water sustainability. DTSS2 tunnelling works were completed in July 2023 and PUB marked this with a "Light at the End of the Tunnel" ceremony on

21 August 2023. Works at DTSS2 will move on to fitting the tunnels with corrosion protection lining and fibre optic cables for the Tunnel Integrity Monitoring System, and the construction of air management facilities and gate shafts. Construction works at Tuas Water Reclamation Plant are also well underway. Foundation works have been completed and the superstructures have started to take shape.



"Light at the End of the Tunnel" ceremony.

Safeguarding Our Water Sources



Rainwater collected in our reservoirs, as well as used water which provides the feedstock for NEWater production, are both valuable sources of water for Singapore. PUB has strengthened monitoring and enforcement to prohibit

the discharge of harmful substances into our public sewerage system which may disrupt water supply. To protect our waterways and reservoirs, we will also be introducing additional measures to further deter silt discharges.

PILLAR ONE: WATER AND SUSTAINABLE MANAGEMENT

1.1 Sustainable Water System

GRI [2-23] [2-24] [2-25] [3-3] [303-1]

Sustainable Demand

To manage the demand growth in the non-domestic sector, PUB has introduced mandatory water recycling requirements from January 2024 for new projects in the water-intensive wafer fabrication, electronics and biomedical industries.

The following requirements will apply to new projects (including expansion of existing plants) that will consume at least 60,000m³ of water annually from 1 January 2024:

- a) Minimum 50% recycling rate for wafer fabrication plants involved in front-end semiconductor manufacturing; and
- b) Recycling of specified waste streams for electronics plants and biomedical plants.

With these industries collectively contributing 17% of the current non-domestic water demand, such measures will encourage large industrial water users to adopt prudent water management practices.

Last year, PUB bolstered the Water Efficiency Fund to provide increased financial support to businesses in their water recycling initiatives. The funding cap was raised

significantly from \$1 million to \$5 million. As of March 2024, close to 400 grants have been awarded to organisations for their water efficiency projects, which are projected to save a cumulative 70 million litres of water daily when fully implemented.

Beyond these efforts, PUB aims to motivate businesses and industries to proactively manage water demand by recognising those who champion water efficiency and contribute to advocacy in the water cause. By celebrating the top performers in water conservation, PUB hopes to inspire a culture of responsible usage across various sectors. Ms Grace Fu, Minister for Sustainability and the Environment and Minister-in-charge of Trade Relations, was the Guest of Honour for the award ceremony for the Singapore Watermark Awards (SWMA), Water Efficiency Awards (WEA) and WEA (Projects) on 26 March 2024. In her opening remarks, Minister Fu emphasised the collective responsibility of all stakeholders in ensuring the sustainable use of water, highlighting the pivotal roles of business owners, consumers and environmental advocates.



Minister Fu at the award ceremony for SWMA, WEA and WEA (Projects).

PILLAR ONE: WATER AND SUSTAINABLE MANAGEMENT

1.1 Sustainable Water System

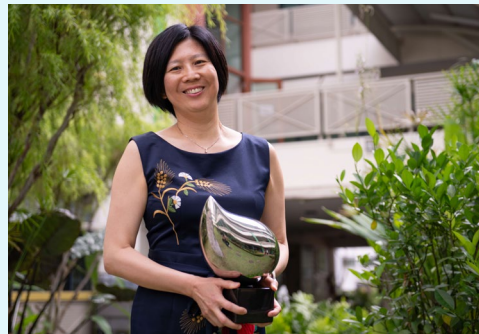
GRI [2-23] [2-24] [2-25] [3-3] [303-1]

Singapore Watermark Awards 2024

The SWMA is the nation's highest accolade recognising organisations for exemplary leadership and outstanding achievements in advancing the water sustainability agenda. This year, PUB presented the award to Amazon Web Services (AWS) Singapore, Mee Toh School and Systems on Silicon Manufacturing Company Pte Ltd (SSMC). Beyond their significant achievements in water efficiency, these organisations have adopted innovative water conservation practices and actively engaged with the community to garner support for the water cause.



From implementing water-efficient cooling tower systems, to investing in operational upgrades and advanced wastewater treatment technologies, AWS Singapore continues to push boundaries in water-use efficiency. The company also educates and inspires community action for water sustainability, as staff share their tech expertise with young scientists to develop and enhance exciting water projects.



Through a school-based integrated curriculum aimed at preparing young students to take action for water sustainability, complemented by water conservation systems within the school premises, Mee Toh School cultivates a culture of responsible eco-stewardship. By engaging teachers, non-teaching staff and even parents, everyone is committed to the cause and is involved in nurturing the next generation of water conservation heroes.



SSMC has consistently achieved the highest water recycling rate in Singapore's wafer fabrication sector. They continue to challenge themselves by innovating and improving water efficiency in their operations. The company's passion for water conservation also extends to the community, as demonstrated by the educational tours and sharing sessions they organise for students on the topic of water.

Water Efficiency Awards and Water Efficiency Awards (Projects)

Under the WEA, 35 recipients were recognised for their outstanding performance in water efficiency in their respective sectors. Additionally, the WEA (Projects), a new category introduced in 2024, was presented to eight recipients for their innovative projects that demonstrated remarkable improvements in water efficiency and project leadership.

For more information on the SWMA, WEA and WEA (Projects) winners, refer to <https://go.gov.sg/singaporewatermarkawards>

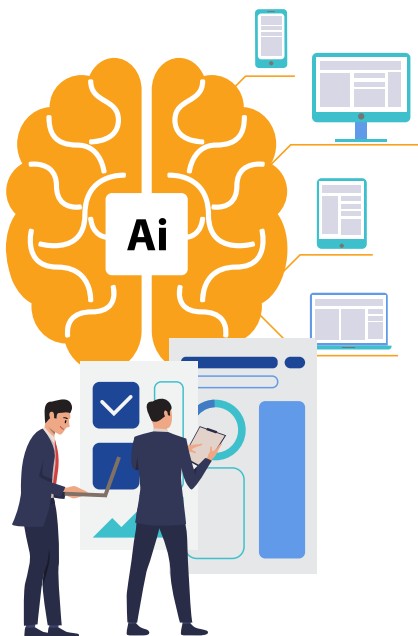
PILLAR ONE: WATER AND SUSTAINABLE MANAGEMENT

1.1 Sustainable Water System

GRI [2-23] [2-24] [2-25] [3-3] [303-1]

Sustainable Operations

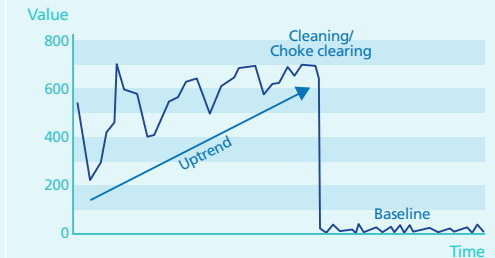
PUB will leverage technology and artificial intelligence (AI) to transform our operations to be more productive and efficient, as we contend with a slower growing workforce. We have made significant progress since 2019 in building a Smart PUB with a future-ready workforce that can sustain our operations. Now, PUB aims to become a Smart AI-enabled organisation, where AI is adopted by our staff and integrated with our business processes.



In 2023, PUB consolidated our building and facilities maintenance services under the Centralised Services Department, and adopted the Integrated Facilities Management Approach for facilities maintenance. This allows PUB to adopt Smart Facilities Management solutions, such as smart lifts, computerised maintenance management systems and indoor air quality sensors. With these smart facilities, PUB will be able to enhance operational efficiency and improve oversight and response times in our management of buildings and facilities.



Moving forward, PUB will be piloting an automated chemical management system, where sensors will replace humans to trigger purchase requests, verify delivery and monitor stock inventory. Rule-based enabled inventory and order management can improve PUB's management of our supply chains, from capacity forecasting to stocktaking, for more effective planning and decision-making.



Graph illustrating how IOT sensors can be used to detect an uptrend in the water, providing PUB with early warning of impending blockage in the pipe. Pre-emptive choke clearing and cleaning can be carried out to restore the conveyance in the system.

PUB will also be leveraging Internet of Things (IoT) sensors, coupled with big data analytics to guide maintenance teams in carrying out pre-emptive maintenance to prevent chokes and overflows in our sewer network. Come 2025, older generations of level sensors which had provided PUB with early warning of impending blockages within the sewers will be replaced with new sensors to enable continuous monitoring and level trending. Together with machine learning, PUB will be able to improve service quality through early identification of anomalies in the sewerage system to carry out pre-emptive maintenance and inspections.

PILLAR ONE: WATER AND SUSTAINABLE MANAGEMENT

1.2 Coastal Protection and Flood Resilience

GRI [2-23] [2-24] [2-25] [3-3]

Singapore's flood resilience is affected by rising sea levels and more intense rainfall brought about by climate change. By end-century under the high emissions scenario, V3 projects an increase in extreme daily rainfall by up to 92% in April and May, and an increase in mean sea levels of up to 1.15m. This poses a threat to Singapore – more than one-third of our island is less than 5-metres above mean sea level and more intense rainfall could overwhelm our drainage system and disrupt critical infrastructure. PUB is taking an integrated approach to coastal protection and flood resilience to help Singapore adapt to climate change.

Engineering our Coastal Defences

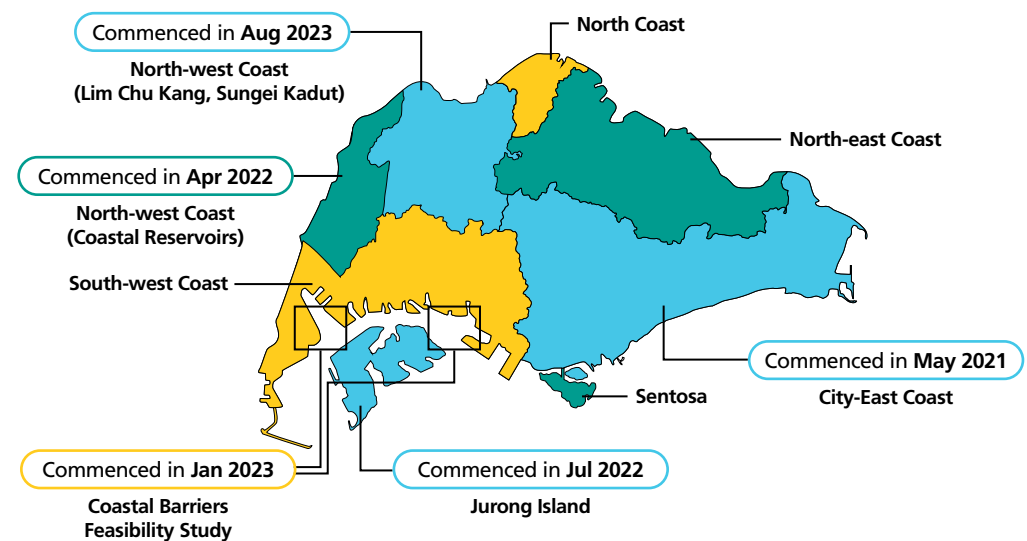
Singapore's coastline stretches over 300km and is highly varied. To account for the different characteristics of each part of our coastline, PUB has embarked on site-specific studies (SSS) progressively. The latest SSS commenced for a section of the north-west coast in August 2023, which includes Lim Chu Kang, Sungei Kadut and Woodlands.

Each SSS will assess flood risks and develop tailored coastal adaptation measures for the different segments of the coastline.

Possible coastal adaptation options include sea walls, earth mounds and tidal gates. Where feasible, the measures will be co-located with amenities and recreational spaces for the community to enhance Singapore's living environment. Coastal protection measures could also be designed as hybrid solutions with nature-based elements to preserve and enhance existing natural biodiversity.

In September 2023, PUB, in partnership with the National University of Singapore, launched the Coastal Protection and Flood Resilience Institute (CFI) Singapore. CFI Singapore aims to strengthen coastal protection and inland flood management capabilities. Since its launch, it has begun work on 17 innovative engineering projects to tackle rising sea levels.

Potential coastal protection solutions under study include flexible seawalls with adjustable height to address uncertainties in sea level rise, and hybrid solutions like seagrasses complementing perched beaches. Hybrid measures could also reduce wave energies and trap sediment on the seafloor to reduce coastal erosion and protect natural habitats. Other hybrid measures such as rock revetments supplemented with mangroves (see photo on the right), could also prevent coastal erosion and reduce the extent of hard infrastructure required.



Rock revetments with mangroves in Pulau Hantu. Photo credits: Ria Tan.

PILLAR ONE: WATER AND SUSTAINABLE MANAGEMENT

1.2 Coastal Protection and Flood Resilience

GRI [2-23] [2-24] [2-25] [3-3]

“Long Island” – A Multifunctional Coastal Protection Solution

The East Coast is one of the low-lying coastal areas in Singapore that is vulnerable to rising sea levels. Some areas of East Coast Park are already experiencing occasional coastal flooding due to rainfall coinciding with high tide.

To protect against sea-level rise and secure future land needs for housing and recreation, PUB and other public agencies will embark on technical studies from 2024 onwards to study the reclamation of tracts of land, collectively known as “Long Island”, off East Coast Park. Land at “Long Island” will be reclaimed to a higher level and form a continuous line of defence along the coast for protection against rising sea levels.

“Long Island” provides an opportunity to develop multifunctional infrastructure to meet multiple national needs. It will add around 800 hectares of land for new homes and potentially around 20km of new coastal and waterfront parks.

Like the Marina Barrage, “Long Island” will also create a new reservoir that enhances Singapore’s water resilience and offers flood protection with tidal gates

and pumping stations, while providing recreational space for water activities such as canoeing and dragon boating. PUB, together with other public agencies,

will engage the public, businesses and community, such as nature and recreational interest groups, to co-create the plans for “Long Island”.



PILLAR ONE: WATER AND SUSTAINABLE MANAGEMENT

1.2 Coastal Protection and Flood Resilience

GRI [2-23] [2-24] [2-25] [3-3]

Alkaff Lake



Alkaff Lake is a “pathway” solution under PUB’s holistic “Source-Pathway-Receptor” approach to managing stormwater, which introduces adaptability and flexibility to Singapore’s drainage system when looking at solutions for flood protection.

Opened to the public in September 2024, the dual-function Alkaff Lake within

Bidadari Park serves as a stormwater retention pond to temporarily hold stormwater runoff during heavy rain while otherwise functioning as a recreational space with features such as terraced wetlands and a cascading creek. This improves the aesthetics and liveability of surrounding areas, while mitigating flood risks.

Syed Alwi Pumping Station

Syed Alwi Pumping Station is another “pathway” solution that is part of Singapore’s wider efforts to adapt to climate change.

The Jalan Besar area, including Syed Alwi Road, Desker Road and Rowell Road, has historically faced challenges with frequent flooding due to its low-lying nature. In 2014, PUB upgraded the drains along Syed Alwi Road and raised the road to address this. While these measures have improved the flood situation, the area remains susceptible to flooding caused by increasingly frequent and intense rainstorms brought about by climate change.

With approximately 40% of the catchment gazetted as a conservation area, raising buildings and roads through redevelopment is not feasible. The installation of a floodgate at Syed Alwi Outlet Drain will prevent backflow from downstream Rochor Canal during intense storms. This floodgate will divert stormwater to Syed Alwi Pumping Station, where it will be pumped downstream into Rochor Canal, thus keeping the water levels in Syed Alwi Outlet Drain in check. The completion of the pumping station, expected in 1Q 2025, will further enhance flood resilience in the low-lying Jalan Besar area.



PILLAR ONE: WATER AND SUSTAINABLE MANAGEMENT

1.3 Decarbonisation

GRI [2-23] [2-24] [2-25] [3-3] [302-1] [302-3] [302-4] [305-1] [305-2]

The Paris Agreement has inspired near-universal climate action. However, the 2023 United Nations Framework Convention on Climate Change (UNFCCC) Global Stocktake has assessed that the current trajectory of global emissions is not consistent with limiting global warming to 1.5°C to reduce the risks and adverse impacts of climate change. The Intergovernmental Panel on Climate Change (IPCC)'s Sixth Assessment Report (AR6) points to a rapidly closing window of opportunity to take urgent climate action and secure a sustainable future for all.

Singapore has committed to achieve net zero emissions by 2050 to do our part to mitigate climate change. In line with public sector targets under the GreenGov.SG Initiative, **PUB targets to achieve net zero emissions around 2045**, contingent on the progress of technologies and international cooperation to enable mitigation measures. Through PUB's 3Rs decarbonisation strategy, we will support Singapore's transition to a low-carbon future.

Replacing grid-based energy with solar energy



PUB has deployed 64 megawatt-peak (MWp) of floating solar projects to date which can meet 10% of PUB's energy needs. A tender was released for solar deployments at Pandan Reservoir in 2Q 2024. PUB is also studying the environmental impact of deployment at Lower Seletar Reservoir. These deployments can increase PUB's overall solar deployment by three times.

As there is limited land and reservoir surface for solar deployments in land-scarce Singapore, it is key to maximise yield of solar deployments by leveraging improvements in technology. Solar panels with higher solar conversion efficiency will be adopted for these upcoming deployments, allowing PUB to increase the solar deployment capacity at Pandan Reservoir by 25% to 55MWp.

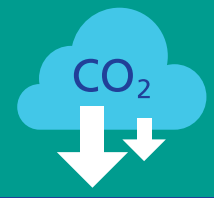
Reducing our energy consumption



PUB takes a systems approach to energy optimisation. We have also installed Aquaporin-based Brackish Water Reverse Osmosis (RO) membranes at Kranji NEWater Factory in March 2024 that can treat up to 1.7 million gallons per day of NEWater. With improved permeability, the new membranes could reduce energy consumption by up to 0.2kWh per m³ of NEWater produced.

A pilot plant to validate Pressure Retarded Osmosis (PRO) technology has also been implemented at Changi Water Reclamation Plant. By harnessing energy from the salinity difference of NEWater RO brine and seawater RO brine, the initiative could potentially offset 14% of the amount of energy needed in the desalination process.

Removing carbon



Capturing and removing carbon released into the atmosphere is a key thrust for PUB to reach net zero around 2045. PUB is keen to work with industry players and research partners to pursue carbon capture and removal projects that can be integrated with PUB's operations.

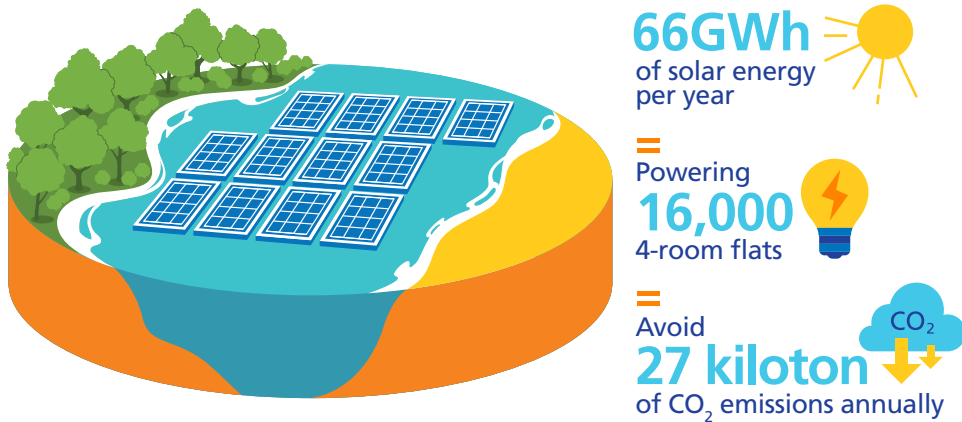
PUB is embarking on an ocean-based carbon dioxide removal (CDR) trial with Equatic to build a demonstration-scale test plant which could be integrated with PUB's desalination plants.

PILLAR ONE: WATER AND SUSTAINABLE MANAGEMENT

1.3 Decarbonisation

GRI [2-23] [2-24] [2-25] [3-3] [302-1] [302-3] [302-4] [305-1] [305-2]

Replacing Grid-based Energy: Deployment of 55MWp Floating Solar PV System on Pandan Reservoir



With a minimum generating capacity of 55MWp, the floating solar PV system on Pandan Reservoir is expected to generate about 66 gigawatt-hour (GWh) of solar energy per year. This is equivalent to powering 16,000 4-room flats and avoiding 27 kilotonnes of CO₂ emissions annually. This deployment will contribute to Singapore's national solar target of at least 2 gigawatt-peak (GWp) by 2030 to combat climate change. Construction is expected to commence in 2025 and be completed in 2028.

PUB engaged residents and grassroots leaders from the Ayer Rajah–Gek Poh constituencies in 2023 to better understand and address the concerns of residents who could be affected by the deployment of the Pandan Reservoir floating solar PV system. Anti-glare solar panels will be used so that the predicted glare would be similar to the natural reflection of a water surface. PUB also ensured that reservoir surfaces within designated areas would be preserved for recreational activities such as rowing, fishing and drone flying.

Removing Carbon: Ocean-based Carbon Dioxide Removal Demonstration Plant

Following a successful proof of concept of the technology in 2023, PUB announced in February 2024 our collaboration with Equatic, to scale-up and test the technology in a demonstration-scale ocean-based CDR test plant in Singapore. The facility will use an electrolytic approach to remove CO₂ from seawater and the atmosphere. The scaled-up test facility will aim to remove up to 10 metric tonnes of carbon dioxide and produce about 300kg of hydrogen per day. The technology allows carbon dioxide to be securely stored in the form of solid carbonates and aqueous bicarbonates for at least 10,000 years.

As CDR technology remains nascent, PUB is working closely with academia, industry partners and public sector agencies to establish a robust and internationally-aligned measurement, reporting and verification (MRV) framework. This framework aims to demonstrate the environmental integrity of carbon removals, study the use of resources generated and its impact on the environment, improve the energy efficiency of the carbon removal process, and drive down costs. Such efforts will pave the way for such novel technologies to be recognised as effective decarbonisation solutions, thus providing PUB with an additional pathway to achieve our net zero target.



Rendering of an Ocean-based Carbon Dioxide Removal Plant. Source: Equatic.

PILLAR ONE: WATER AND SUSTAINABLE MANAGEMENT

1.4 Resource Circularity

GRI [2-23] [2-24] [2-25] [3-3] [306-1] [306-2] [306-3]

One of PUB's major operational waste streams is sewage sludge from our water reclamation plants. The sewage sludge is incinerated for volume reduction before being transferred to Semakau Landfill. However, with Semakau Landfill expected to be full by 2035 if business continues as usual, PUB is doing our part to reduce the waste sent to the landfill.

To close the waste loop, PUB must find innovative ways to reduce sludge volumes and extract value from our waste streams. This transforms PUB's sludge into valuable materials that contribute towards resource circularity.

Membrane Aerated Biofilm Reactor

PUB is testing a Membrane Aerated Biofilm Reactor (MABR) at PUB's Integrated Validation Plant in partnership with Veolia and NUS from March 2024. If successful, the new technology could be integrated into existing used water treatment processes to reduce energy requirements and sludge production.

Slagging Gasification

A three-year feasibility study with Nanyang Environment and Water Research Institute (NEWRI) to co-gasify sludge with municipal solid waste (MSW) was successfully completed in March 2023. Building on the success of this study, from 2023-2025, PUB is testing and optimising the mono-gasification of sludge to determine the ideal system design and operating conditions for this technology. This process can reduce sludge volumes by up to 95%. It also produces slag, a glassy material which could be used to replace sand in the construction sector, thereby enhancing resource circularity.



Demonstration plant for mono-sludge gasification.

Continuous Thermal Hydrolysis and Pyrolysis

PUB is partnering industry players and academia to demonstrate Continuous Thermal Hydrolysis (CTH) and Pyrolysis through a 5 tonnes/day pilot from 2023 to 2025. Instead of incinerated ash, this technology produces biochar, which could potentially be used as activated carbon for odour control, landfill liner for leachate control, and lightweight aggregates as construction materials.



Demonstration plant for CTH-pyrolysis system.

