

Head 194 — WATER SUPPLIES DEPARTMENT

Controlling officer: the Director of Water Supplies will account for expenditure under this Head.

Estimate 2022–23 **\$9,315.8m**

Establishment ceiling 2022–23 (notional annual mid-point salary value) representing an estimated 4 748 non-directorate posts as at 31 March 2022 reducing by 14 posts to 4 734 posts as at 31 March 2023 **\$1,863.6m**

In addition, there will be an estimated 23 directorate posts as at 31 March 2022 and as at 31 March 2023.

Commitment balance..... **\$434.5m**

Controlling Officer's Report

Programmes

Programme (1) Water Supply: Planning and Distribution
Programme (2) Water Quality Control
Programme (3) Customer Services

These programmes contribute to Policy Area 24: Water Supply, Drainage and Slope Safety (Secretary for Development).

Detail

Programme (1): Water Supply: Planning and Distribution

	2020–21 (Actual)	2021–22 (Original)	2021–22 (Revised)	2022–23 (Estimate)
Financial provision (\$m)	8,230.1	8,150.4	8,137.5 (–0.2%)	8,288.8 (+1.9%)
				(or +1.7% on 2021–22 Original)

Aim

2 The aim is to develop water resources and to plan, design, construct, operate and maintain water supply systems in order to provide round-the-clock supplies throughout the year to meet the demands of the territory.

Brief Description

3 The Department is responsible for providing adequate supplies of water to the territory. This work involves:

Fresh water

- assessing fresh water supply requirements on the basis of providing round-the-clock supply of water throughout the year to meet the demand of the territory;
- developing fresh water resources to cope with such requirements;
- planning, designing and constructing reliable and efficient fresh water supply and distribution systems to meet such requirements in good time; and
- operating and maintaining fresh water supply and distribution systems.

Flushing water

- assessing flushing water (comprising salt water and recycled water) supply requirements;
- developing flushing water resources to cope with such requirements;
- planning, designing and constructing reliable and efficient flushing water supply and distribution systems to meet such requirements in good time; and
- operating and maintaining flushing water supply and distribution systems.

4 In 2021, the Department continued to plan, design and construct new projects for the development of water resources and extension of water supplies to new developments and to operate and maintain water supply and distribution systems to provide adequate and uninterrupted supplies of water throughout the year. In particular, the Department commenced the construction of the main works for the Siu Ho Wan Water Treatment Works extension and the investigation and design for the Ngau Tam Mei Water Treatment Works extension.

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5 The key performance measures in respect of water supply are:

Targets

	Target	2020 (Actual)	2021 (Actual)	2022 (Plan)
supply pressure				
fresh water supply—maintaining normally a minimum residual head of between 15 and 30 metres in the distribution systems except at their extremities (%).....	100	100	100	100
flushing water supply—maintaining normally a minimum residual head of 15 metres in the distribution systems except at their extremities (%)	100	100	100	100

Indicators

	2020 (Actual)	2021 (Actual)	2022 (Estimate)
projects under planning	30	31	29
value of projects under planning (\$m)	8,198.2	11,582.5	13,179.4
projects under design.....	28	28	27
value of projects under design (\$m).....	13,264.1	22,626.2	32,042.1
projects under construction	38	38	39
expenditure of works under construction (\$m)	3,737.4	4,962.0	6,201.2
fresh water supplied (m ³)	1 027 124 000	1 055 000 000	1 063 300 000
salt water supplied (m ³).....	317 744 000	320 700 000	321 800 000
days on full supply	366	365	365
total treatment works capacity (m ³ /day).....	4 679 600	4 619 600	4 621 100
total pumping plant capacity (megawatts)	360	348	350
leakage rate of water mains (%).....	14.8	14.6	14.4
education programmes / promotion campaigns on water conservation.....	5	6	7
schools joining education programmes on water conservation.....	676	767	810