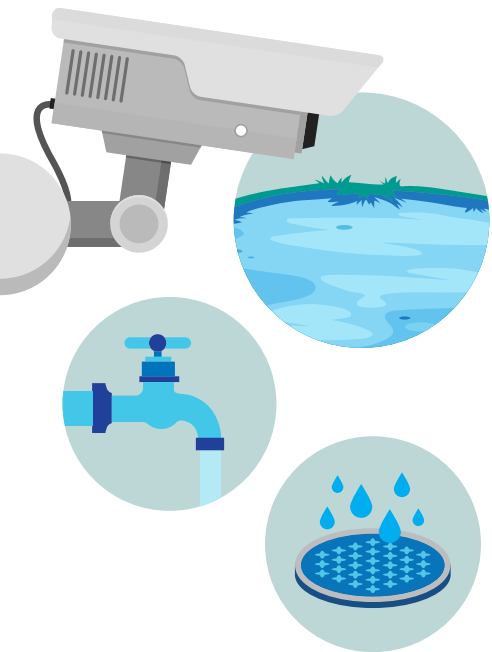
PILLAR TWO: PEOPLE AND PARTNERSHIPS

2.1 Our People: Healthy, Safe and Competent

GRI [2-23] [2-24] [2-25] [3-3] [403-1] [403-2] [403-3] [403-5] [403-7] [403-8]

Health & Safety

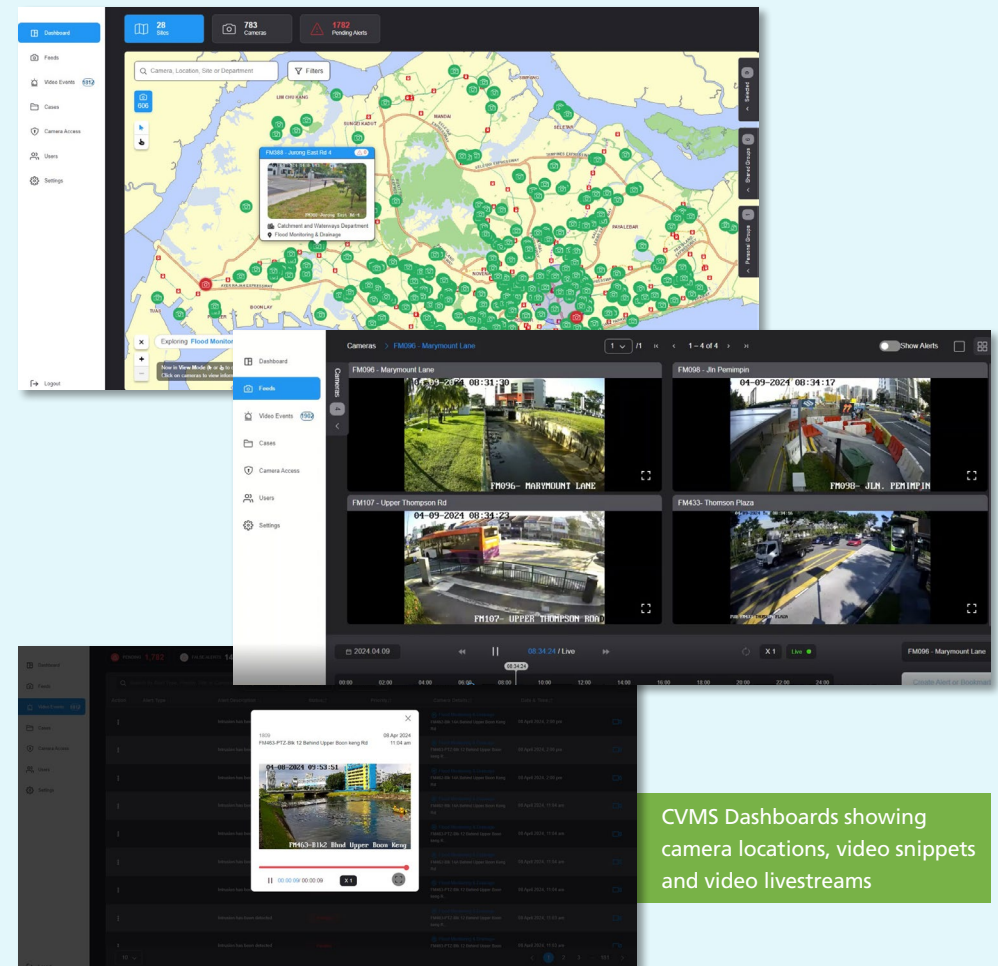
PUB takes workplace safety and health seriously. As part of PUB's Health and Safety Excellence (HSE) 2028 roadmap, PUB aspires to achieve a sustainable and healthy workplace with zero accidents and occupational diseases by 2028. Across PUB, a System-Culture-People approach is adopted to drive health and safety outcomes.



Safety Management System

PUB leverages technology to manage safety across our installations. In 2023, PUB developed the Central Video Management System (CVMS), a new enterprise system that can serve as a one-stop application for incident management using insights from video feeds. CVMS connects with the closed-circuit television (CCTV) systems at all of PUB's installations and reservoirs which use Video Analytics (VA) for safety and security surveillance.

When an anomaly is detected, CVMS instantly informs the relevant staff and automatically collates video snippets of incidents, as well as provides PUB with access to on-demand livestream to keep our staff abreast of the ground situation. This improves the response time to safety, security and operational incidents.



CVMS Dashboards showing camera locations, video snippets and video livestreams

PILLAR TWO: PEOPLE AND PARTNERSHIPS

2.1 Our People: Healthy, Safe and Competent

GRI [2-23] [2-24] [2-25] [3-3] [403-1] [403-2] [403-3] [403-5] [403-7] [403-8]

Safe Operational Culture and Safe Behaviour



Health and safety is everyone's responsibility. Through competency development, PUB aims to nurture a culture of safety ownership in all workers and staff. All PUB officers and operation and maintenance (O&M) contractors in operational roles undergo an online Safety Induction Course that introduces PUB's health

and safety systems and processes. A similar course for PUB staff in non-operational roles and an Occupational Health Awareness e-learning course will be rolled out from 3Q 2024.

PUB aims to inculcate safety ownership by recognising staff who have contributed to a positive safety culture in the workplace.

PUB launched the Safety Steward Award in July 2023 to recognise staff who displayed positive safe behaviours or had contributed to improving safety at the workplace. 196 staff have been recognised for the Safety Steward Award as of March 2024.

For contractors, PUB's Health and Safety Excellence Scheme¹ provides incentive

payment or disincentive deductions based on the contractor's safety performance. In addition, PUB also recognises contractors who have made positive efforts to improve health and safety through in-house safety awards. A total of 11 contractors were presented with PUB safety awards at PUB's Health and Safety Day 2023.

¹ The Health and Safety Excellence Scheme was introduced in 2019 and is applicable to construction contracts with estimated procurement value of \$3 million or more.

PILLAR TWO: PEOPLE AND PARTNERSHIPS

2.1 Our People: Healthy, Safe and Competent

GRI [3-3] [404-2]

Committed and Competent

In 2023, PUB celebrated 60 years of water excellence as we reflected on our journey of advancing Singapore's water security by turning challenges into strengths. Themed "Our Water Story, Our Water Future", celebratory activities were carried out through the year for our staff, reinforcing the sense of purpose for the work that we do here in PUB. We will continue to build a baseline of activities and conversations to help us sustain that sense of meaning, value and purpose, to build a committed workforce.

As PUB transforms into a Smart, AI-enabled organisation, we recognise the importance of ensuring that no officer is left behind. We also aim to engender a culture of lifelong learning so that our workforce remains competent and future-ready. To this end, PUB has put in place job-specific Competency Frameworks to provide structured training roadmaps for all officers, thereby ensuring that we are equipped with the necessary skills and knowledge to perform our jobs competently and achieve PUB's organisational goals today and in the future.



We celebrated our 60th anniversary with a series of year-long PUB60 activities that centred around showing appreciation for various aspects of our water story.

PILLAR TWO: PEOPLE AND PARTNERSHIPS

2.1 Our People: Healthy, Safe and Competent

GRI [3-3] [404-2]

Enhanced Professional Development Framework

In October 2023, PUB launched the Enhanced Professional Development Framework, which seeks to facilitate lifelong learning and empower all PUB officers to continually upskill and reskill themselves.

Officers who have completed their

core competency training

may select from an extensive list of elective courses to broaden and deepen their skillsets.



PUB is working with various Institutes of Higher Learning (IHLs) to develop relevant

Continuing Education and Training (CET)



programmes for our officers. For example, PUB has collaborated with NUS to co-develop two Graduate Certificates – namely, Coastal Protection and Flood Management, and Digital Water – providing an avenue for both our officers and industry professionals to gain expertise in the coastal protection domain. Moving forward, PUB is also exploring with Ngee Ann Polytechnic the option for our officers to obtain the accredited Diploma in Environmental and Water Technology (DEWT) via part-time studies.

PUB also provides support for officers who wish to attain various

Professional Certifications

that are of relevance to PUB.



Additional

Career Development Opportunities

within and beyond PUB have also been made available for PUB officers to further enhance their professional knowledge and future deployability.



PILLAR TWO: PEOPLE AND PARTNERSHIPS

2.2 Customers and Community

GRI [2-23] [2-24] [2-25] [3-3]

Singapore World Water Day 2024: Save water. Big ways, small ways. All OK!

PUB launched its annual water conservation campaign in March 2024, in conjunction with the Singapore World Water Day (SWWD) celebrations. The campaign tagline “Save water. Big ways, small ways. All OK!” seeks to highlight that there are many ways to save water, and such collective efforts can make a big difference for Singapore’s water future.



PUB's water conservation campaign spotlights the myriad of ways in which the community can contribute to a more sustainable water future.



PILLAR TWO: PEOPLE AND PARTNERSHIPS

2.2 Customers and Community

GRI [2-23] [2-24] [2-25] [3-3]

A Celebration of Our Precious Resource

To kick-off the month-long SWWD celebrations, PUB held an event on 9 March 2024 at Jurong Lake Gardens, graced by President Tharman Shanmugaratnam and attended by around 2,000 participants. Partner organisations set up experiential booths with water filtration models, educational exhibits and hands-on activities to reinforce, educate and encourage a water conservation mindset among participants.

To help households save water, PUB also launched a Water Saver Pack at this year's SWWD celebration event. The Water Saver Pack consists of water-saving thimbles for showerheads, kitchen sinks and bathroom basin taps, flush saver cistern bags and leak detection tablets for the flushing cistern.

In addition, NEA and PUB enhanced the Climate Friendly Households Programme in April 2024. All HDB households are entitled to \$300 worth of climate vouchers to purchase 10 types of water and energy-efficient appliances. By switching to more efficient appliances and fittings, households can reduce their water consumption, lower their utility bills, reduce greenhouse gas emissions and play their part in slowing down climate change.



President Tharman Shanmugaratnam and the SWWD participants posed for a group selfie in support of water conservation at the community event.



Participants learnt about water conservation and sustainability through experiential booths organised by PUB's partners.

PILLAR TWO: PEOPLE AND PARTNERSHIPS

2.2 Customers and Community

GRI [2-23] [2-24] [2-25] [3-3]

Engaging Communities and Households

Throughout the month of March, PUB partnered with schools, grassroots organisations, corporates and NGOs on ground-up initiatives to reach out to the community on water conservation in celebration of SWWD. Together with our partners, we raised awareness

Ground-up community events

In March 2024, partners organised activities aimed at educating communities on water sustainability and promoting appreciation for our clean water resources. Some of these activities included waterway clean-ups and nature walks.



Nature Society (Singapore) organised multiple nature walks and activities to foster appreciation for our clean water resources, including a river clean-up at Sungei Pang Sua.

Tapping on local networks to reach out to residents

Grassroots organisations championed the water cause by engaging residents on water conservation through local events and activities.



Limbang Youth Network organised a Water of Life Carnival. Grassroots volunteers hosted fun water-themed games and activities to educate residents on water conservation.

on how every drop of water is precious and helped the public understand how they can contribute to a sustainable water future with simple changes to their daily habits.

Businesses and corporate organisations advocating water conservation

Corporates such as businesses, shopping malls and office buildings utilised their networks and resources to promote water conservation messages through activities, roadshows, exhibitions and more.



SSMC organised a learning journey at Lorong Halus Wetland for students from Mee Toh School. Employees assumed the roles of docents and shared with students about the features of the Active, Beautiful and Clean Waters site and the importance of keeping our catchments clean.

Retailers across the island offered promotions on water-efficient products and appliances in March



Exclusive discounts and deals on water-efficient appliances were offered by participating partners such as Best Denki, Courts, Gain City and Harvey Norman (pictured).

PILLAR TWO: PEOPLE AND PARTNERSHIPS

2.2 Customers and Community

GRI [2-23] [2-24] [2-25] [3-3]

Empowering Our Youths

Youths play a pivotal role in championing water conservation, making it important to instil this value in them from a young age. For SWWD 2024, young advocates spearheaded initiatives to raise awareness and drive action towards water conservation.

Spreading the word through Water Carnivals

Partners such as Wellington Primary School and Bedok Green Secondary School organised carnivals in their neighbourhoods to raise awareness among youths and promote water-saving messages through games, talks and workshops.



Wellington Primary School collaborated with Sembawang Central Zone B Residents' Network to organise a Water Carnival.

Water Wednesdays

Over 120 schools participated in the Water Wednesdays initiative in March 2024, with quizzes, educational activities and water rationing exercises. Our little water warriors even conducted community outreach activities to promote water conservation in the heartlands.



E-bridge Punggol Large Childcare Centre participated in Water Wednesdays with engaging educational activities.

PILLAR TWO: PEOPLE AND PARTNERSHIPS

2.2 Customers and Community

GRI [2-23] [2-24] [2-25] [3-3]

Singapore International Water Week 2024

Into its 10th edition, the biennial Singapore International Water Week (SIWW) was held from 18 to 22 June 2024 at the Sands Expo and Convention Centre. As one of the premier global platforms, SIWW2024 brought together 24,000 stakeholders, including 500 water and city leaders, 2,200 global delegates and over 400 exhibiting companies, to share knowledge and best practices on innovative water, coastal and flood solutions, and foster partnerships to tackle urban water and associated climate challenges.

Opened by Minister Fu at the Joint Opening of SIWW and CleanEnviro Summit Singapore, key themes presented at SIWW2024 included water sustainability, net zero plans and decarbonisation, resource circularity, digitalisation and a new pillar on climate adaptation, specifically the issue of coastal and flood resilience.



Group photo with Ong Tze Chin, Chief Executive of PUB, at PUB's Pavilion at the SIWW Water Expo.

Highlighting the importance of adapting to climate change, the inaugural Coastal and Flood Resilience Leaders Summit hosted government and city officials, academia and industry practitioners who discussed and shared innovative planning approaches and best practices in safeguarding cities against threats of flood risks.

SIWW2024 paved the way for several significant initiatives, rallying the industries to take ownership and tackle water and associated climate challenges. These include:

- Launch of the Singapore Water Centre by the World Bank Group, in partnership with the Singapore Government, to leverage Singapore's expertise and knowledge in urban water management to support the water sector in countries in the region and beyond.
- Signings of 8 PUB Memorandums of Understanding (MOUs) at SIWW2024.
- Announcement of a tender for the development of 55MWp floating solar photovoltaic system at Pandan Reservoir.
- Announcement of a tender to expand Changi Water Reclamation Plant.
- Announcement of the second tranche of research projects under CFI Singapore and the launch of an open Request-for-Proposal by PUB to seek innovative solutions to support Singapore's coastal protection and flood management efforts.



Inaugural Coastal and Flood Resilience Leaders Summit.

PILLAR THREE: BUSINESS EXCELLENCE

3.1 Risk Management

GRI [2-23] [2-24] [2-25] [2-26] [3-3]

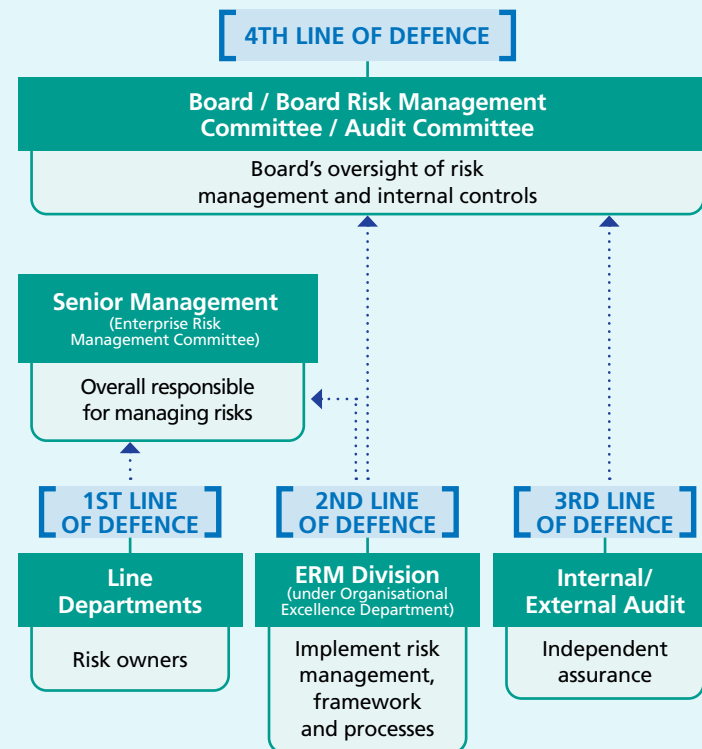
PUB's operations cover a wide range of functions, from water supply and used water conveyance, to water treatment, as well as flood management. This means the organisation is exposed to enterprise and cybersecurity risks on multiple fronts. PUB takes this risk exposure seriously.

PUB's Enterprise Risk Management (ERM) Framework at a glance

Enterprise risk management allows PUB to optimise the use of limited resources to manage a wide array of risks and enables us to better anticipate and respond to an increasingly complex and ever-changing internal and external environment. By putting in place a robust ERM framework, it gives us the confidence to carry out our mission and sustain a high standard of operations.

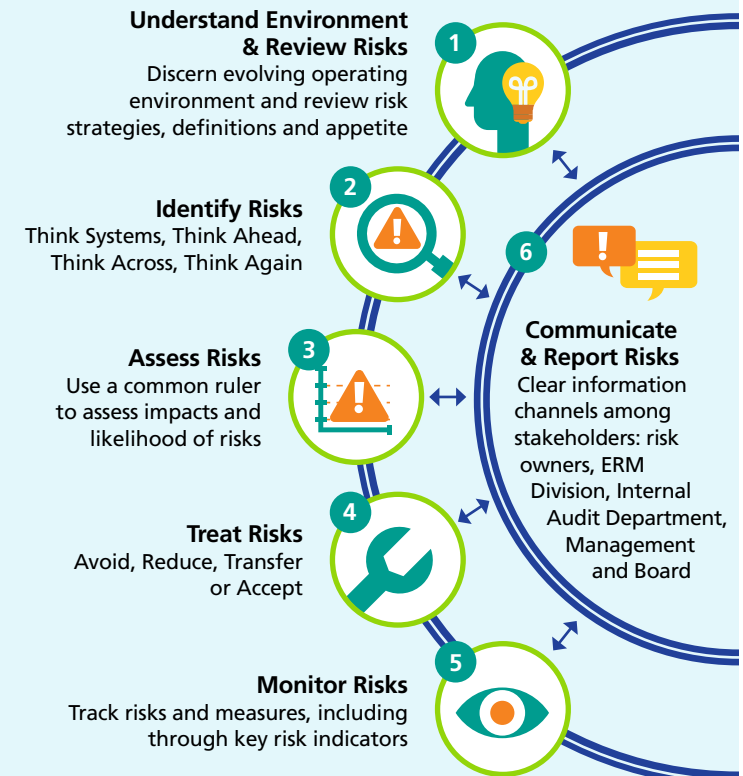
Risk Governance

PUB's Board, assisted by the Board Risk Management Committee (BRMC), provides independent oversight of the ERM framework and processes. With the four lines of defence in place (as shown in the chart below), PUB's risk governance structure ensures that key risks are effectively managed.



Risk Processes

PUB employs an iterative process to manage risks, beginning with risk identification, risk assessment, risk treatment and risk monitoring. In addition, regular environment scans are conducted to identify new and emerging risks.



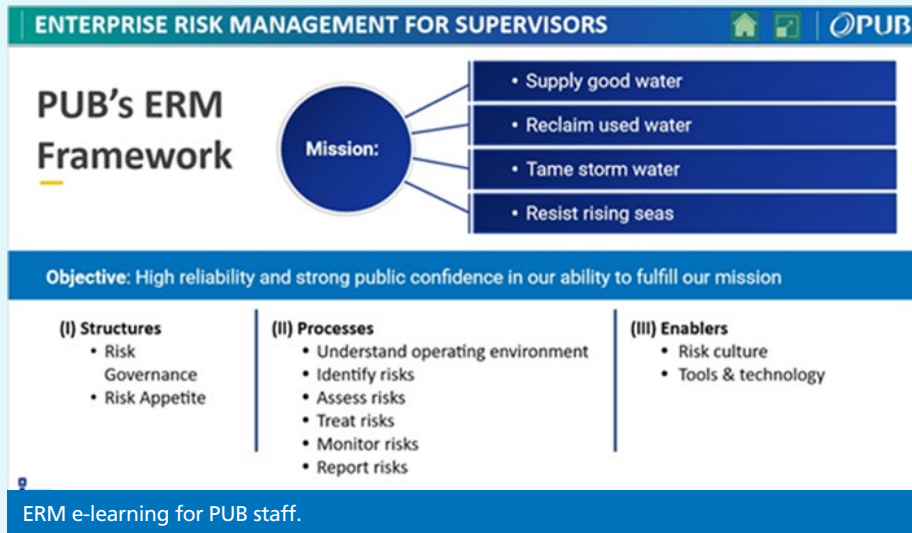
PILLAR THREE: BUSINESS EXCELLENCE

3.1 Risk Management

GRI [2-23] [2-24] [2-25] [2-26] [3-3]

Building Awareness of Enterprise Risk Management Among Our Staff

Effective enterprise risk management requires the collective effort of every individual in PUB. In 2023, PUB completed our inaugural run of the e-learning course for staff to be familiar with ERM. The course taught staff the basics of ERM, such as what constitutes “risk”, how to manage risks and the role that each staff plays in managing risks. We will continue with such efforts to engage our staff on ERM.



Secure Our Digital Space Through Cybersecurity

As PUB pursues our vision of a Smart and AI-enabled PUB, we recognise the importance of securing our data and systems. Poor cybersecurity risk management, for example, may affect our ability to fulfil our mission, such as causing water supply disruptions, which in turn inconveniences our customers. Cybersecurity will continue to be a cornerstone of PUB's digitalisation and transformation journey. The increasing frequency, severity and sophistication of cyberattacks globally means PUB must continue to build up competencies in cybersecurity management to stay ahead of the latest cybersecurity threats. To build a cyber-vigilant workforce, all PUB staff undergo cybersecurity literacy training on an annual basis.



PILLAR THREE: BUSINESS EXCELLENCE

3.2 Financial Sustainability

GRI [2-23] [2-24] [3-3]

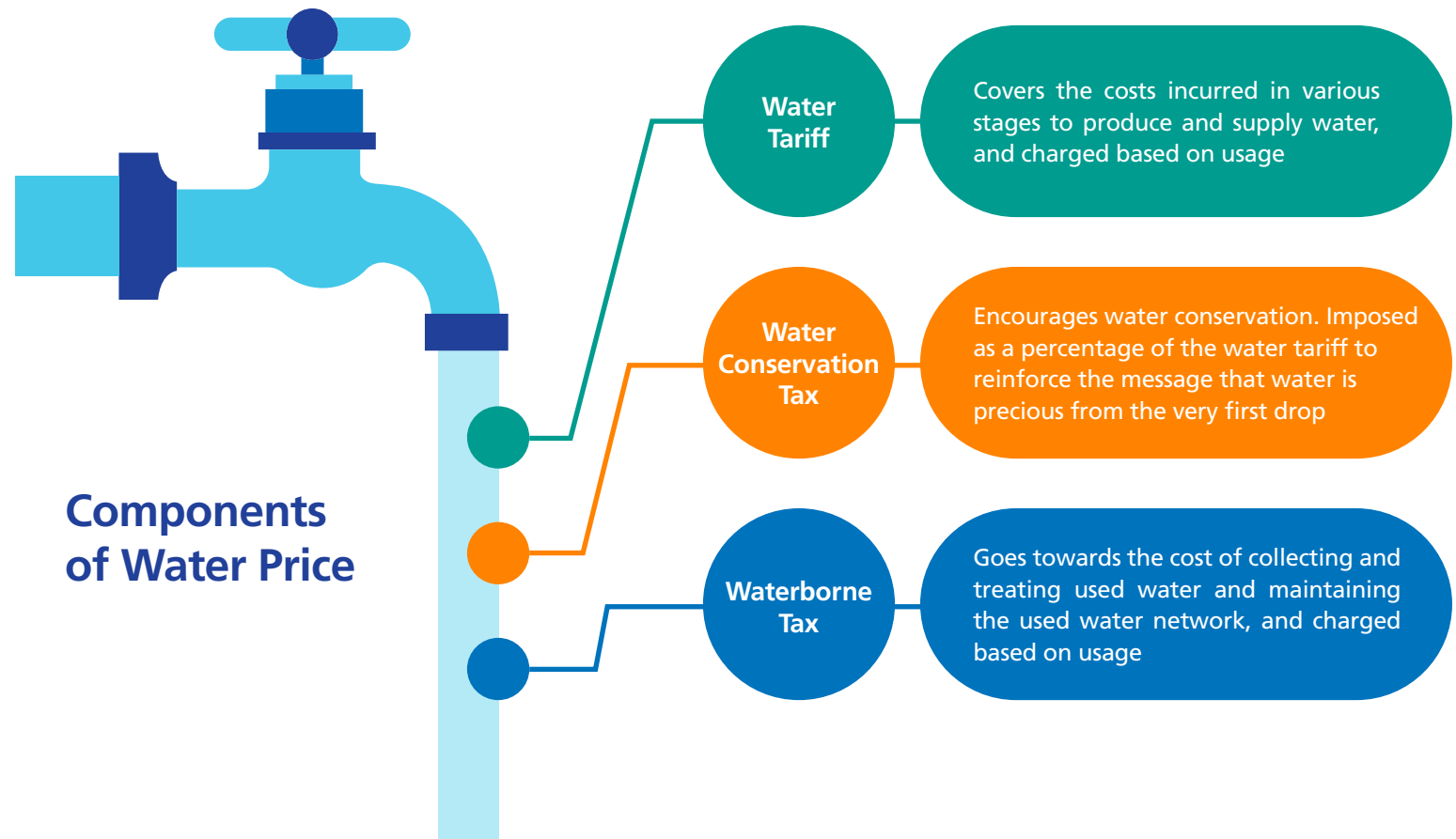
PUB has implemented various practices to manage costs. These include pursuing energy sustainability through decarbonisation as described in pages 20 and 21, by deploying solar projects which reduces PUB's demand for energy from power producers and improving operational efficiencies to reduce energy consumption.

PUB is also committed to developing green water infrastructure that delivers energy and emissions savings from baseline, which can reduce operating costs and our impact on the environment. Please refer to PUB's Green Bond Report for FY2023 for more details on how upcoming PUB infrastructure projects, such as TWRP and Tuas NEWater Factory (TNF) 1 contribute to a more sustainable PUB.

Regular Price Reviews

In Singapore, water is priced to recover the full cost of its production and supply, and to reflect the cost of producing the next drop of water. Right-pricing water serves to encourage every individual and business to play a role in conserving our precious and scarce water resources, thus ensuring a sustainable growth in water demand.

The water price is reviewed regularly. To meet the higher costs of supplying and producing water, we have recently revised the water price across two phases from 1 April 2024 and 1 April 2025.



▶ APPENDIX ONE: MATERIALITY ASSESSMENT AND STAKEHOLDER ENGAGEMENT

PUB’s Materiality Assessment Approach

GRI [3-1]

PUB conducted a materiality assessment in 2020–2021 to identify our key Environmental, Social and Governance (ESG) focus areas and material topics. PUB conducts annual materiality reviews to ensure that our material topics remain relevant, considering changes in the international/national sustainability landscape.

Identify	Prioritise	Validate and Approve	Review
<p>In 2020–2021, PUB identified a list of ESG topics based on sustainability risks in PUB’s ERM framework, peer benchmarking and recommended disclosures in sustainability reporting frameworks such as the GRI Standards.</p>	<p>Internal and external stakeholder groups (e.g. employees, businesses and industry groups) were surveyed to prioritise PUB’s material topics, based on their impact on PUB’s success and stakeholders.</p>	<p>The final list of material topics was endorsed by senior management.</p>	<p>In 2023, PUB’s material topics were updated to the present set of eight material topics to reflect the increased emphasis on energy, carbon footprint and resource circularity management. This took into consideration the 2022 energy crisis and accelerating national sustainability efforts, such as Singapore’s commitment to achieve net zero by 2050 as announced in October 2022.</p> <p>No further changes were made to PUB’s material topics in 2024, which were assessed to remain relevant to PUB.</p>

APPENDIX ONE: MATERIALITY ASSESSMENT AND STAKEHOLDER ENGAGEMENT

Stakeholder Engagement

GRI [2-26] [2-29]

PUB works with a range of stakeholders towards common sustainability goals. We identify stakeholder groups based on how our activities impact them and how they affect ours. This allows us to build relationships to understand our stakeholders' concerns and co-create solutions together.

Who we engage	How we engage
Public-sector agencies	Adopt Whole-of-Government approach to develop and implement national policies through inter-agency workgroups.
Business and community research partners	Engage professionals, industries, utilities and technical bodies to share best practices, knowledge and challenges at platforms such as Singapore International Water Week.
	Grant calls and sharing sessions with industries on PUB's Technology Roadmap and Focus Areas.
	Collaborations with corporates to promote the importance of water conservation, e.g. Singapore World Water Day.
	Recognise corporates for their achievements in water efficiency and conservation efforts e.g. Singapore Watermark Awards, Water Efficiency Awards and Water Efficiency Awards (Projects).
Non-governmental organisations (NGOs) and nature groups	Solicit feedback from NGOs, nature groups and experts during the Environmental Impact Assessment (EIA) process on proposed baseline survey methods and mitigation measures to minimise the potential environmental impact of PUB projects that are implemented in environmentally sensitive locations.
	Collaborations with NGOs to promote the importance of water conservation, e.g. Singapore World Water Day.
Public and the community	Keep stakeholders informed about PUB projects and solicit feedback.
	Provide flash flood alerts, monsoon advisories and precautionary tips via various platforms such as the myENV mobile app and Telegram.
	Engage the community through events and initiatives to promote water conservation, e.g. Singapore World Water Day and local grassroots events.
Schools	Collaborations with schools and student groups to promote the importance of water, e.g. Water Wednesdays, water rationing exercises, co-development of programmes.
Our employees and workers	Ongoing communications to engage our people and facilitate feedback: surveys, dialogue sessions, fireside chats with management, roadshows, department townhalls, virtual and physical staff engagement sessions, whistleblowing channels and employee engagement surveys.

APPENDIX TWO: SUSTAINABILITY PERFORMANCE DATA

Pillar One: Water and Sustainable Management

GRI [303-5]

1.1 Sustainable Water System

Targets and Commitments	Metric	Performance				% Year-on-year change
1. Ensure that there will always be enough good water for all. 2. Achieve household water consumption of 130 litres per person per day by 2030. 3. Ensure that our water is not lost or contaminated. 4. Improve Water Efficiency Index by 10% by 2030, from the average of 2018-2020 levels (Litres/pax/day) ¹ . 5. Ensure that PUB's water consumption is managed (m³).	Percentage of population served by tapped water supply and modern sanitation (%)	CY2022: 100, CY2023: 100				Maintained 100%.
	Percentage of tests meeting World Health Organization's (WHO) Guidelines for drinking-water quality 2022 and Environmental Public Health (EPH) (Water Suitable for Drinking) (No. 2) Regulations 2019 (%)					
	Litres per person per day (LPCD)	CY2021: 158, CY2022: 149, CY2023: 141				5% reduction.
	Sale of potable water, NEWater and industrial water in Singapore (mil m³)	Water Sales (mil m³)	CY2021	CY2022	CY2023	N/A
		Potable Water (Domestic)	316.5	305.9	300.2	
		Potable Water (Non-Domestic)	184.9	200.8	209.3	
		NEWater	148.9	148.2	145.1	
		Industrial Water	11.4	12.0	13.7	
	Distribution loss in potable water network (%)	CY2021: 8.2, CY2022: 7.5, CY2023: 7.2				0.3 percentage points decrease.
	Number of service disruptions per month per 1,000km of sewers	CY2022: 9.9, CY2023: 9.9				Maintained.
	Water Efficiency Index (WEI) (Litres/pax/day)	FY2018-2020 Baseline: 52 FY2021: 54, FY2022: 44, FY2023: 45				Achieved target to reduce WEI by 10% from 2018 – 2020 levels, despite 2% increase in WEI from FY2022 to FY2023. ²
	PUB potable water consumption (m³)	FY2021: 199,773, FY2022: 230,649, FY2023: 154,416				33% decrease.

Note 1: Applicable to PUB's Standard Buildings only.

Note 2: An increase in WEI represents increased resource consumption, i.e. an increase in water used per person per day.

APPENDIX TWO: SUSTAINABILITY PERFORMANCE DATA

Pillar One: Water and Sustainable Management

GRI [2-4] [302-1] [302-3] [302-4] [305-1] [305-2] [305-3] [305-4]

1.2 Coastal Protection and Flood Resilience

Targets and Commitments	Metric	Performance	% Year-on-year change
1. Protect Singapore's coastlines from rising sea levels.	No. of Site Specific Studies (SSS) commenced to date	CY2021: 1, CY2022: 3, CY2023: 4 (Includes Jurong Island SSS, led by JTC)	NA
2. Tame stormwater by reducing our flooding hotspots.	No. of flooding hotspots	CY2022: 26, CY2023: 23	12% decrease.

1.3 Decarbonisation

Targets and Commitments	Metric	Performance				% Year-on-year change
1. Peak emissions around 2025 ¹ . 2. Achieve net zero emissions around 2045 ^{1,2} . 3. Achieve 10% reduction in Energy Utilisation Index from average of 2018–2020 levels by 2030 ³ .	PUB Scope 1 and 2 emissions ¹ (ktCO ₂ e)	Parameter	FY2021	FY2022	FY2023	7% reduction in Scope 1 and 2 emissions.
		Scope 1	7.3	7.2	7.4	
		Scope 2	271.7	239.7	222.0	
		Total	279.0	247.0	229.4	
	PUB Scope 3 emissions (ktCO ₂ e)	FY2021: 161, FY2022: 151, FY2023: 189				25% increase ⁴ .
	Non-renewable electricity consumption (GWh)	FY2021: 665.9, FY2022: 590.3, FY2023: 532.3				10% decrease.
	Renewable energy consumption (GWh)	FY2021: 140.5, FY2022: 177.2, FY2023: 179.4				1% increase.
	Energy Utilisation Index (EUI) (kWh/m ²)	FY2018-2020 Baseline: 124 FY2021: 130, FY2022: 124, FY2023: 130				5% increase. ⁵
	Singapore Water Emissions Intensity (kgCO ₂ e/m ³)	FY2023: 0.57				NA

Note 1: PUB's emission targets apply to Scope 1 and 2 emissions only. The scope and sources of reported GHG emissions are in accordance with, and go beyond, GreenGov.SG reporting requirements. PUB's electricity consumption and emissions are largely dependent on public demand for PUB's services, such as water and used water treatment.

Note 2: PUB's net zero target is contingent on the progress of technologies and international cooperation to enable mitigation measures.

Note 3: Applicable to PUB's Standard Buildings only.

Note 4: The 25% increase in PUB's Scope 3 emissions from FY2022 to FY2023 is attributed to increased energy consumption from Design, Build, Own, Operate facilities.

Note 5: An increase in EUI represents increased resource consumption, i.e. an increase in energy used per unit area.

APPENDIX TWO: SUSTAINABILITY PERFORMANCE DATA

Pillar One: Water and Sustainable Management

GRI [306-3]

1.4 Resource Circularity

Targets and Commitments	Metric	Performance	% Year-on-year change
1. Minimise amount of waste generated and improve resource circularity ¹ .	Mass of non-hazardous operational waste from used water and water treatment (tons)	FY2021: 193,393, FY2022: 190,861, FY2023: 204,967	7% increase.
2. Reduce Waste Disposal Index by 30% from 2022 levels by 2030 ² .	Waste Disposal Index (WDI) (kg/pax/day)	FY2022 Baseline: 0.325 FY2023: 0.339	4% increase. ³

Note 1: Operational waste, such as water and used water sludge, constitutes the bulk of PUB's overall waste. Sludge is a byproduct of PUB's water and wastewater treatment processes. The amount of waste that PUB generates depends on water demand and the quantity and quality of used water discharged by domestic and industrial sectors.

Note 2: Applicable to PUB's Standard Buildings only.

Note 3: An increase in WDI represents increased waste disposed of per person per day per day.

APPENDIX TWO: SUSTAINABILITY PERFORMANCE DATA

Pillar Two: People and Partnerships

GRI [2-8] [403-9] [404-1]

2.1 Our People - Healthy, Safe and Competent

Targets and Commitments	Metric	Performance				% Year-on-year change
1. Zero work-related injuries and fatalities. 2. Ensure all PUB officers go through competency-based training.	No. of minor injuries, major injuries and fatalities (Note: The main types of work-related injuries in CY2023 are slips, trips and falls, and being caught between objects.)	Parameter	CY2021	CY2022	CY2023	The overall workplace injury rate for CY2023 is 243 injuries per 100,000 workers, which is lower than the rate of 256 injuries per 100,000 workers for CY2022, reflecting a 5% improvement.
		Estimated No. of Workers	13,708	14,043	14,809	
		Minor Injuries	42	33	35	
		Major Injuries	1	2	1	
		Fatalities	0	1	0	
	Average no. of training hours per employee	FY2021: 52, FY2022: 52, FY2023: 50				4% decrease.

APPENDIX TWO: SUSTAINABILITY PERFORMANCE DATA

Pillar Two: People and Partnerships

FY2023 Employee Profile

GRI [2-7] [2-30] [401-1]

Employees by Age Group and Gender

Gender	
Female	810
Male	2466

Age	
<30 years old	325
30-50 years old	2018
>50 years old	933

Employees by Employment Contract and Gender

Gender	Contract	Permanent
Female	178	632
Male	683	1783

Gender	Part time	Full time
Female	0	810
Male	1	2465

Staff covered by collective bargaining agreements

58.8%

New Hires by Age Group and Gender

Gender	
Female	76
Male	201

Age	
<30 years old	105
30-50 years old	168
>50 years old	4

Turnovers by Age Group and Gender

Gender	
Female	52
Male	178

Age	
<30 years old	30
30-50 years old	112
>50 years old	88

APPENDIX TWO: SUSTAINABILITY PERFORMANCE DATA

Pillar Two: People and Partnerships

2.2 Customers and Community

Targets and Commitments	Metric	Performance	% Year-on-year change
1. Continue to engage stakeholders to conserve and protect our waters. 2. Maintain high service standards for our customers.	Percentage transactions completed digitally end-to-end (%)	CY2021: 100, CY2022: 100, CY2023: 100	Maintained 100%.
	Percentage of customer cases resolved within three working days (%)	CY2021: 93.5, CY2022: 92.0, CY2023: 92.2	0.2 percentage point increase.

Pillar Three: Business Excellence

3.1 Risk Management

Targets and Commitments	Metric	Performance	% Year-on-year change
Ensure robust cybersecurity management.	Percentage completion of cybersecurity literacy training (%)	CY2021: 100, CY2022: 100, CY2023: 100	Maintained 100%.

APPENDIX THREE: REPORTING FUNDAMENTALS

Reporting Fundamentals

GRI [2-4]

Energy and Greenhouse Gas Emissions

Reporting Scope, Period and Approach

PUB adopts the operational control approach as outlined in the GHG Protocol Corporate Standard. The scope and sources of reported GHG emissions are in accordance with, and go beyond, GreenGov.SG reporting requirements. Data for energy consumption and GHG emissions has been compiled for Financial Years 2021, 2022 and 2023.

Energy Consumption within the Organisation

Energy consumption is mainly derived from grid electricity, solar energy and biogas generated from anaerobic digestion of used water sludge across all PUB-owned operational and corporate facilities covered under PUB's GreenGov.SG reporting submissions. Total energy consumption is expressed in gigawatt hours (GWh). Energy consumption from diesel and petrol at PUB-owned operational facilities and PUB's vehicle fleet is insignificant compared to grid-based and renewable energy consumption and is therefore not disclosed.

Greenhouse Gas Emissions

This report discloses Scope 1, 2 and selected Scope 3 GHG emissions. Global Warming Potential (GWP) values are sourced from the 2014 IPCC Fifth Assessment Report (AR5). Greenhouse gases included in the calculations are CO₂, CH₄ and N₂O.

Scope 1 emissions are emissions from sources that are owned or controlled by the organisation. For PUB's report, they include emissions from diesel and petrol use in operations, and emissions from wastewater treatment. Emission factors for diesel and petrol consumption are taken from the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (i.e., 74.1 tCO₂/TJ for diesel, 69.3 tCO₂/TJ for petrol or motor gasoline).

N₂O emissions from wastewater plants are calculated based on IPCC 2006 Guidelines for wastewater treatment at advanced wastewater treatment plants.

Scope 2 emissions are indirect emissions that result from the generation of purchased or acquired electricity, heating, cooling and steam consumed by the organisation. The 2022 grid emission factors in Singapore are taken from the Singapore Energy Statistics published by the Energy Market Authority in Singapore, at 0.417 kgCO₂/kWh.

Scope 3 emissions are all other indirect emissions that are a consequence of the activities of the organisation, but occur from sources not owned or controlled by the organisation. The selected Scope 3 emissions which are disclosed in PUB's report reflect the key Scope 1 and 2 emissions streams from Singapore's Water Sector and include operations by external parties. The selected Scope 3 emissions include emissions from diesel use and electricity consumption at NEWater and Desalination Design, Build, Own and Operate (DBOO) facilities. They also include emissions from the incineration of wastewater sludge and the discharge of treated used water effluent to the sea.

Singapore Water Emission Intensity is based on the Scope 1 and 2 emissions of Singapore's Water Sector. This includes Scope 1 and 2 emissions from PUB facilities, aligned to PUB's GreenGov.SG reporting submissions. It also includes Scope 1 and 2 emissions from NEWater and Desalination DBOO facilities, and Scope 1 emissions from sludge incineration and discharge of treated used water effluent to sea. These emissions are then divided by total Singapore water demand. PUB will review and update the computation of Singapore Water Emissions Intensity where applicable.

APPENDIX THREE: REPORTING FUNDAMENTALS

Reporting Fundamentals

Energy Utilisation Index (EUI), Water Efficiency Index (WEI), Waste Disposal Index (WDI)

PUB's EUI, WEI and WDI targets pertain to PUB's Standard Buildings only, i.e. PUB Recreation Club, WaterHub and Woodleigh Complex. A standard building refers to enclosed premises with gross floor area and occupants/visitors using the premises. The resource consumption (energy, water and waste) of the building is proportional to the number of occupants/visitors using the premises.

Waste

GRI [306-3]

Waste generated is expressed in tonnes. PUB's main waste stream is operational waste from used water and water treatment. PUB engages private companies to help manage all waste generated by our operations. They ensure that the wastes are properly collected, transported, incinerated (where required) and disposed of at the landfill, complying with all contractual requirements and prevailing regulations. Please refer to Appendix 2 for the mass of PUB's operational waste from used water and water treatment.

PUB also produces minor amounts of hazardous wastes. These are stored in purpose-built containers and designated areas before they are collected by licenced waste collectors for disposal off-site to prevent contamination to the environment.

Categories of Hazardous Wastes	FY2021	FY2022	FY2023
Biohazardous Laboratory Waste (e.g. cultures and media)	29,538L	31,920L	29,040L
Laboratory Waste Water (e.g. spent chemicals)	9,225L	8,875L	9,056L
Laboratory Solid Waste (e.g. broken glassware, cupped stainless steel planchet from radiology lab, chemical spillage solid waste)	197.5kg	495.9kg	349.8kg
Used UV lamps	440 pieces	202 pieces	0 pieces

Note: Since FY2022, figures for laboratory solid waste include empty solvent bottles.

APPENDIX THREE: REPORTING FUNDAMENTALS

Reporting Fundamentals

GRI [404-1]

Employee Profile

Employees are individuals¹ who are in an employment relationship with PUB.

New hires are employees who have joined PUB during the year.

Turnover includes all voluntary (resignation) and involuntary exits (e.g. retirement or leaving service on various exit schemes).

Note 1: In this report, the employee count excludes officers seconded out to other agencies and officers on no pay leave or study leave, and includes officers seconded to PUB. In PUB's Sustainability Report 2023, the employee count included officers seconded to other agencies and officers on no pay leave or study leave, and excluded officers seconded to PUB. The difference in employee count is less than 1% of the total number of employees in PUB.

Health and Safety

Health and Safety statistics are aligned with the latest WSHC definitions and compilation methodology of incident statistics as of 2022.

Workers are individuals whose work, or workplace is controlled by PUB, including PUB's employees and contractors.

Major Injuries are non-fatal but severe injuries. They are defined by the nature of the injury, the part of the body injured, incident type and duration of medical leave. Examples include amputation, blindness, deafness, paralysis, crushing, fractures and dislocations of head, back, chest and abdomen, neck, hip and pelvis.

Minor injuries refer to non-severe injuries with any instance of medical leave or light duties.

Reportable work-related accidents are any work-related accident, workplace accidents, dangerous occurrences and occupational diseases.

Fatality and work injury rates can be calculated using the number of fatalities or injuries divided by the number of workers, multiplied by 100,000.

Training Hours

GRI [404-1]

Average training hours are calculated using the total number of training hours in the year divided by the total number of employees at the end of the reporting period. Appendix 2 describes the average training hours across PUB, and a further breakdown by gender and employee category is described below.

Average Training Hours per Employee by Gender

Gender	FY2021	FY2022	FY2023
Female	52.2	55.5	49.8
Male	51.2	50.9	49.2

Average Training Hours per Employee by Employee Category

Employee Category	FY2021	FY2022	FY2023
Non-Management	50.1	50.9	47.7
Management	61.6	60.8	65.2

GRI Content Index



**CONTENT INDEX
ESSENTIALS SERVICE**

2024

For the Content Index – Essentials Service, GRI Services reviewed that the GRI content index has been presented in a way consistent with the requirements for reporting in accordance with the GRI Standards, and that the information in the index is clearly presented and accessible to the stakeholders.

Statement of Use: PUB has reported in accordance with the GRI Standards for the period 1 April 2023 to 31 March 2024.

GRI 1 Used: GRI 1: Foundation 2021

GENERAL DISCLOSURES (GRI 2: General Disclosures 2021)

GRI Standard	Disclosure	Report section and Remarks	Page Reference	Requirement(s) Omitted	Reason for Omission	Explanation for Omission
Organisation and its reporting process						
GRI 2: General Disclosures 2021	2-1 Organisational details	About PUB: Our Vital Role	2			
	2-2 Entities included in the organisation's sustainability reporting	About This Report	2			
	2-3 Reporting period, frequency and contact point	About This Report Reporting Scope and Period	2			
	2-4 Restatements of information	Appendix 2: Scope 3 emissions Appendix 3: Reporting Fundamentals, Greenhouse Gas Emissions	38, 43			
	2-5 External assurance	External assurance has not been sought for this report.				
Activities and Workers						
GRI 2: General Disclosures 2021	2-6 Activities, value chain and other business relationships	About PUB: Our Vital Role Chairman's Message Chief Executive's Message	2–6			

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GENERAL DISCLOSURES (GRI 2: General Disclosures 2021)						
GRI Standard	Disclosure	Report section and Remarks	Page Reference	Requirement(s) Omitted	Reason for Omission	Explanation for Omission
Activities and Workers						
GRI 2: General Disclosures 2021	2-7 Employees	Appendix 2: Employee Profile	41	Omitted employee count breakdown by region for – a, b (i., ii., iii., iv., v.)	Confidentiality constraints	Disclosing the breakdown of PUB's employees by region covers confidential information of PUB's business affairs and are not to be disclosed due to confidentiality reasons.
	2-8 Workers who are not employees	Appendix 2: Our People – Healthy, Safe and Competent	40	Omitted most common types of workers, their contractual relationship with the organisation, and the type of work performed by workers who are not employees i.e. - a(i., ii.)	Confidentiality constraints	Description of the contractual relationship between workers and the organisation and type of work performed includes sensitive information of business affairs and are not to be disclosed due to confidentiality reasons.
Governance						
GRI 2: General Disclosures 2021	2-9 Governance structure and composition	Board of Directors Organisational Structure Corporate and Sustainability Governance	7–9			

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GENERAL DISCLOSURES (GRI 2: General Disclosures 2021)						
GRI Standard	Disclosure	Report section and Remarks	Page Reference	Requirement(s) Omitted	Reason for Omission	Explanation for Omission
Governance						
GRI 2: General Disclosures 2021	2-10 Nomination and selection of the highest governance body	The Board comprises members who as a group provide core competencies such as finance, business or management experiences, industry knowledge, strategic planning experience and customer-based experience or knowledge. Approved by the Singapore Cabinet, the Board is guided by PUB's Code of Board Governance to uphold their duties with care, skill and diligence.				
	2-11 Chair of the highest governance body	The chair of the Board is not a senior executive of the organisation.				
	2-12 Role of the highest governance body in overseeing the management of impacts	Corporate and Sustainability Governance	9			
	2-13 Delegation of responsibility for managing impacts	Corporate and Sustainability Governance	9			
	2-14 Role of the highest governance body in sustainability reporting	Corporate and Sustainability Governance	9			
	2-15 Conflicts of interest			All requirements are omitted.	Confidentiality constraints	Processes to ensure that conflicts of interest are prevented and mitigated are set out in PUB's Code of Board Governance. This includes sensitive information of PUB's business affairs and are not to be disclosed.

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GENERAL DISCLOSURES (GRI 2: General Disclosures 2021)						
GRI Standard	Disclosure	Report section and Remarks	Page Reference	Requirement(s) Omitted	Reason for Omission	Explanation for Omission
Governance						
GRI 2: General Disclosures 2021	2-16 Communication of critical concerns			All requirements are omitted.	Confidentiality constraints	This disclosure contains sensitive and confidential information related to PUB's business affairs, operations and/or operating information as a Statutory Board of the Government and are not to be disclosed.
	2-17 Collective knowledge of the highest governance body	Corporate and Sustainability Governance	9			
	2-18 Evaluation of the performance of the highest governance body			All requirements are omitted.	Confidentiality constraints	This disclosure contains sensitive and confidential information related to PUB's business affairs, operations and/or operating information as a Statutory Board of the Government and are not to be disclosed
	2-19 Remuneration policies					
	2-20 Process to determine remuneration					
	2-21 Annual total compensation ratio					

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GENERAL DISCLOSURES (GRI 2: General Disclosures 2021)						
GRI Standard	Disclosure	Report section and Remarks	Page Reference	Requirement(s) Omitted	Reason for Omission	Explanation for Omission
Strategy, Policies and Practices						
GRI 2: General Disclosures 2021	2-22 Statement on sustainable development strategy	Chairman's Message Chief Executive's Message	3–6			
	2-23 Policy commitments	Sustainable Water System Decarbonisation Resource Circularity Coastal Protection and Flood Resilience Our People: Healthy, Safe and Competent Customers and Community Risk Management Financial Sustainability	12–34			
	2-24 Embedding policy commitments	Sustainable Water System Decarbonisation Resource Circularity Coastal Protection and Flood Resilience Our People: Healthy, Safe and Competent Customers and Community Risk Management Financial Sustainability	12–34			
	2-25 Processes to remediate negative impacts	Sustainable Water System Decarbonisation Resource Circularity Coastal Protection and Flood Resilience Our People: Healthy, Safe and Competent Customers and Community Risk Management Financial Sustainability	12–34			

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GENERAL DISCLOSURES (GRI 2: General Disclosures 2021)						
GRI Standard	Disclosure	Report section and Remarks	Page Reference	Requirement(s) Omitted	Reason for Omission	Explanation for Omission
Strategy, Policies and Practices						
GRI 2: General Disclosures 2021	2-26 Mechanisms for seeking advice and raising concerns	Risk Management Appendix 1: Stakeholder Engagement	32–33, 36			
	2-27 Compliance with laws and regulations			All requirements are omitted.	Confidentiality constraints	This disclosure contains sensitive and confidential information related to PUB's business affairs, operations and/or operating information as a Statutory Board of the Government and are not to be disclosed.
	2-28 Membership associations	1) International Water Association (IWA) Governing Council Member 2) International Water Association (IWA) Corporate Member 3) International Desalination and Reuse Association (IDRA) Corporate Member 4) World Water Council (WWC) Member 5) Asia Pacific Water Forum (APWF) Member 6) Asia Water Council (AWC) member 7) Global Water Partnership Southeast Asia (GWP-SEA) observing member 8) Leading Utilities of the World (LUOW) advisory member 9) World Health Organisation Collaborating Centre (WHO CC) 10) World Health Organisation's network for coronaviruses (CoViNet) 11) American Water Works Association (AWWA) member 12) Global Water Research Coalition (GWRC) 13) World Water Innovation Fund (WWIF) 14) K2i established by Booky Oren Global Water Technologies (BOGWT) 15) WaterShare by KWR Water Research Institute	12–34			

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GENERAL DISCLOSURES (GRI 2: General Disclosures 2021)						
GRI Standard	Disclosure	Report section and Remarks	Page Reference	Requirement(s) Omitted	Reason for Omission	Explanation for Omission
Stakeholder Engagement						
GRI 2: General Disclosures 2021	2-29 Approach to stakeholder engagement	Appendix 1: Stakeholder Engagement	36			
	2-30 Collective bargaining agreements	Appendix 2: Employee Profile PUB's employment practices are aligned with Singapore's legislations (Employment Act, Workplace Safety and Health Act, and Retirement and Re-employment Act) and the fair employment principles set out by the Tripartite Alliance for Fair Employment Practices (TAFEP).	41			
MATERIAL TOPICS						
GRI 3: Material Topics 2021	3-1 Process to determine material topics	Appendix 1: PUB's Materiality Assessment Approach	35			
	3-2 List of material topics	PUB's Material Topics	11			
PILLAR ONE: WATER AND SUSTAINABLE MANAGEMENT						
GRI Standard	Disclosure	Report section and Remarks	Page Reference	Requirement(s) Omitted	Reason for Omission	Explanation for Omission
Sustainable Water System						
GRI 3: Material Topics 2021	3-3 Management of material topics	Sustainable Water System	12–16			

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PILLAR ONE: WATER AND SUSTAINABLE MANAGEMENT						
GRI Standard	Disclosure	Report section and Remarks	Page Reference	Requirement(s) Omitted	Reason for Omission	Explanation for Omission
Sustainable Water System						
GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared resource	Sustainable Water System	12–16			
	303-5 Water consumption	Sustainable Water System	37			
Decarbonisation						
GRI 3: Material Topics 2021	3-3 Management of material topics	Decarbonisation	20–21			
GRI 302: Energy 2016	302-1 Energy consumption within the organisation	Decarbonisation Appendix 2: Sustainability Performance Data	20–21, 38			
	302-3 Energy intensity	Appendix 2: Sustainability Performance Data	38			
	302-4 Reduction of energy consumption	Decarbonisation Appendix 2: Sustainability Performance Data	20–21, 38			
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	Appendix 2: Sustainability Performance Data	38			
	305-2 Energy indirect (Scope 2) GHG emissions	Appendix 2: Sustainability Performance Data	38			
	305-3 Other indirect (Scope 3) GHG emissions	Appendix 2: Sustainability Performance Data	38			
	305-4 GHG emissions intensity	Appendix 2: Sustainability Performance Data	38			

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PILLAR ONE: WATER AND SUSTAINABLE MANAGEMENT

GRI Standard	Disclosure	Report section and Remarks	Page Reference	Requirement(s) Omitted	Reason for Omission	Explanation for Omission
Resource Circularity						
GRI 3: Material Topics 2021	3-3 Management of material topics	Resource Circularity	22			
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	Resource Circularity	22			
	306-2 Management of significant waste-related impacts	Resource Circularity Appendix 2: Sustainability Performance Data Appendix 3: Reporting Fundamentals	22, 39, 44			
	306-3 Waste generated	Resource Circularity	22			
Coastal Protection and Flood Resilience						
GRI 3: Material Topics 2021	3-3 Management of material topics	Coastal Protection and Flood Resilience	17–19			

PILLAR TWO: PEOPLE AND PARTNERSHIPS

GRI Standard	Disclosure	Report section and Remarks	Page Reference	Requirement(s) Omitted	Reason for Omission	Explanation for Omission
Our People: Healthy, Safe, Competent						
GRI 3: Material Topics 2021	3-3 Management of material topics	Our People: Healthy, Safe, Competent	23–26			

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PILLAR TWO: PEOPLE AND PARTNERSHIPS						
GRI Standard	Disclosure	Report section and Remarks	Page Reference	Requirement(s) Omitted	Reason for Omission	Explanation for Omission
Our People: Healthy, Safe, Competent						
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	Employee Profile	41	Omitted employee count breakdown by region for – a, b	Confidentiality Constraints	Employee data has been provided in accordance with GRI Standards, allowing for computation of the corresponding percentages. Disclosing the breakdown of PUB's employees by region covers confidential information of PUB's business affairs and are not to be disclosed due to confidentiality reasons. Please refer to PUB Sustainability Reports 2022 and 2023 for details on past disclosures of PUB's employee profile.
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	Our People: Healthy, Safe, Competent	23–24			
	403-2 Hazard identification, risk assessment, and incident investigation	Our People: Healthy, Safe, Competent	23–24			
	403-3 Occupational health services	Our People: Healthy, Safe, Competent	23–24			
	403-5 Worker training on occupational health and safety	Our People: Healthy, Safe, Competent	23–24			

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PILLAR TWO: PEOPLE AND PARTNERSHIPS

GRI Standard	Disclosure	Report section and Remarks	Page Reference	Requirement(s) Omitted	Reason for Omission	Explanation for Omission
Our People: Healthy, Safe, Competent						
GRI 403: Occupational Health and Safety 2018	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Our People: Healthy, Safe, Competent	23–24			
	403-8 Workers covered by an occupational health and safety management system	Our People: Healthy, Safe, Competent	23–24			
	403-9 Work-related injuries	Appendix 2: Sustainability Performance Data	40			
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	Appendix 2: Sustainability Performance Data Appendix 3: Reporting Fundamentals	40, 45			
	404-2 Programs for upgrading employee skills and transition assistance programs	Our People: Healthy, Safe, Competent	25–26			
Customers and Community						
GRI 3: Material Topics 2021	3-3 Management of material topics	Customers and Community	27–31			

GRI Content Index

PILLAR THREE: BUSINESS EXCELLENCE

GRI Standard	Disclosure	Report section and Remarks	Page Reference	Requirement(s) Omitted	Reason for Omission	Explanation for Omission
Risk Management						
GRI 3: Material Topics 2021	3-3 Management of material topics	Risk Management	32–33			
GRI 205: Anti-Corruption 2016	205-2 Communication and training about anti-corruption policies and procedures	<p>Risk Management</p> <p>The PUB Code of Conduct (CoC) reflects our principles and provides guidance on what is expected of PUB officers in their conduct of business, including our emphasis on anti-corruption. The CoC is communicated to all PUB officers and reinforced through various channels such as the annual CoC quiz and declarations. Separately, all awarded contractors are required to adhere to the anti-corruption policies set out in the contract documents.</p>				
Financial Sustainability						
GRI 3: Material Topics 2021	3-3 Management of material topics	Financial Sustainability	34			

► Financial Report

2023/24

**FINANCIAL HIGHLIGHTS
FOR THE FINANCIAL YEAR ENDED 31 MARCH 2024**

		Group	
		FY2023	FY2022
		\$ million	\$ million
OPERATING RESULTS			
Operating Income		1,468.0	1,440.6
Net Non-Operating Income	(a)	78.6	69.6
Operating Expenses		(1,788.2)	(1,704.2)
Finance Expenses		(54.9)	(46.2)
Net Loss before Government Grants		(296.5)	(240.2)
Operating Grants from Government	(b)	497.2	437.3
Net Income after Government Grants and before Contribution to Consolidated Fund and Taxation		200.7	197.1
Contribution to Consolidated Fund		(34.2)	(33.6)
Taxation		-	-
Net Income after Government Grants and after Contribution to Consolidated Fund and Taxation	(e)	166.5	163.5
FINANCIAL POSITION			
Property, Plant and Equipment	(c)	10,269.6	9,726.3
Cash and Cash Equivalents		318.6	634.3
Other Assets	(d)	286.0	305.5
Total Assets		10,874.2¹	10,666.1¹
Capital Account	(e)	7,191.4	7,024.2
Accumulated Losses		(1.1)	(0.5)
Water Efficiency Fund		6.0	6.0
Share Capital		1.8	1.3
Borrowings	(f)	1,700.0	1,700.0
Other Liabilities	(g)	1,976.1	1,935.1
Total Equity and Liabilities		10,874.2¹	10,666.1¹
Average Total Assets (\$ billion)		10.8	10.2
Return on Total Assets ² %		2.0	2.0
Gearing Ratio ³ %		23.4	25.2

¹ The figure differs from financial statements due to rounding differences.

² Return on Total Assets = Return before Interest and after Contribution to Consolidated Fund and Tax / Average Total Assets

³ Gearing Ratio = (Borrowings + Lease Liabilities) / Average Total Assets

PERFORMANCE OVERVIEW

For the financial year 2023, the Group recorded a loss of \$296.5 million (prior year loss: \$240.2 million) before operating grants from Government. The Group's net income after Government Grants and Contribution to Consolidated Fund and Taxation was \$166.5 million (prior year: \$163.5 million). Net income was \$3.0 million higher compared to the previous year due to higher operating income and operating grants, which were offset by higher operating expenses. PUB's retained earnings were appropriated to the capital account to reflect PUB's investments in Property, Plant and Equipment (PPE).

INCOME

The Group's operating income of \$1,468.0 million (prior year: \$1,440.6 million) was largely from its water supply and used water operations. The Group's other major source of income of \$497.2 million (prior year: \$437.3 million) is from Government operating grants.

OPERATING EXPENSES

The Group's operating expenses⁴ totalled \$1,788.2 million in FY2023 (prior year: \$1,704.2 million). Operating expenses of the Group comprise largely depreciation of PPE, manpower, maintenance, electricity, and other expenses incurred relating to the collection, production, distribution and reclamation of water in Singapore.

The Group's operating expenses for the financial year was \$84.0 million or 4.9% higher than the previous financial year. Major contributors for the increase included higher cost of materials, maintenance and manpower.

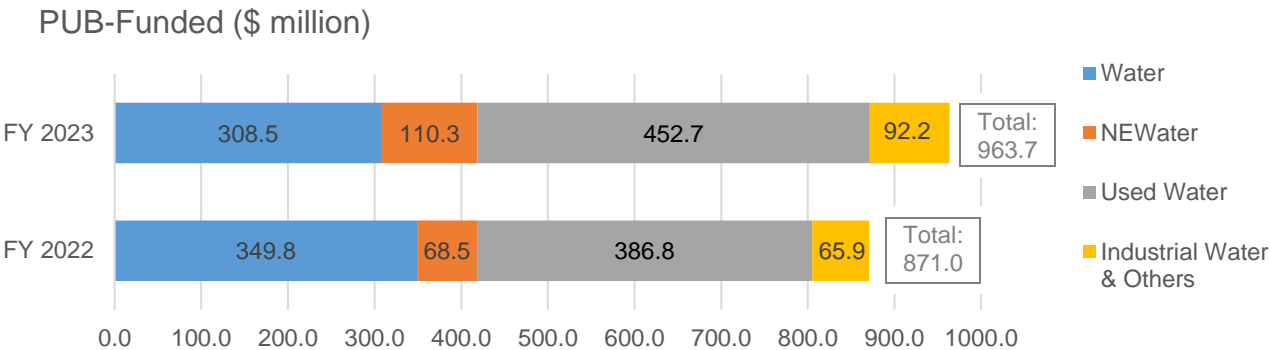
FINANCIAL POSITION

As at 31 March 2024, the Group's total assets stood at \$10,874.2 million (prior year: \$10,666.1 million). 94.4% of the Group's total assets or \$10,269.6 million (prior year: 91.2%, \$9,726.3 million) are accounted for by PPE. The increase of PPE by \$543.3 million was largely due to investments made by PUB in capital assets offset by the depreciation of PUB's assets during the year. The capital investments were funded with cash from operations and borrowings from bond issues.

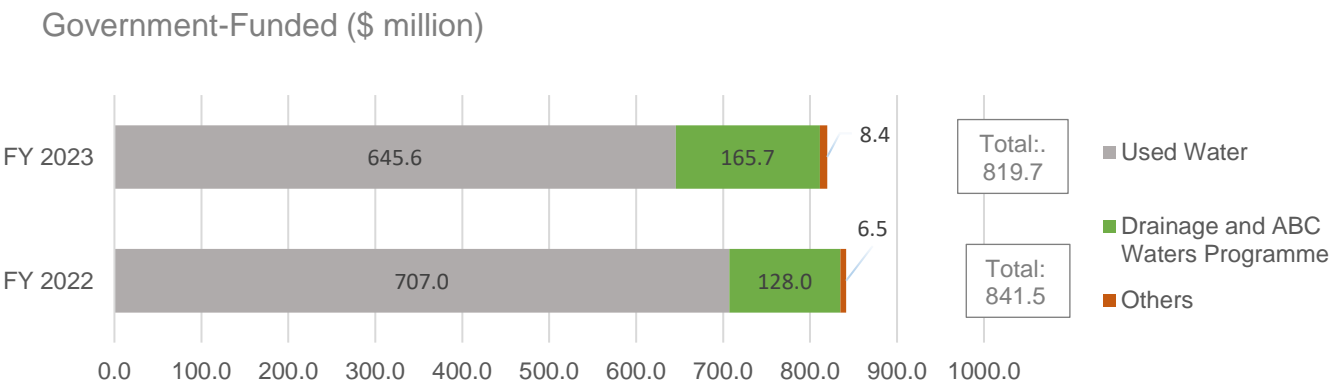
⁴ The Group's operating expenses do not include depreciation expenses for the drainage, Active, Beautiful and Clean (ABC) Waters Programme and used water reticulation network assets belonging to the Government.

CAPITAL EXPENDITURE

During the year, the capital expenditure of the Group was \$1,783.4 million (prior year: \$1,712.5 million). This comprised PUB-funded capital expenditure of \$963.7 million and government-funded capital expenditure of \$819.7 million as shown in the following charts:



PUB incurred \$963.7 million (prior year: \$871.0 million) in capital expenditure as part of its continual efforts to replace, improve and expand water and used water infrastructure to cater for Singapore’s future water needs. These infrastructures are funded by cash generated from revenue collected (net of expenses) and borrowings.



Government-funded capital expenditure of \$819.7 million (prior year: \$841.5 million) were mainly for drainage network, used water reticulation network and the ABC Waters Programme projects. These assets belong to the Government.

Notes to Financial Highlights:

- (a) Net Non-Operating Income:** Net non-operating income largely consists of project management fees, recognition of prior year deferred income, interest income from fixed deposits and short-term bills, and rental income.
- (b) Operating Grants from Government:** Operating grants from Government are received for the operations and maintenance of drainage systems, the Active, Beautiful, Clean Waters Programme, coastal protection and water infrastructure projects.
- (c) Property, Plant and Equipment:** PPE includes land, pipelines, plant, equipment and buildings (to house the plant and equipment) and is reported at current Net Book Values in the financial statements.
- (d) Other Assets:** Trade and other receivables along with inventories, constituted the bulk of the Group's Other Assets. Trade receivables are receivables due from customers with respect to water supply and used water services. Inventories include consumables and spares held for PUB's operations, used primarily for the treatment of water and used water, and maintenance of plant and equipment.
- (e) Capital Account:** PUB's retained earnings for the financial year were appropriated to the capital account to reflect the capital commitment for the development of PUB's PPE. PUB continues to channel surpluses to ensure timely investments in water and used water infrastructure to support economic and population growth.
- (f) Borrowings:** The Group's borrowings comprise unsecured fixed-rate bonds, and are used for general corporate purposes including financing the capital expenditure requirements and PUB's general working capital needs.
- (g) Other Liabilities:** Other liabilities mainly consist of lease liabilities arising from leases of office premises, lands, buildings and plants under the Design-Build-Own-Operate projects for Group's operations, deferred capital grants, and trade and other payables.

TEN - YEAR SUMMARY OF OPERATING RESULTS AND FINANCIAL POSITION

GROUP	FY2023 \$'000	FY2022 \$'000	FY2021 \$'000	FY2020 \$'000	FY2019 \$'000	FY2018 \$'000	FY2017 \$'000	FY2016 \$'000	FY2015 \$'000	FY2014 \$'000
OPERATING RESULTS										
Operating Income	1,468,025	1,440,551	1,447,819	1,418,973	1,447,273	1,404,797	1,286,167	1,222,432	1,201,313	1,182,495
Operating Expenses	(1,788,272)	(1,704,175)	(1,557,127)	(1,408,864)	(1,417,507)	(1,405,514)	(1,323,969)	(1,270,242)	(1,239,334)	(1,193,636)
Net Operating (Loss)/Income	(320,247)	(263,624)	(109,308)	10,109	29,766	(717)	(37,802)	(47,810)	(38,021)	(11,141)
Net Non-Operating Income	78,586	69,609	85,009	59,813	91,342	74,338	71,411	73,459	56,345	49,842
Finance Expenses	(54,858)	(46,254)	(33,167)	(37,964)	(35,480)	(74,838)	(84,014)	(84,844)	(87,660)	(95,926)
Net (Loss)/Income before Government Grants	(296,519)	(240,269)	(57,466)	31,958	85,628	(1,217)	(50,405)	(59,195)	(69,336)	(57,225)
Government Operating Grants	497,179	437,341	402,322	381,712	355,138	354,849	332,868	298,826	270,431	276,992
Net Income after Government Grants and before Consolidated Fund and Tax	200,660	197,072	344,856	413,670	440,766	353,632	282,463	239,631	201,095	219,767
Contribution to Consolidated Fund and Tax	(34,210)	(33,576)	(58,862)	(70,456)	(75,046)	(60,112)	(48,392)	(40,691)	(34,258)	(37,378)
Net Income after Government Grants and after Contribution to Consolidated Fund and Tax	166,450	163,496	285,994	343,214	365,720	293,520	234,071	198,940	166,837	182,389
FINANCIAL POSITION										
Property, Plant and Equipment	10,269,639	9,726,275	9,066,900	8,709,201	8,241,303	8,121,274	7,854,348	7,147,445	6,793,808	6,778,733
Investment in Bonds	-	-	-	-	-	-	-	-	90,945	98,745
Cash and Cash Equivalents	318,593	634,274	331,326	397,829	615,420	450,282	513,438	683,301	830,546	780,255
Other Current Assets	266,975	285,284	247,907	246,416	244,640	242,841	270,042	236,746	220,954	215,554
Other Non-Current Assets	19,053	20,197	26,266	5,128	10,395	9,417	8,778	6,572	5,743	9,012
Total Assets	10,874,260	10,666,030	9,672,399	9,358,574	9,111,758	8,823,814	8,646,606	8,074,064	7,941,996	7,882,299
Borrowings ¹	1,700,000	1,700,000	1,000,000	1,000,000	1,300,000	1,300,000	1,400,000	1,400,000	1,650,000	1,750,000
Deferred Income ¹	548,655	564,264	562,343	502,656	505,515	528,773	549,467	225,831	243,117	246,641
Lease Liabilities ¹	820,485	860,079	723,808	751,438	426,420	598,059	629,320	658,882	512,793	535,317
Provision for Asset Restoration Obligations	15,383	14,558	12,903	13,393	14,562	12,424	12,345	12,613	13,829	14,577
Other Current Liabilities	591,593	496,197	505,909	510,097	628,987	512,518	476,915	432,163	376,767	355,537
Total Liabilities	3,676,116	3,635,098	2,804,963	2,777,584	2,875,484	2,951,774	3,068,047	2,729,489	2,796,506	2,902,072
Share Capital	1,772	1,256	1,255	1,057	1	1	1	1	1	1
Capital Account	7,191,446	7,024,199	6,860,331	6,572,705	6,228,274	5,863,311	5,571,307	5,335,175	5,138,057	4,972,795
Water Efficiency Fund	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000
(Accumulated Losses)/Retained Earnings ²	(1,074)	(523)	(150)	1,228	1,999	2,728	1,251	3,399	1,432	1,431
Total Equity	7,198,144	7,030,932	6,867,436	6,580,990	6,236,274	5,872,040	5,578,559	5,344,575	5,145,490	4,980,227
Total Liabilities and Equity	10,874,260	10,666,030	9,672,399	9,358,574	9,111,758	8,823,814	8,646,606	8,074,064	7,941,996	7,882,299
Net Assets/(Liabilities) of Trust Funds ³	4,788,315	4,775,558	4,868,737	4,923,289	(49,985)	(51,071)	(59,179)	(52,403)	(36,939)	(38,115)

Notes:

¹ Borrowings, Deferred Income, Lease Liabilities comprise current and non-current portion.

² Retained earnings was after setting aside amounts to meet the Board's capital commitments in accordance with Section 14 of the Public Utilities Act (Chapter 261).

³ Assets and liabilities belonging to Trust Funds are excluded and presented separately from the Group's assets and liabilities.

TEN - YEAR SUMMARY OF STATISTICAL DATA

	FY2023	FY2022	FY2021	FY2020	FY2019	FY2018	FY2017	FY2016	FY2015	FY2014
EMPLOYEES										
Number of employees										
- PUB	3,276	3,229	3,242	3,282	3,342	3,351	3,425	3,442	3,421	3,382
- PUBC	-	-	-	6	25	1	-	-	-	-
Group	3,276	3,229	3,242	3,288	3,367	3,352	3,425	3,442	3,421	3,382
CUSTOMERS										
Number of accounts ('000)	1,601 ¹	1,687	1,670	1,639	1,622	1,599	1,567	1,527	1,463	1,424
PERFORMANCE INDICATORS										
As at end of financial year										
- Number of accounts served per PUB employee	489	522	515	499	485	477	458	444	428	421
- Net Operating Income after grant per employee (\$'000)	54	54	90	119	114	106	86	73	68	79
For period January - December										
- Flood Prone Areas (hectare)	24	27	28	28	29	29	30	31	32	34
- Number of Disruptions per month per 1,000 km of Sewers	10	10	10	10	10	10	10	11	11	11
- Per capita Household Water Consumption (litres/day) ²	141	149	158	154	141	141	143	148	149	149
- Per capita Domestic Water Consumption (litres/day) ²	-	-	-	-	-	-	-	-	151	150
- % of Unaccounted for Water ³	-	-	-	-	5.5	5.6	5.1	5.0	5.0	5.2
- % of Distribution Losses ³	7.2	7.5	8.2	8.0	8.2	-	-	-	-	-
- % of tests meeting WHO Guidelines for Drinking-Water Quality-and EPH (Quality of Piped Drinking Water) Regulations	100	100	100	100	100	100	100	100	100	100
CAPITAL EXPENDITURE										
	\$ million	\$ million	\$ million	\$ million	\$ million	\$ million	\$ million	\$ million	\$ million	\$ million
FUNDED BY AND BELONGING TO PUB										
Water	308.5	349.8	273.4	228.5	337.7	413.3	404.6	363.6	157.6	102.0
NEWater	110.3	68.5	28.4	11.2	14.2	8.6	13.9	20.9	50.6	65.1
Used Water	452.7	386.8	370.1	188.9	195.4	187.0	294.6	104.5	94.7	51.0
Industrial Water & Others	92.2	65.9	65.9	58.2	50.9	42.6	19.9	11.8	17.0	4.2
Total	963.7	871.0	737.8	486.8	598.2	651.5	733.0	500.8	319.9	222.3
FUNDED BY AND BELONGING TO GOVERNMENT										
Used Water	645.6	707.0	803.7	573.4	789.0	450.6	254.5	193.3	193.7	140.3
Drainage and ABC Waters Programme	165.7	128.0	117.0	77.3	209.4	270.7	307.0	357.5	300.7	215.2
Others	8.4	6.5	2.7	0.3	-	-	-	-	-	-
	819.7	841.5	923.4	651.0	998.4	721.3	561.5	550.8	494.4	355.5
Total	1,783.4	1,712.5	1,661.2	1,137.8	1,596.6	1,372.8	1,294.5	1,051.6	814.3	577.8

Notes:

¹ Another 120k accounts were not billed in March 2024 due to additional time required to validate the water bills before billing, as part of the water price revision. These bills were issued in April 2024

² From FY2016 onwards, the indicator was revised from "Per capita Domestic Water Consumption" to "Per capita Household Water Consumption", which refers to water consumption within household premises only (i.e. usage in purpose built dormitories and common areas excluded).

³ "Distribution Losses" has replaced the "Unaccounted for Water" indicator from 2019 onwards as "Distribution Losses" accounts for all possible leaks and is therefore, a more holistic indicator of water loss.

Public Utilities Board and its Subsidiaries

Annual Financial Statements
For the financial year ended 31 March 2024

Public Utilities Board and its Subsidiaries

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Public Utilities Board and its Subsidiaries

Independent Auditor's Report For the financial year ended 31 March 2024

Independent Auditor's Report to the Members of Public Utilities Board and its Subsidiaries

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of Public Utilities Board (the "Board") and its subsidiaries (collectively, the "Group"), which comprise the statements of financial position of the Group and the Board as at 31 March 2024, statements of comprehensive income and statements of changes in equity of the Group and the Board and the statement of cash flows of the Group for the year then ended, and notes to the financial statements, including material accounting policy information.

In our opinion, the accompanying consolidated financial statements of the Group and the statement of financial position, statement of comprehensive income and statement of changes in equity of the Board are properly drawn up in accordance with the provisions of the Public Sector (Governance) Act 2018 ("PSG Act"), the Public Utilities Act 2001 (the "Act") and Singapore Statutory Board Financial Reporting Standards ("SB-FRSs") so as to present fairly, in all material aspects, the state of affairs of the Group and the Board as at 31 March 2024 and the results and changes in equity of the Group and the Board and cash flows of the Group for the year ended on that date.

Basis for Opinion

We conducted our audit in accordance with Singapore Standards on Auditing ("SSAs"). Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are independent of the Group in accordance with the Accounting and Corporate Regulatory Authority ("ACRA") Code of Professional Conduct and Ethics for Public Accountants and Accounting Entities ("ACRA Code") together with the ethical requirements that are relevant to our audit of the financial statements in Singapore, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the ACRA Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Public Utilities Board and its Subsidiaries

Independent Auditor's Report For the financial year ended 31 March 2024

Independent Auditor's Report to the Members of Public Utilities Board and its Subsidiaries

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. For each matter below, our description of how our audit addressed the matter is provided in that context.

We have fulfilled our responsibilities described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report, including in relation to these matters. Accordingly, our audit included the performance of procedures designed to respond to our assessment of the risks of material misstatement of the financial statements. The results of our audit procedures, including the procedures performed to address the matters below, provide the basis for our audit opinion on the accompanying financial statements.

Appropriateness of useful life to determine the carrying value of property, plant and equipment ("PPE")

As of 31 March 2024, the carrying values of PPE of the Group amounted to \$10,270 million, forming approximately 94% of the total assets of the Group.

Management exercised significant judgements in determining the estimated useful lives of the PPE, which are reviewed and adjusted prospectively as appropriate at each reporting date. In determining the useful lives of the PPE, management considered factors such as asset utilisation rate, internal technical evaluation and operational plans. Given the significance of PPE to the Group's financial statements, errors in estimating the useful lives of the PPE could result in a material misstatement to the financial statements. Accordingly, we considered this to be a key audit matter. The estimated useful lives of PPE is disclosed in Note 2.11(b) to the financial statements.

As part of our audit, we obtained an understanding and tested the key controls over the Group's processes relating to additions of PPE and determination of the useful life of the PPE that are available for use. We also obtained an understanding and tested the key controls over the Group's processes for the annual evaluation of useful lives of PPE. We corroborated the key assumptions used by management with published information on Singapore's water strategies and plans in the future years, physical conditions assessed by engineers, and historical and current utilisation of PPE. We also assessed the Group's disclosure in Notes 2.11(b), 3 and 13 to the financial statements.

Public Utilities Board and its Subsidiaries

Independent Auditor's Report For the financial year ended 31 March 2024

Independent Auditor's Report to the Members of Public Utilities Board and its Subsidiaries

Other Information

Management is responsible for the other information. The other information comprises the information included in the annual report, but does not include the financial statements and our auditor's report thereon. The other information which comprise the annual report is expected to be made available to us after the date of this auditor's report.

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation of the financial statements that give a true and fair view in accordance with the provisions of the PSG Act, the Act and SB-FRSs, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

A statutory board is constituted based on its constitutional act and its dissolution requires Parliament's approval. In preparing the financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with SSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with SSAs, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

Public Utilities Board and its Subsidiaries

Independent Auditor's Report For the financial year ended 31 March 2024

Independent Auditor's Report to the Members of Public Utilities Board and its Subsidiaries

Auditor's Responsibilities for the Audit of the Financial Statements (cont'd)

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with the those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Public Utilities Board and its Subsidiaries

Independent Auditor's Report For the financial year ended 31 March 2024

Independent Auditor's Report to the Members of Public Utilities Board and its Subsidiaries

Report on Other Legal and Regulatory Requirements

Opinion

In our opinion:

- (a) the receipts, expenditure, investment of moneys and the acquisition and disposal of assets by the Board during the year are, in all material aspects, in accordance with the provisions of the PSG Act, the Act and the requirements of any other written law applicable to moneys of or managed by the Board; and
- (b) proper accounting and other records have been kept, including records of all assets of the Board whether purchased, donated or otherwise.

Basis for Opinion

We conducted our audit in accordance with "SSAs". Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Compliance Audit* section of our report. We are independent of the Group in accordance with the ACRA Code together with the ethical requirements that are relevant to our audit of the financial statements in Singapore, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the ACRA Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion on management's compliance.

Responsibilities of Management for Compliance with Legal and Regulatory Requirements

Management is responsible for ensuring that the receipts, expenditure, investment of moneys and the acquisition and disposal of assets, are in accordance with the provisions of the PSG Act, the Act and the requirements of any other written law applicable to moneys of or managed by the Board. This responsibility includes monitoring related compliance requirements relevant to the Board, and implementing internal controls as management determines are necessary to enable compliance with the requirements.

Auditor's Responsibilities for the Compliance Audit

Our responsibility is to express an opinion on management's compliance based on our audit of the financial statements. We planned and performed the compliance audit to obtain reasonable assurance about whether the receipts, expenditure, investment of moneys and the acquisition and disposal of assets, are in accordance with the provisions of the PSG Act, the Act and the requirements of any other written law applicable to moneys of or managed by the Board.

Our compliance audit includes obtaining an understanding of the internal control relevant to the receipts, expenditure, investment of moneys and the acquisition and disposal of assets; and assessing the risks of material misstatement of the financial statements from non-compliance, if any, but not for the purpose of expressing an opinion on the effectiveness of the Board's internal control. Because of the inherent limitations in any internal control system, non-compliances may nevertheless occur and not be detected.

Public Utilities Board and its Subsidiaries

**Independent Auditor's Report
For the financial year ended 31 March 2024**

Independent Auditor's Report to the Members of Public Utilities Board and its Subsidiaries

Auditor's Responsibilities for the Compliance Audit (cont'd)

The engagement partner on the audit resulting in this independent auditor's report is Alvin Phua Chun Yen.



Ernst & Young LLP

Public Accountants and
Chartered Accountants
Singapore

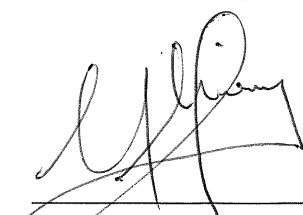
1 August 2024

Public Utilities Board and its Subsidiaries

Statements of Comprehensive Income

For the financial year ended 31 March 2024

	Note	Group		Board	
		31 March 2024 \$'000	31 March 2023 \$'000	31 March 2024 \$'000	31 March 2023 \$'000
Operating income	4	1,468,025	1,440,551	1,467,687	1,434,303
Operating expenses	5	(1,788,272)	(1,704,175)	(1,787,366)	(1,697,414)
Net operating loss		(320,247)	(263,624)	(319,679)	(263,111)
Net non-operating income	6	78,586	69,609	78,569	69,596
Net loss before finance expenses and operating grants		(241,661)	(194,015)	(241,110)	(193,515)
Finance expenses	7	(54,858)	(46,254)	(54,858)	(46,254)
Net loss before operating grants		(296,519)	(240,269)	(295,968)	(239,769)
Operating grants from government		497,179	437,341	497,179	437,214
Net income after government grants and before contribution to Consolidated Fund and taxation for the year		200,660	197,072	201,211	197,445
Contribution to Consolidated Fund	8(a)	(34,210)	(33,576)	(34,210)	(33,576)
Taxation	8(b)	—	—	—	—
Net income after government grants and after contribution to Consolidated Fund and taxation for the year		166,450	163,496	167,001	163,869
Other comprehensive income					
<u>Items that will not be reclassified to profit or loss</u>					
Net re-measurement gain/(loss) on pension obligation	16	246	(1)	246	(1)
Total comprehensive income for the year		166,696	163,495	167,247	163,868
Attributable to:					
Shareholder of the Board		166,696	163,495	167,247	163,868



Chiang Chie Foo
Chairman



Ong Tze-Ch'in
Chief Executive

The accompanying accounting policies and explanatory notes form an integral part of the financial statements.

Public Utilities Board and its Subsidiaries

Statements of Financial Position

As at 31 March 2024

		<u>Group</u>		<u>Board</u>	
	Note	31 March 2024 S\$'000	31 March 2023 S\$'000	31 March 2024 S\$'000	31 March 2023 S\$'000
ASSETS					
Current assets					
Cash and cash equivalents	9	318,593	634,274	315,613	630,244
Inventories	10	105,179	104,035	105,177	104,019
Trade and other receivables	11	154,412	166,531	154,160	160,858
Prepaid and deferred expenses	12	7,384	14,718	7,139	14,701
		585,568	919,558	582,089	909,822
Non-current assets					
Property, plant and equipment	13	10,269,639	9,726,275	10,269,639	9,726,275
Investments in subsidiaries	14	—	—	2,100	2,100
Trade and other receivables	11	19,020	20,196	19,020	20,196
Prepaid and deferred expenses	12	33	1	—	—
		10,288,692	9,746,472	10,290,759	9,748,571
Total assets		10,874,260	10,666,030	10,872,848	10,658,393
LIABILITIES					
Current liabilities					
Trade and other payables	15	552,946	457,814	552,281	450,426
Provision for pension	16	4,437	4,807	4,437	4,807
Provision for contribution to Consolidated Fund and taxation		34,210	33,576	34,210	33,576
Lease liabilities	17	64,689	59,868	64,689	59,868
Deferred income	18	18,760	18,302	16,939	18,178
		675,042	574,367	672,556	566,855
Non-current liabilities					
Lease liabilities	17	755,796	800,211	755,796	800,211
Deferred income	18	529,895	545,962	529,895	545,314
Borrowings	19	1,700,000	1,700,000	1,700,000	1,700,000
Provision for asset restoration obligations	20	15,383	14,558	15,383	14,558
		3,001,074	3,060,731	3,001,074	3,060,083
Total liabilities		3,676,116	3,635,098	3,673,630	3,626,938
NET ASSETS		7,198,144	7,030,932	7,199,218	7,031,455
Capital and reserves					
Share capital	21	1,772	1,256	1,772	1,256
Accumulated losses		(1,074)	(523)	—	—
Capital account	22	7,191,446	7,024,199	7,191,446	7,024,199
Water Efficiency Fund	23	6,000	6,000	6,000	6,000
		7,198,144	7,030,932	7,199,218	7,031,455
Supplementary information					
Net assets/(liabilities) of trust funds	24	4,788,315	4,775,558	4,788,315	4,775,558

The accompanying accounting policies and explanatory notes form an integral part of the financial statements.

Public Utilities Board and its Subsidiaries

Consolidated Statement of Changes in Equity

For the financial year ended 31 March 2024

		←		Group		→
	Note	Share capital S\$'000	Accumulated losses S\$'000	Capital S\$'000	Water efficiency fund S\$'000	Total S\$'000
31 March 2024						
Beginning of financial year		1,256	(523)	7,024,199	6,000	7,030,932
Net income after government grants and after contribution to Consolidated Fund and taxation for the year		–	166,450	–	–	166,450
Other comprehensive gain for the year		–	246	–	–	246
Total comprehensive income for the financial year		–	166,696	–	–	166,696
Issue of Shares	21	516	–	–	–	516
Transfer to retained earnings upon utilisation	23	–	2,764	–	(2,764)	–
Transfer to top up Water Efficiency Fund	23	–	(2,764)	–	2,764	–
Transfer to capital account	22	–	(167,247)	167,247	–	–
Total transactions with owners, recognised directly in equity		516	(167,247)	167,247	–	516
End of financial year		1,772	(1,074)	7,191,446	6,000	7,198,144
31 March 2023						
Beginning of financial year		1,255	(150)	6,860,331	6,000	6,867,436
Net income after government grants and after contribution to Consolidated Fund and taxation for the year		–	163,496	–	–	163,496
Other comprehensive loss for the year		–	(1)	–	–	(1)
Total comprehensive income for the financial year		–	163,495	–	–	163,495
Issue of Shares	21	1	–	–	–	1
Transfer to retained earnings upon utilisation	23	–	1,782	–	(1,782)	–
Transfer to top up Water Efficiency Fund	23	–	(1,782)	–	1,782	–
Transfer to capital account	22	–	(163,868)	163,868	–	–
Total transactions with owners, recognised directly in equity		1	(163,868)	163,868	–	1
End of financial year		1,256	(523)	7,024,199	6,000	7,030,932

The accompanying accounting policies and explanatory notes form an integral part of the financial statements.

Public Utilities Board and its Subsidiaries

Statement of Changes in Equity

For the financial year ended 31 March 2024

		←		Board		→
	Note	Share capital S\$'000	Accumulated losses S\$'000	Capital S\$'000	Water efficiency fund S\$'000	Total S\$'000
31 March 2024						
Beginning of financial year		1,256	–	7,024,199	6,000	7,031,455
Net income after government grants and after contribution to Consolidated Fund and taxation for the year		–	167,001	–	–	167,001
Other comprehensive gain for the year		–	246	–	–	246
Total comprehensive income for the financial year		–	167,247	–	–	167,247
Issue of Shares	21	516	–	–	–	516
Transfer to retained earnings upon utilisation	23	–	2,764	–	(2,764)	–
Transfer to top up Water Efficiency Fund	23	–	(2,764)	–	2,764	–
Transfer to capital account	22	–	(167,247)	167,247	–	–
Total transactions with owners, recognised directly in equity		516	(167,247)	167,247	–	516
End of financial year		1,772	–	7,191,446	6,000	7,199,218
31 March 2023						
Beginning of financial year		1,255	–	6,860,331	6,000	6,867,586
Net income after government grants and after contribution to Consolidated Fund and taxation for the year		–	163,869	–	–	163,869
Other comprehensive loss for the year		–	(1)	–	–	(1)
Total comprehensive income for the financial year		–	163,868	–	–	163,868
Issue of Shares	21	1	–	–	–	1
Transfer to retained earnings upon utilisation	23	–	1,782	–	(1,782)	–
Transfer to top up Water Efficiency Fund	23	–	(1,782)	–	1,782	–
Transfer to capital account	22	–	(163,868)	163,868	–	–
Total transactions with owners, recognised directly in equity		1	(163,868)	163,868	–	1
End of financial year		1,256	–	7,024,199	6,000	7,031,455

The accompanying accounting policies and explanatory notes form an integral part of the financial statements.

Public Utilities Board and its Subsidiaries

Consolidated Statement of Cash Flows

For the financial year ended 31 March 2024

		Group	
	Note	31 March 2024 S\$'000	31 March 2023 S\$'000
Cash flows from operating activities			
Net loss before operating grants		(296,519)	(240,269)
Adjustments for:			
- Provision for property, plant and equipment write-off	5(c)	3,105	3,005
- Allowance for doubtful receivables, net	5(c)	1,309	617
- Allowance for inventory obsolescence	5(c)	659	901
- Depreciation of property, plant and equipment	5(c)	434,600	412,570
- Loss on disposal of property, plant and equipment, net	6	2,639	3,492
- Amortisation of deferred income	6	(16,487)	(16,606)
- Interest income from fixed deposits and short-term bills	6	(20,686)	(13,052)
- Finance expenses	7	54,858	46,254
Cash flows from operating activities before working capital changes		163,478	196,912
Change in working capital:			
- Trade and other receivables		5,924	(19,332)
- Prepaid and deferred expenses		7,302	(9,734)
- Trade and other payables, and provisions		72,211	(16,651)
- Deferred income		490	1,600
- Inventories		(1,803)	(2,100)
		247,602	150,695
Payment for Consolidated Fund and tax		(33,576)	(58,862)
Net cash provided by operating activities		214,026	91,833
Cash flow from investing activities			
Additions to property, plant and equipment		(903,300)	(806,059)
Proceeds from disposal of property, plant and equipment		1,641	684
Interest income received		26,748	6,496
Net cash used in investing activities		(874,911)	(798,879)
Cash flows from financing activities			
Grants received from government		491,807	438,948
Proceeds from borrowings		–	1,100,000
Repayment of borrowings		–	(400,000)
Payment of lease liabilities		(88,260)	(85,998)
Interest expense on fixed rate bonds		(58,343)	(42,956)
Proceeds from issuance of ordinary shares		–	–
Net cash provided by financing activities		345,204	1,009,994
Net (decrease)/increase in cash and cash equivalents		(315,681)	302,948
Cash and cash equivalents			
Beginning of financial year	9	634,274	331,326
End of financial year	9	318,593	634,274

The accompanying accounting policies and explanatory notes form an integral part of the financial statements.

Public Utilities Board and its Subsidiaries

Consolidated Statement of Cash Flows

For the financial year ended 31 March 2024

Reconciliation of liabilities arising from financing activities

		Cash changes \$'000					Non-cash changes \$'000				
	1 April 2023 \$'000	Principal repayments	Interest payments	Addition during the year	Grants received from Gov't	Gov't grant utilised	Accrual	Interest expense	Addition during the year	Lease modification	31 March 2024 \$'000
Advances received for government grants (Note 15)	29,739	–	–	–	491,807	(500,897)	–	–	–	–	20,649
Borrowings (Note 19)	1,700,000	–	–	–	–	–	–	–	–	–	1,700,000
Interest payable	12,974	–	(58,343)	–	–	–	–	58,503	–	–	13,134
Lease liabilities (Note 17)	860,079	(58,514)	(29,746)	–	–	–	(14,610)	39,846	23,713	(283)	820,485

		Cash changes \$'000					Non-cash changes \$'000				
	1 April 2022 \$'000	Principal repayments	Interest payments	Addition during the year	Grants received from Gov't	Gov't grant utilised	Accrual	Interest expense	Addition during the year	Lease modification	31 March 2023 \$'000
Advances received for government grants (Note 15)	29,879	–	–	–	438,948	(439,088)	–	–	–	–	29,739
Borrowings (Note 19)	1,000,000	(400,000)	–	1,100,000	–	–	–	–	–	–	1,700,000
Interest payable	9,501	–	(42,956)	–	–	–	–	46,429	–	–	12,974
Lease liabilities (Note 17)	723,808	(55,281)	(30,717)	–	–	–	–	30,717	191,552	–	860,079

The accompanying accounting policies and explanatory notes form an integral part of the financial statements.

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

1. Corporate information

Public Utilities Board (the "Board") is a statutory board continued under the Public Utilities Act 2001, which came under the purview of the Ministry of Sustainability and the Environment ("MSE") on 1 April 2001.

The address of its registered office is 40 Scotts Road, Environment Building, #22-01, Singapore 228231.

The principal activities of the Board established under the Public Utilities Act 2001 (the "Act") are to supply water, provide used water services to the public, and act as agent to the Singapore Government (the "Government") in the construction, management and maintenance of the following belonging to the Government: public sewerage systems, public sewers, storm water drainage systems, and structures to safeguard against both inland flooding and coastal inundation risks. The principal activities of its subsidiaries are set out in Note 14 to the financial statements.

2. Material accounting policy information

2.1 Basis of preparation

The consolidated financial statements of the Group and the financial statements of the Board have been prepared in accordance with the historical cost basis, except as disclosed in the accounting policies below and are drawn up in accordance with the provision of the Public Sector (Governance) Act 2018 (the "Public Sector (Governance) Act"), the "Act" and Statutory Board Financial Reporting Standards ("SB-FRSs").

SB-FRSs include Statutory Board Financial Reporting Standards, Interpretations of SB-FRSs and SB-FRS Guidance Notes as promulgated by the Accountant-General. The Accountant-General is appointed as the legal authority to prescribe accounting standards for statutory boards under the Accounting Standards Act 2007 which came into effect on 1 November 2007.

As at 31 March 2024, the Group and the Board is in a net current liabilities position of \$89.5 million and \$90.5 million, respectively.

The financial statements of the Group and the Board have been prepared on a going concern basis based on the cash flow projections for the financial year ending 31 March 2025 which has been approved by the board members. In addition, the Group and the Board will also tap on its \$10 billion Medium-Term Note programme that was put in place in August 2022 to meet its funding requirements. Accordingly, the Group and the Board will be able to pay their debts as and when they fall due.

The financial statements are presented in Singapore dollars (S\$) and all values are rounded to the nearest thousand (S\$'000) unless otherwise indicated.

On 1 April 2023, the Group adopted the new or amended SB-FRSs and Interpretations to SB-FRS ("INT SB-FRS") that are mandatory for application for the financial year. Changes to the Group's accounting policies have been made as required, in accordance with the transitional provisions in the respective SB-FRSs and INT SB-FRS.

The adoption of these new or amended SB-FRSs and INT SB-FRS did not result in substantial changes to the Group's accounting policies and had no material effect on the amounts reported for the current or prior financial years.

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

2. Material accounting policy information (cont'd)

2.2 Standards issued but not yet effective

The Group has not adopted the following standards and interpretations that have been issued but not yet effective:

Description	Effective for annual periods beginning on or after
Amendments to SB-FRS 1: <i>Classification of Liabilities as Current or Non-current</i>	1 January 2024
Amendments to SB-FRS 1: <i>Non-current Liabilities with Covenants</i>	1 January 2024
Amendments to SB-FRS 7 and SB-FRS 107: <i>Supplier Finance Arrangements</i>	1 January 2024
Amendments to SB-FRS 116: <i>Lease Liability in a Sale and Leaseback</i>	1 January 2024
Amendments to SB-FRS 21: <i>Lack of Exchangeability</i>	1 January 2025
Amendments to SB-FRS 110 and SB-FRS 28: <i>Sale or Contribution of Assets between an Investor and its Associate or Joint Venture</i>	To be determined

The standards and interpretations above are expected to have no material impact on the financial statements in the period of initial application.

2.3 Revenue recognition

Revenue is measured based on the consideration to which the Group expects to be entitled in exchange for transferring promised goods or services to a customer, excluding amounts collected on behalf of third parties.

Revenue is recognised when the Group satisfies a performance obligation by transferring a promised good or service to the customer. A performance obligation may be satisfied over time or at a point in time. The amount of revenue recognised is the amount allocated to the satisfied performance obligation. The main revenue streams are as follows:

(a) *Revenue from water sales and used water services*

Revenue from water sales and used water services are recognised at a point in time when the Group satisfies its performance obligations based on customers' consumption of water and used water services.

Revenue from used water services comprises waterborne fee and trade effluent fee.

(b) *Rental income*

Rental income is recognised on a straight-line basis over the period of the lease.

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

2. Material accounting policy information (cont'd)

2.3 Revenue recognition (cont'd)

(c) *Interest income*

Interest income is recognised on an accrual basis using the effective interest method.

(d) *Dividend income*

Dividend income is recognised when the shareholder's right to receive payment is established.

(e) *Project management fee*

Project management fee is recognised over time when the services are rendered.

2.4 Government grants

Grants are received for the operations and maintenance of drainage systems, the Active, Beautiful, Clean Waters Programme, coastal protection and water infrastructure projects.

Grants from the government are recognised as a receivable at their fair values when there is reasonable assurance that the grants will be received and the Group will comply with all the conditions attached to them.

Government grants receivable are recognised as income over the periods necessary to match them with the related costs which they are intended to compensate, on a systematic basis.

Government grants whose primary condition is that the Group should purchase, construct or otherwise acquire non-current assets are recognised as deferred income in the statement of financial position, and are amortised and charged to profit or loss over the period necessary to match the annual depreciation charge of these assets or when the assets are disposed or written off.

2.5 Basis of consolidation

The consolidated financial statements comprise the financial statements of the Board and its subsidiaries as at the end of the reporting period. Control is achieved when the Group has power over the investee (i.e. existing rights that give it the current ability to direct the relevant activities of the investee), is exposed to, or has rights to, variable returns from its involvement with the investee and has the ability to affect those returns through its power to direct the activities of the investee.

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

2. Material accounting policy information (cont'd)

2.5 Basis of consolidation (cont'd)

The Group re-assesses whether or not it controls an investee if facts and circumstances indicate that there are changes to one or more of the three elements of control. Consolidation of a subsidiary begins when the Group obtains control over the subsidiary and ceases when the Group loses control of the subsidiary. Assets, liabilities, income and expenses of a subsidiary acquired or disposed of during the year are included in the consolidated financial statements from the date the Group gains control until the date the Group ceases to control the subsidiary.

In preparing the consolidated financial statements, transactions and balances and unrealised gains on transactions between group entities are eliminated. Unrealised losses are also eliminated unless the transaction provides evidence of an impairment indicator of the transferred asset. Accounting policies of subsidiaries have been changed where necessary to ensure consistency with the policies adopted by the Group.

2.6 Contribution to Consolidated Fund and income taxes

(a) *Contribution to Consolidated Fund*

In lieu of income tax, the Board is required to make contribution to the Consolidated Fund in accordance with the Statutory Corporations (Contributions to Consolidated Fund) Act 1989.

(b) *Income taxes*

The Group's income tax expense comprises current and deferred tax of the subsidiaries. Current income tax liabilities for current and prior periods are recognised at the amounts expected to be paid to the tax authorities, using the tax rates (and tax laws) that have been enacted or substantially enacted by the reporting date.

Deferred income tax assets/liabilities are recognised for all deductible/taxable temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the financial statements except when the deferred income tax assets/liabilities arise from the initial recognition of an asset or liability in a transaction that is not a business combination and at the time of the transaction, affects neither accounting nor taxable profit or loss.

Deferred income tax asset is recognised to the extent that it is probable that future taxable profit will be available against which the temporary differences can be utilised.

2. Material accounting policy information (cont'd)

2.6 Contribution to Consolidated Fund and income taxes (cont'd)

(c) *Income taxes*

Deferred income tax assets and liabilities are measured at:

- (i) the tax rates that are expected to apply when the related deferred income tax asset is realised or the deferred income tax liability is settled, based on tax rates (and tax laws) that have been enacted or substantially enacted by the reporting date; and
- (ii) the tax consequence that would follow from the manner in which the Board's subsidiaries expect, at the reporting date, to recover or settle the carrying amounts of its assets and liabilities.

Deferred tax assets and liabilities are offset if there is a legally enforceable right to offset current tax liabilities and assets, and they relate to income taxes levied by the same tax authority on the same taxable entity, or on different tax entities, but they intend to settle current tax liabilities and assets on a net basis or their tax assets and liabilities will be realised simultaneously.

Current and deferred income taxes are recognised as income or expenses in profit or loss for the period, except to the extent that the tax arises from a transaction which is recognised directly in statement of changes in equity.

2.7 Cash and cash equivalents

Cash and cash equivalents comprise cash at bank and demand deposits and short-term, investment instruments that are readily convertible to known amount of cash and which are subject to an insignificant risk of change in value. These include cash with the Accountant-General's Department ("AGD"), that is managed by the AGD under the Centralised Liquidity Management as set out in the Accountant-General's Circular No. 4/2009 Centralised Liquidity Management for Statutory Boards and Ministries.

2.8 Inventories

The Group's inventories are consumables and spares used primarily for the treatment of water and used water, and maintenance of plant and equipment but not held for trading.

Inventories are stated at the lower of cost and net realisable value. Cost is determined on the weighted average method, and includes expenditure incurred in acquiring the inventories and other costs incurred in bringing them to their existing location and condition.

Inventories which are considered obsolete, deteriorated or damaged are recorded in the allowance for inventories obsolescence before the inventories are authorised to be written off.

2. Material accounting policy information (cont'd)

2.9 Financial instruments

(a) *Financial assets*

Initial recognition and measurement

Financial assets are recognised when, and only when, the Group becomes a party to the contractual provisions of the financial instruments. The Group determines the classification of its financial assets at initial recognition.

At initial recognition, the Group measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, directly attributable transaction costs. Transaction costs of financial assets carried at fair value through profit or loss are expensed in profit or loss.

Trade receivables are measured at the amount of consideration to which the Group expects to be entitled in exchange for transferring promised goods or services to a customer, excluding amounts collected on behalf of third party, if the trade receivables do not contain a significant financing component at initial recognition.

Subsequent measurement

Amortised cost

Financial assets measured at amortised cost of the Group mainly comprise cash and cash equivalents and trade and other receivables.

Financial assets that are held for collection of contractual cash flows where those cash flows represent solely payments of principal and interest are measured at amortised cost. Financial assets are measured at amortised cost using the effective interest method, less impairment. Gains or losses are recognised in profit or loss when the asset is derecognised or impaired, and through the amortisation process.

Derecognition

The Group derecognises a financial asset only when the contractual rights to the cash flows from the asset expire, or when it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another party. If the Group neither transfers nor retains substantially all the risks and rewards of ownership and continues to control the transferred asset, the Group recognises its retained interest in the asset and an associated liability for amounts it may have to pay. If the Group retains substantially all the risks and rewards of ownership of a transferred financial asset, the Group continues to recognise the financial asset and also recognises a collateralised borrowing for the proceeds received.

On derecognition of a financial asset in its entirety, the difference between the carrying amount and the sum of the consideration received and any cumulative gain or loss that had been recognised in other comprehensive income for debt instrument is recognised in profit or loss.

2. Material accounting policy information (cont'd)

2.9 Financial instruments (cont'd)

(b) *Financial liabilities*

Initial recognition and measurement

Financial liabilities are recognised when, and only when, the Group becomes a party to the contractual provisions of the financial instrument. The Group determines the classification of its financial liabilities at initial recognition.

All financial liabilities are recognised initially at fair value plus, in the case of a financial asset not at fair value through profit or loss, directly attributable transaction costs.

Subsequent measurement

Financial liabilities of the Group mainly comprise trade and other payables and borrowings. Trade and other payables represent liabilities for goods and services provided to the Group prior to the end of the financial year which are unpaid and are classified as current liabilities if payment is due within one year or less. Otherwise, they are presented as non-current liabilities. Borrowings are presented as current liabilities unless the Group has an unconditional right to defer settlement for at least 12 months after the balance sheet date, in which case they are presented as non-current liabilities.

After initial recognition, financial liabilities that are not carried at fair value through profit or loss are subsequently measured at amortised cost using the effective interest method. Gains or losses are recognised in profit or loss when the liabilities are derecognised, and through the amortisation process.

A financial liability is derecognised when the obligation under the liability is discharged, cancelled or expired. When an existing financial liability is replaced by another, from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as a derecognition of the original liability and the recognition of a new liability, and the difference in the respective carrying amounts is recognised in profit or loss.

2.10 Impairment of financial assets

The Group assesses on a forward-looking basis the expected credit losses associated with its debt financial assets carried at amortised cost. The impairment methodology applied is disclosed in Note 27.

For trade receivables, the Group applies the simplified approach permitted by the SB-FRS 109, which requires expected lifetime losses to be recognised from initial recognition of the receivables.

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

2. Material accounting policy information (cont'd)

2.11 Property, plant and equipment

(a) *Measurement*

(i) Owned assets

On 1 May 1963, with the establishment of the Board, property, plant and equipment of the former City Council were vested in the Board at net book value. Property, plant and equipment are stated at historical cost less accumulated depreciation and accumulated impairment losses. The cost of an item of property, plant and equipment includes its purchase price, cost of replacing part of the property, plant and equipment and any cost that is directly attributable to the acquisition, construction, production or bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management.

The projected cost of dismantlement, removal or restoration is also included as part of the cost of property, plant and equipment if the obligation for dismantlement, removal or restoration is incurred as a consequence of acquiring or using the asset.

Property, plant and equipment which are obsolete, unserviceable or unidentifiable are written off.

When significant parts of property, plant and equipment are required to be replaced in intervals, these parts are capitalised as part of the underlying asset and depreciated over the remaining useful lives of the underlying asset. The parts that are being replaced are written off. All other repair and maintenance costs are recognised in profit or loss as incurred.

(ii) Right-of-use assets

Property, plant and equipment under lease is capitalised at an amount equal to the lower of its fair value and the present value of the minimum lease payments at the inception of the lease, less subsequent accumulated depreciation and impairment losses. The accounting policy for right-of-use assets is set out in Note 2.17.

(b) *Depreciation*

Depreciation of property, plant and equipment is charged from the month of acquisition of the asset or available for use as intended by management and is calculated on the straight-line method to allocate the depreciable amounts over their estimated useful lives.

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

2. Material accounting policy information (cont'd)

2.11 Property, plant and equipment (cont'd)

(b) Depreciation (cont'd)

The estimated useful lives of depreciable property, plant and equipment are as follows:

	<u>Useful lives</u>
Leasehold land	18 to 99 years, or the remaining lease period
Land development and buildings ⁽¹⁾	30 to 100 years
Plant and equipment	5 to 50 years
Pipelines	50 to 70 years
Others (mainly meters, vehicles and computer systems)	4 to 15 years

⁽¹⁾ Buildings comprise mainly civil structure to house plant and equipment.

Freehold land is not depreciated.

Assets that are developed in conjunction with the Right-of-use assets are depreciated over the shorter of the estimated useful life of the assets and the lease term.

Assets under construction included in property, plant and equipment are not depreciated as these assets are not yet available for use.

Depreciation method, useful lives and residual values are reviewed and adjusted prospectively as appropriate, at each reporting date.

(c) Disposal of assets

An item of property, plant and equipment is derecognised when no future economic benefits are expected from its use or disposal. Gains and losses on disposal of an item of property, plant and equipment are determined by comparing the proceeds from disposal with its carrying amount, and are recognised net in profit or loss.

(d) Subsequent expenditure

Subsequent expenditure relating to property, plant and equipment that has already been recognised is added to the carrying amount of the asset only when it is probable that future economic benefits associated with the item will flow to the entity and the cost of the item can be measured reliably. All other repair and maintenance expenses are recognised in profit or loss when incurred.

2. Material accounting policy information (cont'd)

2.12 Investments in subsidiaries

Investments in subsidiaries are carried at cost less accumulated impairment losses in the Board's statement of financial position. On disposal of an investment in subsidiary, the difference between disposal proceeds and the carrying amounts of the investment is recognised in profit or loss.

2.13 Impairment of non-financial assets

Property, plant and equipment

Right-of-use assets

Investments in subsidiaries

Property, plant and equipment, right-of-use assets and investments in subsidiaries are tested for impairment whenever there is any objective evidence or indication that these assets may be impaired. If any indication exists, or when annual impairment testing for an asset is required, the Group estimates the asset's recoverable amount.

For the purpose of impairment testing, the recoverable amount (i.e. the higher of the fair value less cost to sell and the value-in-use) is determined on an individual asset basis unless the asset does not generate cash inflows that are largely independent of those from other assets. If this is the case, the recoverable amount is determined for the cash-generating-unit ("CGU") to which the asset belongs.

If the recoverable amount of the asset (or CGU) is estimated to be less than its carrying amount, the carrying amount of the asset (or CGU) is reduced to its recoverable amount.

The difference between the carrying amount and recoverable amount is recognised as an impairment loss in profit or loss.

An assessment is made annually as to whether there is an indication that previously recognised losses and impairment for an asset may no longer exist or may have decreased. An impairment loss for an asset (or CGU) is reversed if, and only if, there has been a change in the estimates used to determine the asset's (or CGU's) recoverable amount since the last impairment loss was recognised. The carrying amount of an asset (or CGU) is increased to its revised recoverable amount, provided that this amount does not exceed the carrying amount that would have been determined (net of any accumulated amortisation or depreciation) had no impairment loss been recognised for the asset (or CGU) in prior years.

A reversal of impairment loss for an asset (or CGU) is recognised in profit or loss.

2.14 Provisions

Provisions are recognised when the Group has a present legal or constructive obligation as a result of past events, it is more likely than not that an outflow of resources will be required to settle the obligation and the amount has been reliably estimated.

Changes in the estimated timing or amount of the expenditure or discount rate are recognised in profit or loss when the changes arise.

2. Material accounting policy information (cont'd)

2.15 Employee benefits

Employee benefits are recognised as an expense, unless the cost qualifies to be capitalised as an asset.

(a) *Defined contribution plans*

The Group and the Board makes contributions to the Central Provident Fund ("CPF") in Singapore and the Employee Provident Fund ("EPF") in Malaysia, both defined as contribution plans. Contributions to the Group's employees' remuneration are made to the CPF and EPF as required by law. The CPF and EPF contributions are recognised as expenses in the period when the employees rendered their services.

(b) *Short-term employee benefits*

Short-term employee benefit obligations are measured on an undiscounted basis and are expensed in the period when the employees rendered their services. A liability is recognised for the amount expected to be paid if the Group has present legal or constructive obligation to pay this amount as a result of past service provided by the employee, and the obligation can be estimated reliably.

Employee entitlements to annual leave and performance bonus are recognised when they accrue to employees. A provision is made for the estimated liability for non-vesting annual leave and performance bonus as a result of services rendered by employees up to the reporting date.

(c) *Pension benefits*

The Group's net obligation in respect of long-term employee benefits is the amount of future benefit that employees have earned in return for their service in the current and prior periods; that benefit is discounted to determine its present value, and the fair value of any related assets is deducted. The discount rate is the yield at the reporting date on Singapore Government Securities that have maturity dates approximating the terms of the Group's obligations and that are denominated in the same currency in which the benefits are expected to be paid. The calculation is performed using the projected unit credit method.

The Board, apart from the legally required contribution plans such as the Central Provident Fund, operates pension plans for pensionable employees transferred from the former Ministry of Environment. The Board's obligation is from 1 April 2001 to the earlier of the day of retirement and death of these employees. The provision for pension is recognised based on the hypothetical gratuity for each pensionable employee accrued from 1 April 2001 up to the reporting date. The hypothetical gratuity for each pensionable officer and Board's share of the gratuity is computed based on existing guidelines found in the Pensions Act 1956 and circulars issued by the Public Service Division.

2. Material accounting policy information (cont'd)

2.16 Borrowings costs

Borrowing costs consist of interest that the Group incurs in connection with its borrowings. Borrowing costs are expensed in the period they occur except for those costs that are attributable to the construction or development of the qualifying assets. Borrowing costs on general borrowings are capitalised by applying a capitalisation rate to qualifying assets that are financed by general borrowings.

Capitalisation of borrowing costs commences when the activities to prepare the asset for its intended use and the expenditures and borrowing costs are incurred. Borrowing costs are capitalised until the assets are substantially completed for their intended use.

2.17 Leases

(a) When the Group is the lessee:

At the inception of the contract, the Group assesses if the contract is, or contains, a lease. A contract contains a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. Reassessment is only required when the terms and conditions of the contract are changed.

The Group applies a single recognition and measurement approach for all leases, except for short-term leases and leases of low-value assets. The Group recognises lease liabilities representing the obligations to make lease payments and right-of-use ("ROU") assets representing the right to use the underlying lease assets.

Right-of-use assets

The Group recognised a right-of-use asset and lease liability at the date which the underlying asset is available for use. Right-of-use assets are measured at cost, less any accumulated depreciation and impairment losses, and adjusted for any re-measurement of lease liabilities. The cost of right-of-use assets includes the initial measurement of lease liabilities adjusted for initial direct costs incurred, any lease payments made at or before the commencement date and lease incentive received. The cost of a right-of-use asset also includes an estimate of the costs to be incurred by the Group in dismantling and removing the underlying asset, restoring the site on which the asset is located or restoring the underlying asset to the condition required by the terms and conditions of the lease.

These right-of-use assets is subsequently depreciated using the straight-line method from the commencement date to the earlier of the end of the estimated useful life of the right-of-use asset or the end of the lease term.

The accounting policy for impairment is set out in Note 2.13.

Right-of-use assets are presented within "Property, plant and equipment".

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

2. Material accounting policy information (cont'd)

2.17 Leases (cont'd)

(a) When the Group is the lessee: (cont'd)

Lease liabilities

The initial measurement of lease liability is measured at the present value of the lease payments discounted using the implicit rate in the lease, if the rate can be readily determined. If that rate cannot be readily determined, the Group shall use its incremental borrowing rate or a proxy which estimates the incremental borrowing rate.

Lease payments include the following:

- Fixed payment (including in-substance fixed payments), less any lease incentives receivables;
- Variable lease payment that are based on an index or rate, initially measured using the index or rate as at the commencement date;
- Amount expected to be payable under residual value guarantees;
- The exercise price of a purchase option if it is reasonably certain to exercise the option; and
- Payment of penalties for terminating the lease, if the lease term reflects the Group exercising that option.

For contract that contain both lease and non-lease components, the Group allocates the consideration to each lease component on the basis of the relative stand-alone price of the lease and non-lease component.

Lease liability is measured at amortised cost using the effective interest method. Lease liability shall be re-measured when:

- There is a change in future lease payments arising from changes in an index or rate;
- There is a change in the Group's assessment of whether it will exercise an extension option; or
- There are modification in the scope or the consideration of the lease that was not part of the original term.

Lease liability is re-measured with a corresponding adjustment to the right-of-use asset, or is recorded in profit or loss if the carrying amount of the right-of-use asset has been reduced to zero.

Short term and low value leases

The Group has elected to not recognise right-of-use assets and lease liabilities for short-term leases that have lease terms of 12 months or less and leases of low value, except for sublease arrangements. Lease payments relating to these leases are expensed to profit or loss on a straight-line basis over the lease term.

2. Material accounting policy information (cont'd)

2.17 Leases (cont'd)

(a) *When the Group is the lessee: (cont'd)*

Variable lease payments

Variable lease payments that are not based on an index or a rate are not included as part of the measurement and initial recognition of the lease liability. The Group shall recognise those lease payments in profit or loss in the periods that triggered those lease payments.

(b) *When the Group is the lessor:*

The Group leases land under operating leases to non-related parties.

Lessor - Operating leases

Leases where the Group retains substantially all risks and rewards incidental to ownership are classified as operating leases. Rental income from operating leases (net of any incentives given to the lessees) is recognised in profit or loss on a straight-line basis over the lease term.

Initial direct costs incurred by the Group in negotiating and arranging operating leases are added to the carrying amount of the leased assets and recognised as an expense in profit or loss over the lease term on the same basis as the lease income.

Contingent rents are recognised as income in profit or loss when earned.

2.18 Currency translation

(a) *Functional and presentation currency*

Items included in the financial statements of each entity in the Group are measured using the currency of the primary economic environment in which the entity operates ("functional currency"). The financial statements are presented in Singapore Dollars ("SGD" or "\$"), which is the functional currency of the Board.

(b) *Transactions and balances*

Transactions in a currency other than the functional currency ("foreign currency") are translated into the functional currency using the exchange rates at the dates of the transactions. Currency exchange differences resulting from the translation of monetary assets and liabilities denominated in foreign currencies at the closing rates at the reporting date are recognised in profit or loss.

Non-monetary items measured at fair values in foreign currencies are translated using the exchange rates at the date when the fair values are determined.

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

2. Material accounting policy information (cont'd)

2.19 Water efficiency fund

The Water Efficiency Fund was launched by the Board to encourage implementation of water conservation initiatives. The fund belongs to the Board and is reviewed periodically by the Board for adequacy. Additional contributions or refunds will be made to or from the fund as appropriate. Receipts and expenditure relating to the fund are accounted for directly in this fund on an accrual basis. Any utilisation of the fund during the financial year will be matched by transfers from the Board's retained earnings. Assets and liabilities of these funds are pooled with those of the Board in the statement of financial position.

2.20 Trust funds

The Board is an agent of the Government for the sewerage, drainage and coastal protection functions. The Board has been receiving funds from the Ministry of Sustainability and the Environment ("MSE") to defray the development costs of Government-owned used water reticulation networks and drainage network.

The Government injected a lump sum into the Coastal and Flood Protection Fund ("CFPF") which can be used to fund the development costs of Government-owned drainage networks and coastal protection infrastructure. However, utilisation of CFPF is only allowed for expenditures prescribed under Section 18A of the Public Utilities Act 2001.

MSE and Singapore Totalisator Board also provide funding to the Board for the construction projects under the Active, Beautiful, Clean Waters Programme, also owned by the Government.

In addition, the Board also receives funds from the National Research Foundation ("NRF") for the disbursement of grants to grantees who are performing the water research and development ("R&D") activities. These funds are held in trust by the Board.

All transactions pertaining to activities supported by the funds are accounted for directly in the respective trust funds as set out in Note 24. Annual excess or shortfall in the funds after disbursing all development expenditure for MSE will be refunded to or recovered from MSE accordingly. The surplus funds received from Singapore Totalisator Board are returned when the construction of assets is completed. The surplus funds received from NRF will be returned upon completion of the water R&D activities. Upon the dissolution of the Coastal and Flood Protection Fund, the balance then remaining in the Fund will be transferred to the Consolidated Fund.

The net assets or liabilities of the funds do not form part of the Board's assets and liabilities but are shown separately in the Group's Statement of financial position. The funds are accounted for on an accrual basis. As at the financial year end, all trust funds continue to be in operation.

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

3. Critical accounting estimates, assumptions and judgements

The preparation of the Group's financial statements in conformity with SB-FRS requires management to make judgements, estimates and assumptions that affect the application of accounting policies, the reported amounts of assets, liabilities, income and expenses.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimates are revised and in any future periods affected. In particular, information about significant areas of critical judgements and estimation uncertainty in applying accounting policies that have the most significant effect on the amounts recognised in the financial statements are described below:

Depreciation of property, plant and equipment

Property, plant and equipment are depreciated on a straight-line basis over their estimated useful lives. The Group reviews annually the estimated economic useful lives and residual values of property, plant and equipment based on factors that include asset utilisation rate, internal technical evaluation and operational plans.

4. Operating income

	Group		Board	
	31 March 2024 S\$'000	31 March 2023 S\$'000	31 March 2024 S\$'000	31 March 2023 S\$'000
Water sales	833,965	814,986	833,965	814,986
Used water services	633,722	619,317	633,722	619,317
Other operating income	338	6,248	—	—
	1,468,025	1,440,551	1,467,687	1,434,303

Trade receivables from contracts with customers

	31 March 2024 S\$'000	Group 31 March 2023 S\$'000	1 April 2022 S\$'000	31 March 2024 S\$'000	Board 31 March 2023 S\$'000	1 April 2022 S\$'000
<u>Current assets</u>						
Trade receivables from contracts with customers (Note 11)	114,851	102,522	104,201	114,322	96,376	103,750
Loss allowance (Note 11)	(8,193)	(8,904)	(9,898)	(8,193)	(8,904)	(9,898)
	106,658	93,618	94,303	106,129	87,472	93,852

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

5. Operating expenses

Note	<u>Group</u>		<u>Board</u>	
	31 March 2024 S\$'000	31 March 2023 S\$'000	31 March 2024 S\$'000	31 March 2023 S\$'000
Direct operating expenses:				
- electricity	205,054	205,416	205,054	205,416
- manpower	314,299	299,690	314,067	299,217
- depreciation	414,446	388,941	414,446	388,941
- provision for property, plant and equipment write-off	3,105	3,005	3,105	3,005
- property tax	9,761	7,201	9,761	7,201
- maintenance and others 5(a)	628,125	588,028	627,451	581,740
	1,574,790	1,492,281	1,573,884	1,485,520
Indirect operating expenses:				
- service departments' costs 5(b)	213,482	211,894	213,482	211,894
5(c)	1,788,272	1,704,175	1,787,366	1,697,414

- (a) Included in maintenance and others are expenses related to the purchase of raw water from the Government of the State of Johor. Prices for the purchase of raw water from and treated water sold to the Government of the State of Johor in accordance with the 1962 Water Agreement are based on the rate of 3 sen and 50 sen per thousand gallons respectively. The Malaysian Government had sought a review of the price of raw water. The Singapore Government's position is that Malaysia has lost the right of review.
- (b) Service departments' costs comprise manpower, depreciation, maintenance, administrative and other expenses.

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

5. Operating expenses (cont'd)

(c) Included in direct and indirect operating expenses are:

	Note	<u>Group</u>		<u>Board</u>	
		31 March 2024 S\$'000	31 March 2023 S\$'000	31 March 2024 S\$'000	31 March 2023 S\$'000
Board members' allowance		265	228	260	211
Salaries and overtime allowances		353,888	342,983	353,665	342,537
Central/Employee Provident Fund		42,550	40,961	42,547	40,951
Other employee benefits		6,427	7,092	6,427	7,092
Electricity		205,571	205,864	205,571	205,864
Maintenance expenses		373,944	337,072	373,944	337,072
Research and development expenses		1,630	13,346	1,630	13,346
Allowance for inventory obsolescence	10(a)	659	901	659	901
Allowance for doubtful receivables	27(b)	1,309	617	1,309	617
Depreciation of property, plant and equipment	13	434,600	412,570	434,600	412,570
Provision for property, plant and equipment write-off	13	3,105	3,005	3,105	3,005

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

6. Net non-operating income

	<u>Group</u>		<u>Board</u>	
	31 March 2024 S\$'000	31 March 2023 S\$'000	31 March 2024 S\$'000	31 March 2023 S\$'000
Rental income	10,340	11,080	10,340	11,080
Amortisation of deferred income	16,487	16,606	16,487	16,606
Interest income from fixed deposits and short-term bills	20,686	13,052	20,686	13,052
Project management fees	19,519	18,328	19,519	18,328
Disbursement from recoverable jobs	1,070	1,627	1,070	1,627
Other sundry income	13,351	12,942	13,334	12,932
Net foreign exchange loss	(228)	(534)	(228)	(537)
Loss on disposal of property, plant and equipment – net	(2,639)	(3,492)	(2,639)	(3,492)
	78,586	69,609	78,569	69,596

7. Finance expenses

		<u>Group</u>		<u>Board</u>	
	Note	31 March 2024 S\$'000	31 March 2023 S\$'000	31 March 2024 S\$'000	31 March 2023 S\$'000
Pension interest expense	16	112	116	112	116
Interest expense on lease liabilities	17(c)	39,846	30,717	39,846	30,717
Interest expense on borrowings		58,503	46,429	58,503	46,429
Accretion expense on asset restoration obligations		419	312	419	312
		98,880	77,574	98,880	77,574
Less: Amount capitalised in property, plant and equipment		(44,022)	(31,320)	(44,022)	(31,320)
		54,858	46,254	54,858	46,254

Finance expenses on general financing were capitalised at 3.43% per annum (2023: 2.97% to 3.43% per annum).

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

8. Contribution to government consolidated fund and taxation

(a) *Contribution to Consolidated Fund*

The contribution to the Consolidated Fund is made in accordance with Section 3(a) of the Statutory Corporations (Contributions to Consolidated Fund) Act 1989.

	Board	
	31 March 2024 S\$'000	31 March 2023 S\$'000
Net income after government grants and before contribution to Consolidated Fund and taxation	201,211	197,445
Contribution to Consolidated Fund calculated at rate of 17% (2023:17%)	34,206	33,566
Effects of:		
- Non-deductible donations	4	10
	34,210	33,576

(b) *Income tax*

Subsidiaries of the Board are subject to tax under the Singapore Income Tax Act 1947.

	Group	
	31 March 2024 S\$'000	31 March 2023 S\$'000
Tax expense attributable to profit is made up of:		
- Current income tax	—	—

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

8. Contribution to government consolidated fund and taxation (cont'd)

(b) *Income tax (cont'd)*

The tax on the Group's net income after government grants and before tax differs from the theoretical amount that would arise using the Singapore standard rate of income tax as follows:

	Group	
	31 March 2024 S\$'000	31 March 2023 S\$'000
Net loss before tax of subsidiaries	(551)	(373)
Excluding intra group transaction	—	—
	(551)	(373)
Tax calculated at tax rate of 17% (2023: 17%)	(94)	(63)
Effects of:		
- expenses not deductible for tax purposes	—	5
- deferred tax assets not recognised	94	58
	—	—

(c) *Deferred tax assets have not been recognised in respect of the following items:*

	Group	
	31 March 2024 S\$'000	31 March 2023 S\$'000
Unutilised tax losses and capital allowances	4,134	3,583

Deferred tax assets have not been recognised in respect of these items because it is not probable that future taxable profit will be available against which the subsidiaries of the Group could utilise the benefits there from.

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

9. Cash and cash equivalents

	Note	Group		Board	
		31 March 2024 S\$'000	31 March 2023 S\$'000	31 March 2024 S\$'000	31 March 2023 S\$'000
Cash with AGD - Singapore Dollar	9(a)	307,201	153,289	307,201	153,289
Fixed and ACU deposits - Malaysia Ringgit	9(b)	3,681	11,090	3,681	11,090
- United States Dollar		66	256	66	256
Cash at bank	9(c)				
- Singapore Dollar		4,063	6,134	1,099	2,121
- Malaysia Ringgit		3,566	3,488	3,566	3,488
- United States Dollar		16	17	—	—
Short-term bills - Singapore Dollar	9(d)	—	460,000	—	460,000
		318,593	634,274	315,613	630,244

- (a) Cash with AGD refers to cash that is managed by the Accountant-General's Department ("AGD") under the Government's Centralised Liquidity Management Framework for Statutory Boards and Ministries. The annualised interest rate for cash with AGD for the financial year ended 31 March 2024 for the Group is 3.38% (2023: 1.56%) per annum.
- (b) The weighted average interest rate relating to fixed and Asian Currency Unit ("ACU") deposits for the financial year ended 31 March 2024 for the Group are 2.61% for Malaysian Ringgit and 5.05% for United States Dollar (2023: 2.44% for Malaysian Ringgit and 4.24% for United States Dollar) per annum.
- (c) Cash at bank earns interest at floating rates based on daily bank rates.
- (d) Short-term bills refer to short-term investment instruments that are readily convertible to cash. The annualised interest rate for short-term bills for the financial year ended 31 March 2023 for the Group was 4.00% per annum. There is no placement in the short-term bills as at 31 March 2024.

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

10. Inventories

		<u>Group</u>		<u>Board</u>	
	Note	31 March 2024 S\$'000	31 March 2023 S\$'000	31 March 2024 S\$'000	31 March 2023 S\$'000
At cost					
Pipes and fittings		743	998	743	998
Chemicals		6,521	9,542	6,521	9,542
Spare parts and accessories		96,164	91,169	96,164	91,169
Fuel and lubricants		2,993	3,016	2,993	3,016
Sundries and others		289	262	287	246
		106,710	104,987	106,708	104,971
Less: Allowance for inventory obsolescence	10(a)	(1,531)	(952)	(1,531)	(952)
		105,179	104,035	105,177	104,019

(a) Allowance for inventory obsolescence

		<u>Group and Board</u>	
	Note	31 March 2024 S\$'000	31 March 2023 S\$'000
Beginning of financial year		952	181
Allowance made	5(c)	659	901
Allowance utilised		(80)	(130)
End of the financial year		1,531	952

The cost of inventories recognised in operating expenses for the financial year ended 31 March 2024 was \$41.3 million (2023: \$41.3 million).

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

11. Trade and other receivables

		<u>Group</u>		<u>Board</u>	
	Note	31 March 2024 S\$'000	31 March 2023 S\$'000	31 March 2024 S\$'000	31 March 2023 S\$'000
<i>Current</i>					
Trade receivables	11(a)	114,851	102,522	114,322	96,376
Less: Allowance for impairment of trade receivables	27(b)	(8,193)	(8,904)	(8,193)	(8,904)
Trade receivables - net		106,658	93,618	106,129	87,472
Sundry receivables	11(b)	47,079	54,368	47,079	54,368
Less: Allowance for impairment of sundry receivables	27(b)	(3)	(5)	(3)	(5)
Sundry receivables - net		47,076	54,363	47,076	54,363
Deposits		150	17,970	150	17,970
Amounts due from government		528	580	528	580
Amounts due from subsidiaries		—	—	277	473
		154,412	166,531	154,160	160,858
<i>Non-current</i>					
Sundry receivables	11(b)	19,020	20,196	19,020	20,196
Total trade and other receivables		173,432	186,727	173,180	181,054
<u>Reconciliation to financial assets, at amortised cost</u>					
Total trade and other receivables		173,432	186,727	173,180	181,054
Add: Cash and cash equivalents	9	318,593	634,274	315,613	630,244
Total financial assets, at amortised cost	27(f)	492,025	821,001	488,793	811,298

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

11. Trade and other receivables (cont'd)

- (a) Trade receivables mainly represent receivables from customers with respect to water supply and used water services. These amounts are unsecured and are generally on credit terms of 14 days. They are recognised at the billed amounts which represent their fair values on initial recognition.
- (b) Sundry receivables mainly comprise the revenue and customer deposits collected by the Board's billing and collection agent, SP Services Limited, which have not been remitted to the Board, miscellaneous billings and other receivables for disbursement recoverable jobs billed and collected by the Board.

12. Prepaid and deferred expenses

Current prepaid expenses are payments made in advance for operating expenditure.

Deferred expenses relate mainly to expenses incurred in the preparation and organisation of the annual Singapore International Water Week event which was held in June 2024.

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

13. Property, plant and equipment

Group and Board 31 March 2024	Properties - Land S\$'000	Properties - Land development and buildings⁽²⁾ S\$'000	Properties - Leasehold land S\$'000	Plant and equipment S\$'000	Pipelines S\$'000	Others S\$'000	Assets under construction S\$'000	Total S\$'000
<i>Cost</i>								
Beginning of financial year	981	3,248,764	874,414	4,904,594	3,725,092	256,175	1,778,156	14,788,176
Additions	–	21,290	1,938	152	388	4,530	956,645	984,943
Adjustments	–	406	–	–	–	–	–	406
Transfers	–	275,465	15,485	221,579	200,345	47,165	(760,039)	–
Disposals	–	(10,664)	(1,387)	(58,249)	(9,813)	(8,423)	–	(88,536)
End of financial year	981	3,535,261	890,450	5,068,076	3,916,012	299,447	1,974,762	15,684,989
<i>Accumulated depreciation and provision for write-off</i>								
Beginning of financial year	–	1,360,204	147,635	2,483,030	915,977	155,055	–	5,061,901
Depreciation charge	–	87,347	12,519	247,030	59,234	28,470	–	434,600
Adjustments	–	–	–	–	–	–	–	–
Transfers	–	–	–	–	–	–	–	–
Disposals	–	(9,747)	(1,373)	(55,670)	(9,812)	(7,654)	–	(84,256)
Provision for write-off	–	266	–	2,104	735	–	–	3,105
End of financial year	–	1,438,070	158,781	2,676,494	966,134	175,871	–	5,415,350
<i>Net book value</i>								
End of financial year	981	2,097,191	731,669	2,391,582	2,949,878	123,576	1,974,762	10,269,639

⁽²⁾ Buildings comprise mainly civil structure to house plant and equipment.

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

13. Property, plant and equipment (cont'd)

Group and Board 31 March 2023	Properties - Land S\$'000	Properties - Land development and buildings⁽²⁾ S\$'000	Properties - Leasehold land S\$'000	Plant and equipment S\$'000	Pipelines S\$'000	Others S\$'000	Assets under construction S\$'000	Total S\$'000
<i>Cost</i>								
Beginning of financial year	981	3,234,544	872,640	4,660,524	3,425,616	231,327	1,403,442	13,829,074
Additions	–	30	4,245	187,224	16,926	4,451	864,907	1,077,783
Adjustments	–	1,343	–	–	–	–	–	1,343
Transfers	–	14,807	(978)	138,605	307,923	29,836	(490,193)	–
Disposals	–	(1,960)	(1,493)	(81,759)	(25,373)	(9,439)	–	(120,024)
End of financial year	981	3,248,764	874,414	4,904,594	3,725,092	256,175	1,778,156	14,788,176
<i>Accumulated depreciation and provision for write-off</i>								
Beginning of financial year	–	1,279,452	136,369	2,324,044	885,974	136,335	–	4,762,174
Depreciation charge	–	82,298	12,745	236,957	52,771	27,799	–	412,570
Adjustments	–	–	–	–	–	–	–	–
Transfers	–	(10)	–	155	–	(145)	–	–
Disposals	–	(1,609)	(1,479)	(78,498)	(25,328)	(8,934)	–	(115,848)
Provision for write-off	–	73	–	372	2,560	–	–	3,005
End of financial year	–	1,360,204	147,635	2,483,030	915,977	155,055	–	5,061,901
<i>Net book value</i>								
End of financial year	981	1,888,560	726,779	2,421,564	2,809,115	101,120	1,778,156	9,726,275

⁽²⁾ Buildings comprise mainly civil structure to house plant and equipment.

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

13. Property, plant and equipment (cont'd)

Right-of-use of assets acquired under leasing arrangements are presented together with the owned assets of the same class. Details of such leased assets are disclosed in Note 17.

The cash outflow for acquisition of property, plant and equipment amounts to \$903.3 million (2023: \$806.1 million).

The carrying amount of plant and equipment held under leases at the reporting date was \$716.5 million (2023: \$768.1 million). These relate to the water purchase agreements with private entities for the supply of desalinated water and NEWater to the Group under the Design-Build-Own-Operate arrangements. The Group has recognised these Design-Build-Own-Operate projects as leases and at initial recognition, recorded these as plant and equipment with a corresponding lease liabilities as set out in Note 17.

14. Investments in subsidiaries

	Board	
	31 March 2024 S\$'000	31 March 2023 S\$'000
Equity investments at cost		
Beginning and end of financial year	2,100	2,100

The Group has the following subsidiaries as at 31 March 2024 and 2023:

<u>Name</u>	<u>Principal activities</u>	<u>Country of business/ incorporation</u>	<u>Proportion of ordinary shares directly held by parent</u>		<u>Proportion of ordinary shares directly held by the Group</u>	
			31 March 2024	31 March 2023	31 March 2024	31 March 2023
<i>Held by the Board</i>						
PUB Consultants Private Limited (“PUBC”) ⁽³⁾	Note 14(a)	Singapore	100%	100%	100%	100%
<i>Held by PUBC</i>						
Singapore International Water Week Pte. Ltd. (“SIPL”) ⁽³⁾	Note 14(b)	Singapore	100%	100%	100%	100%

⁽³⁾ Audited by Ernst & Young LLP, Singapore

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

14. Investments in subsidiaries (cont'd)

- (a) PUBC was incorporated on 2 August 1991. Its principal activity is to serve as the commercial arm of the Board. PUBC harnesses the Board's experience and resources to support activities that grow and promote technologies that are key to the Board's operational needs, as well as facilitate the internationalisation of Singapore-based companies, in collaboration with other stakeholders.
- (b) SIPL was incorporated on 24 September 2007. Its principal activity is to organise the Singapore International Water Week ("SIWW"), a water event that serves as a global platform to share and co-create innovative water solutions. Stakeholders from the global water industry gather at SIWW to share business opportunities and showcase the latest water technologies. SIWW is part of the strategic programme of the Singapore Government to grow the water industry in Singapore and develop water technologies and solutions.

15. Trade and other payables

	Group		Board	
	31 March 2024 S\$'000	31 March 2023 S\$'000	31 March 2024 S\$'000	31 March 2023 S\$'000
<i>Current</i>				
Trade and other payables due to:				
- non-related parties	143,899	101,167	143,294	93,844
- government ⁽⁴⁾	24,563	33,982	24,563	33,982
	168,462	135,149	167,857	127,826
Accruals	285,621	229,342	285,561	229,277
Customer deposits	98,863	93,323	98,863	93,323
Total trade and other payables	552,946	457,814	552,281	450,426

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

15. Trade and other payables (cont'd)

Reconciliation to financial liabilities at amortised cost

	Note	<u>Group</u>		<u>Board</u>	
		31 March 2024 S\$'000	31 March 2023 S\$'000	31 March 2024 S\$'000	31 March 2023 S\$'000
Total trade and other payables		552,946	457,814	552,281	450,426
Less: Net Goods and Services Tax payables		(227)	(588)	(148)	(554)
		552,719	457,226	552,133	449,872
<i>Current</i>					
Lease liabilities	17	64,689	59,868	64,689	59,868
		617,408	517,094	616,822	509,740
<i>Non-current</i>					
Borrowings	19	1,700,000	1,700,000	1,700,000	1,700,000
Lease liabilities	17	755,796	800,211	755,796	800,211
Total financial liabilities at amortised cost	27(f)	3,073,204	3,017,305	3,072,618	3,009,951

⁽⁴⁾ Included in the Group's trade and other payables to government is advances received for government grants which amounted to \$20.6 million (2023: \$29.7 million).

Trade and other payables and accruals are unsecured and are short-term in nature. Trade payables are normally settled on credit terms of 21-30 days (2023: 21-30 days).

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

16. Provision for pension

The Group's pension obligation is a defined benefit plan, which relates to pensionable employees transferred from the former Ministry of Environment. The Board and the government jointly finance the pension payments to pensionable employees upon their retirement.

The proportion of pension benefits payable to pensionable employees prior to their transfer to the Board on 1 April 2001, which is to be borne by the government, is excluded from the amount stated above.

The movement in the defined benefit obligation is as follows:

	Note	Group and Board	
		31 March 2024 S\$'000	31 March 2023 S\$'000
Beginning of financial year		4,807	4,926
Interest expense	7	112	116
Re-measurement (gain)/loss		(246)	1
Liability extinguished on settlement		(236)	(236)
End of the financial year		4,437	4,807

The significant actuarial assumptions used were as follows:

- (i) The discount rate for the pension obligation is 3.1% (2023: 2.4%) per annum, which is based on the market yields on the Government bonds.
- (ii) The Board's average share of pension obligation is estimated at a factor of 0.70 (2023: 0.70).
- (iii) The mortality rate is based on S0408 Mortality Table in the report published by the Singapore Actuarial Society Mortality Workgroup. This assumption is unchanged from the previous valuation.

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

16. Provision for pension (cont'd)

The sensitivity of the defined benefit obligation to changes to each of above significant assumptions at the reporting date, assuming all other assumptions were held constant is:

	Change in assumption	Impact on defined benefit obligation	
		31 March 2024 S\$'000	31 March 2023 S\$'000
Discount rate	0.5% p.a. (0.5)% p.a.	(214) 231	(251) 273

As at 31 March 2024, the average duration of the pension obligation is 10 years (2023: 10 years).

17. Lease liabilities

	Group		Board	
	31 March 2024 S\$'000	31 March 2023 S\$'000	31 March 2024 S\$'000	31 March 2023 S\$'000
<i>Current</i> Lease liabilities	64,689	59,868	64,689	59,868
<i>Non-current</i> Lease liabilities	755,796	800,211	755,796	800,211

Nature of the leasing activities

The Group and Board leases office premises, lands, buildings and plants for the purpose of its operations.

(a) Carrying amounts

Right-of-use assets classified within property, plant and equipment

	Group		Board	
	31 March 2024 S\$'000	31 March 2023 S\$'000	31 March 2024 S\$'000	31 March 2023 S\$'000
Design-Build-Own-Operate Projects	716,513	768,066	716,513	768,066
Properties – Land, Land development and buildings	25,060	16,318	25,060	16,318
Others	400	457	400	457
	741,973	784,841	741,973	784,841

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

17. Lease liabilities (cont'd)

(b) Depreciation charge during the year

	<u>Group</u>		<u>Board</u>	
	31 March 2024 S\$'000	31 March 2023 S\$'000	31 March 2024 S\$'000	31 March 2023 S\$'000
Design-Build-Own-Operate Projects	(51,553)	(44,688)	(51,553)	(44,688)
Properties – Land, Land development and buildings	(11,868)	(9,892)	(11,868)	(9,892)
Others	(261)	(577)	(261)	(577)
	(63,682)	(55,157)	(63,682)	(55,157)

(c) Interest expense

	<u>Group</u>		<u>Board</u>	
	31 March 2024 S\$'000	31 March 2023 S\$'000	31 March 2024 S\$'000	31 March 2023 S\$'000
Interest expense on lease liabilities	39,846	30,717	39,846	30,717

(d) Lease expense not recognised in lease liabilities

	<u>Group</u>		<u>Board</u>	
	31 March 2024 S\$'000	31 March 2023 S\$'000	31 March 2024 S\$'000	31 March 2023 S\$'000
Lease expense – short-term leases	1,662	519	1,662	519
Lease expenses – low-value leases	3,160	2,859	3,160	2,859
	4,822	3,378	4,822	3,378

(e) Total cash outflows for all the leases during the financial year ended 31 March 2024 for the Group and Board were \$93.1 million (2023: \$89.4 million) and \$93.1 million (2023: \$89.4 million) respectively.

(f) Additions of right-of-use assets during the financial year ended 31 March 2024 for the Group and Board were \$20.8 million (2023: \$189.8 million) and \$20.8 million (2023: \$189.8 million) respectively.

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

17. Lease liabilities (cont'd)

- (g) Future cash outflow which are not recognised in lease liabilities

Extension options

The leases for certain office premises, lands, buildings and plants contain extension periods, for which the related lease payments had not been included in lease liabilities as the Group is not reasonably certain to exercise these extension options. The Group negotiates extension options to optimise operational flexibility in terms of managing the assets used in the Group's operations. The majority of the extension options are exercisable by the Group and not by the lessor.

18. Deferred income

	<u>Group</u>		<u>Board</u>	
	31 March 2024 S\$'000	31 March 2023 S\$'000	31 March 2024 S\$'000	31 March 2023 S\$'000
<i>Current</i>				
Deferred capital grants	8,932	8,797	8,932	8,797
Other deferred income	9,828	9,505	8,007	9,381
	18,760	18,302	16,939	18,178
<i>Non-current</i>				
Deferred capital grants	437,437	445,251	437,437	445,251
Other deferred income	92,458	100,711	92,458	100,063
	529,895	545,962	529,895	545,314
Total deferred income	548,655	564,264	546,834	563,492

Deferred capital grants comprise:

- (i) Amounts received from government bodies and private developers towards the capital outlay for the provision of water facilities that were completed in and after 1998; and
- (ii) Amounts received from government relating to the acquisition of fixed assets.

Other deferred income comprise:

- (i) Operating lease income received in advance in respect of 9 land leases with periods ranging from 9 to 29 years (2023: 9 land leases with periods ranging from 9 to 29 years);
- (ii) Interest income received in advance in respect of sundry receivables; and
- (iii) Billings made in advance mainly for the Singapore International Water Week ("SIWW") event which was held in June 2024.

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

19. Borrowings

	<u>Group and Board</u>	
	31 March 2024 S\$'000	31 March 2023 S\$'000
<i>Non-current</i>		
Bonds	1,700,000	1,700,000
Total borrowings	1,700,000	1,700,000

Total borrowings comprise unsecured fixed-rate bonds and the details are as follows:

					<u>Group and Board</u>	
<u>Currency</u>	<u>Tenure (years)</u>	<u>Interest rate (% per annum)</u>	<u>Issue date</u>	<u>Maturity date</u>	31 March 2024 \$'000	31 March 2023 \$'000
Singapore Dollar	3	3.663	30.11.2022	28.11.2025	300,000	300,000
Singapore Dollar	20	3.620	12.10.2007	12.10.2027	300,000	300,000
Singapore Dollar	15	3.010	18.07.2018	18.07.2033	300,000	300,000
Singapore Dollar	30	3.433	31.08.2022	30.08.2052	800,000	800,000
					1,700,000	1,700,000

Fair value of non-current borrowings

	<u>Group and Board</u>	
	31 March 2024 S\$'000	31 March 2023 S\$'000
Bonds	1,678,241	1,632,667

As at 31 March 2024, there is no PUB bonds holding by PUB Board Members and Key Management Personnel (2023: nil).

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

20. Provision for asset restoration obligations

A provision of \$15.4 million (2023: \$14.6 million) was made to recognise the Board's asset restoration obligations. The provision was estimated based on the latest available demolition costs of comparable assets and discounted at the market government bond yield rate ranging from 3.00% to 3.46% (2023: 2.50% to 3.11%) which commensurate with the estimated number of years to restoration.

21. Share capital

	No. of ordinary shares	Amount \$'000
Group and Board		
31 March 2024		
Beginning of financial year	1,256,202	1,256
Shares issued	515,799	516
End of financial year	1,772,001	1,772
31 March 2023		
Beginning of financial year	1,254,542	1,255
Shares issued	1,660	1
End of financial year	1,256,202	1,256

All issued ordinary shares are fully paid. There is no par value for these ordinary shares.

The shares are held by the Minister for Finance, a body corporate incorporated by the Minister for Finance (Incorporation Act) 1959 and who is a shareholder of the Board. The shares do not carry any voting rights.

The holder of ordinary shares is entitled to receive dividends as and when declared annually, in accordance with Finance Circular Minute No. M26/2008 issued by Ministry of Finance. No dividends were declared for the financial years ended 31 March 2024 and 31 March 2023 as the net income after government grants and after contribution to Consolidated Fund and taxation has been utilised for capital expenditure.

During the financial year, the Board issued 515,799 ordinary shares for a total consideration of \$515,799 (2023: \$1,660) for cash. The newly issued shares rank pari passu in all aspects with the previously issued shares.

22. Capital account

The capital account comprises the accumulated transfers from retained earnings which had been appropriated for the Board's property, plant and equipment such as plants and pipelines. It also includes the amounts paid by government bodies and private developers towards the capital outlay for the provision of utility facilities completed before 1998. The movement of the capital account represents the retained earnings set aside for the year to meet the Board's capital commitments in accordance with Section 14 of the Public Utilities Act 2001.

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

23. Water Efficiency Fund

	Group and Board	
	31 March 2024 S\$'000	31 March 2023 S\$'000
Beginning and end of financial year	6,000	6,000

During the financial year ended 31 March 2024, \$2.8 million (2023: \$1.8 million) of co-funding was incurred. The co-funding amount incurred was drawn from the Water Efficiency Fund during the financial year. The same amount was transferred from retained earnings to the Water Efficiency Fund to maintain the fund at \$6.0 million (2023: \$6.0 million) as at the reporting date.

24. Net assets/(liabilities) of trust funds

Funds held and managed on behalf by the Board includes:

	Group and Board	
	31 March 2024 S\$'000	31 March 2023 S\$'000
Coastal and Flood Protection Fund [Note 24(a)]	4,869,874	4,826,122
Development Expenditure Fund [Note 24(b)]		
- Ministry of Sustainability and the Environment	(86,170)	(58,978)
- Singapore Totalisator Board	1,167	2,132
National Research Fund [Note 24(c)]	3,444	6,282
	4,788,315	4,775,558

The assets and liabilities of the trust funds are excluded from the assets and liabilities of the Group and the Board.

(a) Coastal and Flood Protection Fund

From 1 April 2020, PUB has assumed an additional role as the nation's Coastal Protection Agency, to safeguard Singapore's coastline against the threat of rising sea levels due to climate change. A new Coastal and Flood Protection Fund ("CFPF") has been set up under PUB, with an initial funding of \$5 billion from the Government. The CFPF will fund capital and non-recurrent coastal protection and drainage expenditures, with allowable purposes prescribed under Section 18A of the Public Utilities Act 2001 as set out in Note 2.20.

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

24. Net assets/(liabilities) of trust funds (cont'd)

(a) Coastal and Flood Protection Fund (cont'd)

The fund is accounted for as follows:

	Group and Board	
	31 March 2024 S\$'000	31 March 2023 S\$'000
Beginning of financial year	4,826,122	4,921,097
Receipts:		
- interest income	43,702	29,679
- liquidated damages	—	4
- recovery of development expenditure	50	45
	43,752	29,728
	4,869,874	4,950,825
Expenditure:		
- development expenditure	—	(116,358)
- Good and Services Tax	—	(8,345)
	—	(124,703)
End of financial year	4,869,874	4,826,122
	Group and Board	
	31 March 2024 S\$'000	31 March 2023 S\$'000
Represented by:		
Assets:		
- cash at bank	483,398	446,655
- financial asset at amortised cost*	4,375,303	4,375,736
- sundry receivables	11,173	3,847
	4,869,874	4,826,238
Liabilities:		
- sundry creditors and others	—	(116)
	—	(116)
Net assets of trust fund	4,869,874	4,826,122

* Financial assets at amortised cost relates to Investment in Special Singapore Government Securities.

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

24. Net assets/(liabilities) of trust funds (cont'd)

(b) Development Expenditure Fund

The trust funds comprise funds received from Ministry of Sustainability and the Environment ("MSE") and Singapore Totalisator Board for the construction of assets owned by the Government as set out in Note 2.20.

The funds are accounted for as follows:

	Group and Board	
	31 March 2024 S\$'000	31 March 2023 S\$'000
Beginning of financial year	(56,846)	(56,222)
Receipts:		
- funds received	880,856	775,507
- interest income	2,637	1,483
- liquidated damages	436	77
- recovery of development expenditure	1,701	185
	885,630	777,252
	828,784	721,030
Expenditure:		
- development expenditure	(846,140)	(725,066)
- Good and Services Tax	(67,647)	(52,810)
	(913,787)	(777,876)
End of financial year	(85,003)	(56,846)

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

24. Net assets/(liabilities) of trust funds (cont'd)

(b) Development Expenditure Fund (cont'd)

	<u>Group and Board</u>	
	31 March	31 March
	2024	2023
	S\$'000	S\$'000
Represented by:		
Assets:		
- cash at bank	12,417	3,136
- sundry receivables	1,534	1,280
- prepayments	46	15
	13,997	4,431
Liabilities:		
- sundry creditors and others	(87,810)	(60,982)
- tender deposits	(11,190)	(295)
	(99,000)	(61,277)
Net liabilities of trust fund	(85,003)	(56,846)

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

24. Net assets/(liabilities) of trust funds (cont'd)

(c) National Research Fund

The Board receives funds from National Research Foundation ("NRF") for disbursement of grants to grantees who are performing the water R&D activities as set out in Note 2.20.

The fund is accounted for as follows:

	Group and Board	
	31 March 2024 S\$'000	31 March 2023 S\$'000
Beginning of financial year	6,282	3,862
Receipts:		
- funds received	15,389	16,578
- interest income	65	91
	15,454	16,669
	21,736	20,531
Expenditure:		
- development expenditure	(18,292)	(14,249)
	(18,292)	(14,249)
End of financial year	3,444	6,282
Represented by:		
Assets:		
- cash at bank	3,427	6,204
- sundry receivables	17	78
	3,444	6,282
Net assets of trust fund	3,444	6,282

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

25. Related party transactions

(a) Nature and amount of individually significant transactions

Except as already disclosed elsewhere in the financial statements, there are no individually significant transactions with related parties.

The Board supplies water and provides used water services to all entities in Singapore which also includes its subsidiaries and Government agencies (comprising Ministries, Organs of State and other Statutory Boards). These transactions are conducted in the ordinary course of business.

(b) Key management personnel compensation

Key management personnel compensation is as follows:

	<u>Group</u>		<u>Board</u>	
	31 March 2024 S\$'000	31 March 2023 S\$'000	31 March 2024 S\$'000	31 March 2023 S\$'000
Wages, salaries and post-employment benefits	10,582	10,706	10,566	10,685
Employer's contribution to CPF	461	513	461	513
	11,043	11,219	11,027	11,198

(c) Board members' allowance and other benefits

Board members' allowance and other benefits are as follows:

	<u>Group</u>		<u>Board</u>	
	31 March 2024 S\$'000	31 March 2023 S\$'000	31 March 2024 S\$'000	31 March 2023 S\$'000
Board Members' allowance	263	226	258	209
Other benefits	2	2	2	2
	265	228	260	211

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

26. Commitments

Capital commitments

Capital expenditures contracted for as at the reporting date but not recognised in the financial statements are as follows:

	<u>Group and Board</u>	
	31 March 2024 S\$'000	31 March 2023 S\$'000
Development projects belonging to the Board	2,216,838	2,759,218
Development projects belonging to the Government (funded by trust funds)	1,775,590	2,249,434
	<u>3,992,428</u>	<u>5,008,652</u>

27. Financial risk management

Financial risk factors

The Group is exposed to market risk (including foreign currency risk and interest rate risk), credit risk and liquidity risk.

The board members have overall responsibility for the establishment and oversight of the Group's risk management framework.

The Group's overall financial risk management approach focuses on the state and the unpredictability of the financial and capital markets and seeks to minimise the potential adverse effects from the exposures to these risks on the financial performance of the Group.

There has been no change to the Group's exposure to these financial risks or the manner in which it manages and measures the risks.

(a) *Market risk*

(i) Foreign currency risk

The Group's exposure to foreign currency risk arises from its foreign currency contracts for purchase of goods and services and its operations in Malaysia. Foreign currency risk arises when transactions are denominated in foreign currencies other than functional currency such as the United States Dollar ("USD"), Malaysian Ringgit ("MYR"), Euro ("EUR") and Canadian Dollar ("CAD"), from financial assets and liabilities denominated in currencies other than the local functional currency.

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

27. Financial risk management (cont'd)

(a) *Market risk (cont'd)*

(i) Foreign currency risk (cont'd)

The Group's exposures to foreign currencies at the reporting date are as follows:

Group	USD \$'000	MYR \$'000	EUR \$'000	CAD \$'000
31 March 2024				
Financial assets				
Cash and cash equivalents	82	7,247	–	–
Trade and other receivables	–	223	–	–
	82	7,470	–	–
Financial liabilities				
Trade and other payables	(3,195)	(235)	(30)	(342)
Currency exposure of financial (liabilities)/assets net of those denominated in the respective entities' functional currencies	(3,113)	7,235	(30)	(342)

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

27. Financial risk management (cont'd)

(a) *Market risk (cont'd)*

(i) Foreign currency risk (cont'd)

The Group's exposures to foreign currencies at the reporting date are as follows: (cont'd)

	<u>USD</u> \$'000	<u>MYR</u> \$'000	<u>EUR</u> \$'000	<u>CAD</u> \$'000
Group				
31 March 2023				
Financial assets				
Cash and cash equivalents	273	14,578	—	—
Trade and other receivables	—	290	—	—
	<u>273</u>	<u>14,868</u>	<u>—</u>	<u>—</u>
Financial liabilities				
Trade and other payables	(729)	(345)	(120)	(49)
Currency exposure of financial (liabilities)/assets net of those denominated in the respective entities' functional currencies	<u>(456)</u>	<u>14,523</u>	<u>(120)</u>	<u>(49)</u>

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

27. Financial risk management (cont'd)

(a) Market risk (cont'd)

(i) Foreign currency risk (cont'd)

The Board's exposures to foreign currencies at the reporting date are as follows:

	<u>USD</u> \$'000	<u>MYR</u> \$'000	<u>EUR</u> \$'000	<u>CAD</u> \$'000
Board				
31 March 2024				
Financial assets				
Cash and cash equivalents	66	7,247	–	–
Trade and other receivables	–	223	–	–
	66	7,470	–	–
Financial liabilities				
Trade and other payables	(3,195)	(235)	(30)	(342)
Currency exposure of financial (liabilities)/assets net of those denominated in the respective entities' functional currencies	(3,129)	7,235	(30)	(342)

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

27. Financial risk management (cont'd)

(a) Market risk (cont'd)

(i) Foreign currency risk (cont'd)

The Board's exposures to foreign currencies at the reporting date are as follows: (cont'd)

	<u>USD</u> \$'000	<u>MYR</u> \$'000	<u>EUR</u> \$'000	<u>CAD</u> \$'000
<u>Board</u>				
31 March 2023				
Financial assets				
Cash and cash equivalents	256	14,578	—	—
Trade and other receivables	—	290	—	—
	256	14,868	—	—
Financial liabilities				
Trade and other payables	(729)	(345)	(120)	(49)
Currency exposure of financial (liabilities)/assets net of those denominated in the respective entities' functional currencies	(473)	14,523	(120)	(49)

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

27. Financial risk management (cont'd)

(a) Market risk (cont'd)

(i) Foreign currency risk (cont'd)

Sensitivity analysis

If the USD, MYR, EUR and CAD strengthened/weakened against the SGD by 5% with all other variables including tax rate being held constant, the effects arising from the net financial liability/asset that are exposed to currency risk will be as follows:

	← Increase/(Decrease) →	
	31 March 2024	31 March 2023
	Net income after government grants before contribution to Consolidated Fund and <u>taxation</u>	Net income after government grants before contribution to Consolidated Fund and <u>taxation</u>
<u>Group</u>		
USD against SGD		
- Strengthened	(156)	(23)
- Weakened	156	23
MYR against SGD		
- Strengthened	362	726
- Weakened	(362)	(726)
EUR against SGD		
- Strengthened	(2)	(6)
- Weakened	2	6
CAD against SGD		
- Strengthened	(17)	(2)
- Weakened	17	2

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

27. Financial risk management (cont'd)

(a) Market risk (cont'd)

(i) Foreign currency risk (cont'd)

Sensitivity analysis (cont'd)

	◀ Increase/(Decrease) ▶	
	31 March 2024	31 March 2023
	Net income after government grants before contribution to Consolidated Fund and taxation	Net income after government grants before contribution to Consolidated Fund and taxation
<u>Board</u>		
USD against SGD		
- Strengthened	156	(24)
- Weakened	(156)	24
MYR against SGD		
- Strengthened	362	726
- Weakened	(362)	(726)
EUR against SGD		
- Strengthened	(2)	(6)
- Weakened	(2)	6
CAD against SGD		
- Strengthened	(17)	(3)
- Weakened	17	3

This analysis is based on foreign currency exchange rate variances that the Group considered to be reasonably possible at the end of the reporting period.

(ii) Interest rate risk

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates.

The Group's exposure to interest rate risk relates mainly to the cash with AGD which refers to cash managed by the Accountant-General's Department under the Centralised Liquidity Management as set out in the Accountant-General's Circular No. 4/2009 Centralised Liquidity Management for Statutory Boards and Ministries. The interest rates for cash with AGD are based on deposit rates determined by the financial institutions and/or Monetary Authority of Singapore with which the deposits are placed and are expected to move in tandem with market interest rate movements.

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

27. Financial risk management (cont'd)

(a) Market risk (cont'd)

(ii) Interest rate risk (cont'd)

The Board's borrowings are limited to fixed rate bonds and accordingly, the Board is not exposed to fluctuations in interest rates. The carrying amounts and effective interest rates of investments in fixed deposits and short-term bills are as follows:

	Note	Weighted average interest rate per annum		Carrying amount	
		31 March 2024	31 March 2023	31 March 2024	31 March 2023
		%	%	S\$'000	S\$'000
Group					
Fixed-rate instruments					
- Malaysia Ringgit	9	2.61	2.44	3,681	11,090
- United States Dollar	9	5.05	4.24	66	256
- Singapore Dollar	9	—	4.00	—	460,000
Variable-rate instruments					
Cash (including cash with AGD)	9	3.38	1.56	314,846	162,928
				318,593	634,274

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

27. Financial risk management (cont'd)

(a) *Market risk (cont'd)*

(ii) Interest rate risk (cont'd)

		Weighted average interest rate per annum		Carrying amount	
	Note	31 March 2024 %	31 March 2023 %	31 March 2024 S\$'000	31 March 2023 S\$'000
<u>Board</u>					
Fixed-rate instruments					
- Malaysia Ringgit	9	2.61	2.44	3,681	11,090
- United States Dollar	9	5.05	4.24	66	256
- Singapore Dollar	9	—	4.00	—	460,000
Variable-rate instruments					
Cash (including cash with AGD)	9	3.38	1.56	311,866	158,898
				315,613	630,244

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

27. Financial risk management (cont'd)

(a) Market risk (cont'd)

(ii) Interest rate risk (cont'd)

Sensitivity analysis

An increase/decrease of 50 basis points in the interest rates at the reporting date would have increased/decreased the net income (after government grants before contribution to Consolidated Fund and taxation) by the amounts shown below:

	← Increase/(decrease) →	
	31 March 2024	31 March 2023
	Net income after government grants before contribution to Consolidated Fund and <u>taxation</u>	Net income after government grants before contribution to Consolidated Fund and <u>taxation</u>
<u>Group</u>		
Variable-rate instruments		
Cash (including cash with AGD)		
- Increase	1,574	815
- Decrease	(1,574)	(815)
<u>Board</u>		
Variable-rate instruments		
Cash (including cash with AGD)		
- Increase	1,559	794
- Decrease	(1,559)	(794)

This analysis assumes that all other variables, in particular foreign currency rates, remain constant.

27. Financial risk management (cont'd)

(b) *Credit risk*

Credit risk is the risk of financial loss if a customer or counterparty to a financial instrument defaults on its contractual obligations.

The Group's exposure to credit risk arises mainly from trade and other receivables. Cash which mainly comprised cash managed by Accountant-General's Department under the Centralised Liquidity Management are placed in Singapore dollar deposits with banks (and cash is made available to the Board upon request) while foreign currency deposits (these are denominated in Malaysian Ringgit and United States Dollar) are placed with licensed commercial banks in Malaysia and Singapore respectively. For trade receivables, the Group has policies in place to ensure that customers maintain deposits with the Group.

The Group establishes an allowance account that represents its estimate of incurred losses in respect of trade and other receivables. The main components of this allowance are a specific loss component that relates to individually significant exposures, and a collective loss component established for groups of similar financial assets in respect of losses that have been incurred but not yet identified. The collective loss allowance is determined based on historical data of payment statistics for similar financial assets. The allowance account in respect of trade and other receivables is used to record impairment losses unless the Group is satisfied that no recovery of the amount owing is possible. At that point, the financial asset is considered irrecoverable and the amount charged to the allowance account is written off against the carrying amount of the impaired financial asset.

Excessive risk concentration

There is no concentration of credit risk relating to trade receivables due to the large customer base.

Exposure to credit risk

The gross carrying amounts of these financial assets recorded in the financial statements represent the Group's maximum exposure to credit risk.

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

27. Financial risk management (cont'd)

(b) Credit risk (cont'd)

Impairment of financial assets

Cash and cash equivalents and other receivables are subject to immaterial credit loss. The Group's and Board's trade receivables and sundry receivables are subject to more than immaterial credit losses where the expected credit loss model has been applied.

Movement in credit loss allowance for financial assets are set out as follows:

	<u>Trade receivables</u> \$'000	<u>Sundry receivables</u> \$'000	<u>Total</u> \$'000
<u>Group and Board</u>			
Balances as at 1 April 2023	8,904	5	8,909
Loss allowance recognised in profit or loss during the year:			
- Allowance made during the year	1,306	3	1,309
Allowance utilised	(2,017)	(5)	(2,022)
Balances as at 31 March 2024	8,193	3	8,196
Balances as at 1 April 2022	9,898	10	9,908
Loss allowance recognised in profit or loss during the year:			
- Allowance made during the year	614	3	617
Allowance utilised	(1,608)	(8)	(1,616)
Balances as at 31 March 2023	8,904	5	8,909

The Group used historical loss ratios to determine the amount of provisions for credit losses for trade receivables after adjusting for forward-looking macroeconomic factors.

To measure the expected credit losses, these receivables have been grouped based on days past due.

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

27. Financial risk management (cont'd)

(b) Credit risk (cont'd)

Impairment of financial assets (cont'd)

Receivables are written off when there is no reasonable expectation of recovery. The Group makes a provision for write off of the receivable when a debtor fails to make payment within the agreed time frame. The amount of provision is based on historical collection trend. Where receivables have been written off, the Group continues with its debts-recovery process to recover the receivables due. Where recoveries are made, these are recognised in profit or loss.

The Group and Board's credit risk exposure in relation to trade receivables as at 31 March 2024 and 31 March 2023 are set out in the provision matrix as follows:

	<div>←Past due→</div>					
	Current \$'000	Within 30 days \$'000	31 to 90 days \$'000	91 to 180 days \$'000	More than 180 days \$'000	Total \$'000
Group						
31 March 2024						
Trade receivables	93,107	9,050	5,006	2,092	5,596	114,851
Less: Specific allowances	–	(132)	(190)	(315)	(4,870)	(5,507)
	93,107	8,918	4,816	1,777	726	109,344
Less: Trade receivables with no expected credit loss*	(9,441)	(158)	(112)	(335)	–	(10,046)
	83,666	8,760	4,704	1,442	726	99,298
Expected loss rates	0%	7%	14%	44%	100%	
Loss allowances	–	(653)	(671)	(636)	(726)	(2,686)
31 March 2023						
Trade receivables	75,412	8,900	4,475	2,148	11,587	102,522
Less: Specific allowances	–	(113)	(188)	(303)	(5,433)	(6,037)
	75,412	8,787	4,287	1,845	6,154	96,485
Less: Trade receivables with no expected credit loss*	(6,662)	(188)	(77)	(54)	(5,235)	(12,216)
	68,750	8,599	4,210	1,791	919	84,269
Expected loss rates	0%	7%	14%	43%	100%	
Loss allowances	–	(607)	(570)	(771)	(919)	(2,867)

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

27. Financial risk management (cont'd)

(b) Credit risk (cont'd)

Impairment of financial assets (cont'd)

	<div> <div>←</div> <div>Within 30 days</div> <div>Past due</div> <div>91 to 180 days</div> <div>More than 180 days</div> <div>→</div> </div>					
	Current \$'000	days \$'000	31 to 90 days \$'000	91 to 180 days \$'000	180 days \$'000	Total \$'000
Board						
31 March 2024						
Trade receivables	93,107	8,968	4,894	1,757	5,596	114,322
Less: Specific allowances	–	(132)	(190)	(315)	(4,870)	(5,507)
	93,107	8,836	4,704	1,442	726	108,815
Less: Trade receivables with no expected credit loss*	(9,441)	(76)	–	–	–	(9,517)
	83,666	8,760	4,704	1,442	726	99,298
Expected loss rates	0%	7%	14%	44%	100%	
Loss allowances	–	(653)	(671)	(636)	(726)	(2,686)
31 March 2023						
Trade receivables	74,664	8,790	4,476	2,094	6,352	96,376
Less: Specific allowances	–	(113)	(188)	(303)	(5,433)	(6,037)
	74,664	8,677	4,288	1,791	919	90,339
Less: Trade receivables with no expected credit loss*	(5,914)	(79)	(78)	–	–	(6,071)
	68,750	8,598	4,210	1,791	919	84,268
Expected loss rates	0%	7%	14%	43%	100%	
Loss allowances	–	(607)	(570)	(771)	(919)	(2,867)

* Based on historical default rates, the Group believes that no expected loss allowance is necessary in respect of these trade receivables.

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

27. Financial risk management (cont'd)

(b) Credit risk (cont'd)

Impairment of financial assets (cont'd)

The carrying amount of sundry receivables individually determined to be impaired are as follows:

	Current \$'000	Within 30 days \$'000	Past due 31 to 90 days \$'000	91 to 180 days \$'000	More than 180 days \$'000	Total \$'000
Group and Board						
31 March 2024						
Sundry receivables	64,721	18	25	1,331	4	66,099
Less: Specific allowances	–	–	(1)	–	(2)	(3)
	64,721	18	24	1,331	2	66,096
31 March 2023						
Sundry receivables	74,542	12	3	1	6	74,564
Less: Specific allowances	–	–	–	–	(5)	(5)
	74,542	12	3	1	1	74,559

Other than the above, the remaining sundry receivables is subjected to insignificant level of credit risk.

Financial assets that are neither past due nor impaired

Financial assets that are neither past due nor impaired are mainly deposits with banks with high credit-ratings assigned by international credit-rating agencies. Trade receivables that are neither past due nor impaired are substantially companies with a good collection track record with the Group and Board.

Other than the above, there are no credit loss allowance for other financial assets at amortised costs as at 31 March 2024 and 31 March 2023.

(c) Liquidity risk

Liquidity risk refers to the Group's ability to meet its financial obligations as and when they fall due.

The Group's exposure to liquidity risk is minimal as it adopts prudent liquidity risk management by regularly reviewing its cash flow needs, maintaining sufficient cash from its internally generated cash flow and putting in place adequate financing arrangements.

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

27. Financial risk management (cont'd)

(c) Liquidity risk (cont'd)

The cash flow needs in respect of operation, maintenance and construction of Government assets or projects approved and funded by the Government are based on forecasted payment schedule.

The amounts disclosed in the table are the contractual undiscounted cash flows.

	Less than 1 year \$'000	Between 1 and 5 years \$'000	Over 5 years \$'000
<u>Group</u>			
At 31 March 2024			
Trade and other payables	552,719	—	—
Lease liabilities	101,932	279,628	860,502
Borrowings	58,343	780,824	1,782,302
At 31 March 2023			
Trade and other payables	457,226	—	—
Lease liabilities	99,529	301,234	919,684
Borrowings	58,503	802,673	1,818,796
<u>Board</u>			
At 31 March 2024			
Trade and other payables	552,133	—	—
Lease liabilities	101,932	279,628	860,502
Borrowings	58,343	780,824	1,782,302
At 31 March 2023			
Trade and other payables	449,872	—	—
Lease liabilities	99,529	301,234	919,684
Borrowings	58,503	802,673	1,818,796

(d) Capital management

The Group's policy is to ensure that it maintains sufficient capital to carry out its statutory functions. To achieve this, the Group reviews its sufficiency of capital as appropriate, taking into consideration its capital expenditure needs, government policies, regulatory requirements and its ability to access capital markets. The Group defines capital as its share capital, retained earnings, capital account and borrowings.

There were no changes in the Group's approach to capital management during the financial years ended 31 March 2024 and 31 March 2023. The Group is not subject to any externally imposed capital requirements.

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

27. Financial risk management (cont'd)

(e) Fair value measurements

The Group categorises fair value measurements using a fair value hierarchy that is dependent on the valuation inputs used as follows:

- Level 1 - Quoted prices (unadjusted) in active market for identical assets or liabilities that the Group can access at the measurement date,
- Level 2 - Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly, and
- Level 3 - Unobservable inputs for the asset or liability.

Fair value measurements that use inputs of different hierarchy levels are categorised in its entirety in the same level of the fair value hierarchy at the lowest level input that is significant to the entire measurement.

Assets and liabilities not carried at fair value but for which fair value is disclosed

The following table shows an analysis of the Group's and Board's assets and liabilities not measured at fair value as at the reporting date but for which fair value is disclosed:

	<u>Level 1</u> \$'000	<u>Level 2</u> \$'000	<u>Level 3</u> \$'000	<u>Total</u> \$'000
<u>Group and Board</u>				
31 March 2024				
<i>Liabilities</i>				
Borrowings	–	1,678,241	–	1,678,241
31 March 2023				
<i>Liabilities</i>				
Borrowings	–	1,632,667	–	1,632,667

Determination of fair value

The fair value of the liabilities, for disclosure purposes is by reference to stock exchange quoted market bid prices at the close of business at the end of the reporting period.

		<u>Group and Board</u>	
	Note	<u>Carrying amount</u> \$'000	<u>Fair value</u> \$'000
31 March 2024			
<i>Liabilities</i>			
Borrowings	19	1,700,000	1,678,241
31 March 2023			
<i>Liabilities</i>			
Borrowings	19	1,700,000	1,632,667

Public Utilities Board and its Subsidiaries

Notes to the Financial Statements

For the financial year ended 31 March 2024

27. Financial risk management (cont'd)

(f) *Financial instruments by category*

	<u>Group</u>		<u>Board</u>	
	31 March 2024 S\$'000	31 March 2023 S\$'000	31 March 2024 S\$'000	31 March 2023 S\$'000
Financial assets, at amortised cost	492,025	821,001	488,793	811,298
Financial liabilities, at amortised cost	3,073,204	3,017,305	3,072,618	3,009,951

28. Segment reporting

The Group's chief operating decision-maker comprises the senior management. The Group has only one reportable operating segment as it operates in the water industry as one business segment in the provision of water and related facilities for the public and majority of its activities are located in Singapore. The reportable segment is reviewed regularly by the chief operating decision-maker.

29. Authorisation of financial statements

The financial statements for the financial year ended 31 March 2024 were authorised for issue by the board members on 1 August 2024.