Matters Requiring Special Attention in 2022–23

6 During 2022–23, the Department will:

- continue with the implementation of the total water management strategy for sustainable use of water resources with focuses on water conservation and water loss management as well as on development of new water resources;
- continue with the establishment of the Water Intelligent Network;
- continue with the design, build, operate contract of the first stage of the desalination plant at Tseung Kwan O and the laying of the associated water mains;
- continue with the construction of infrastructure in stages for supplying reclaimed water for non-potable uses in the north-eastern part of the New Territories including Sheung Shui and Fanling, construction of grey water treatment plant for supplying treated grey water for non-potable uses in the Anderson Road Quarry Development and the preparatory work for the legislative amendments to the Waterworks Ordinance (Cap. 102) and/or Waterworks Regulations (Cap. 102A) for supply of recycled water in Hong Kong;
- continue with the construction of the main works for in-situ reprovisioning of Sha Tin Water Treatment Works (South Works);
- continue with the construction of the main works for the Siu Ho Wan Water Treatment Works extension;
- continue with the investigation and design for the Ngau Tam Mei Water Treatment Works extension;
- continue with the feasibility studies for strategic cavern areas in Lam Tei to accommodate nearby existing and proposed service reservoirs, and for the relocation of Tuen Mun Water Treatment Works to caverns;
- continue with the planning, design and construction of fresh and flushing water supply systems to meet the demands arising from housing developments;
- commence the construction of the relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs into caverns;

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- commence the investigation and design for the relocation of Tsuen Wan No. 2 Fresh Water Service Reservoir to caverns, and for the relocation of Yau Tong Group Fresh Water and Salt Water Service Reservoirs into caverns;
- commence the investigation and design for the Plover Cove Reservoir floating solar farm;
- commence the investigation and design of the solar farm at South East New Territories Landfill for supplying renewable energy to the Tseung Kwan O desalination plant;
- commence the investigation and design for supplying reclaimed water for non-potable uses in Tin Shui Wai, Yuen Long Town and Tuen Mun – Yuen Long Corridor areas; and
- commence the investigation and design for the first package of improvement works to fresh water mains with internal bitumen lining.

Programme (2): Water Quality Control

	2020–21 (Actual)	2021–22 (Original)	2021–22 (Revised)	2022–23 (Estimate)
Financial provision (\$m)	315.8	489.9	353.7 (–27.8%)	411.5 (+16.3%)
				(or –16.0% on 2021–22 Original)

Aim

7 The aim is to control the quality of water supplied to customers in accordance with the Hong Kong Drinking Water Standards (HKDWS) and the Department's standards for flushing water.

Brief Description

8 The Department is responsible for ensuring the purity, wholesomeness and safety of treated fresh water supplied to customers conforming to the HKDWS in all respects and at all times. The Department is also responsible for ensuring the quality of flushing water supplied to customers conforming to the Department's standards. This work involves:

Fresh water

- water treatment—ensuring that treated water conforms chemically and bacteriologically to the HKDWS; and
- water quality control—ensuring that the drinking water at treatment works, service reservoirs, water tanks, connection points and consumers' taps conforms to the HKDWS.

Flushing water

- water treatment — ensuring that the flushing water conforms chemically and bacteriologically to the Department's standards; and
- water quality control—ensuring that the flushing water at customer ends conforms to the Department's standards.

9 In 2021, the Department achieved the water quality standards in water treatment and maintained effective monitoring and control of the quality of water supplied to customers. The Department extended the scope of Drinking Water Quality Monitoring Programme to cover the monitoring of their water tanks in April 2021. The Department also continued to take forward the Action Plan for Enhancing Drinking Water Safety in Hong Kong and increased the monitoring frequencies for 57 chemical parameters, *Escherichia coli*, taste and odour under the HKDWS and Aesthetic Guidelines promulgated by the Government in April 2021. The Department also commenced a monitoring programme in 2021 for the parameters in the surveillance list which might affect water quality in the future. The Department extended the scope of Enhanced Water Quality Monitoring Programme to cover residual chlorine and *Escherichia coli* in May 2021. The Department continued to promote the implementation of Water Safety Plans (WSP) in private buildings and processed applications under the Water Safety Plan Subsidy Scheme (WSPSS). The Department has analysed the results of the public consultation on the proposed legislative amendments to the Waterworks Ordinance and Waterworks Regulations, covering amongst others enhancing the regulatory control of plumbing works and materials to safeguard the drinking water quality, and continued with the preparation work for law drafting.

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10 The key performance measures in respect of water quality control are:

Targets

	Target	2020 (Actual)	2021 (Actual)	2022 (Plan)
fresh water quality—water supplied to customers complies with the HKDWS(%)	100	100	100#	100
flushing water quality—salt water supplied to customers complies with Water Quality Objectives set by Water Supplies Department (%).....	97.0	99.6	98.8	97.0

Indicators

	2020 (Actual)	2021 (Actual)	2022 (Estimate)
<i>Treated fresh water</i>			
sampling visits at treatment works, service reservoirs, water tanks, connection points and consumers' taps¶.....	25 943	29 017	28 000
chemical quality satisfying standards (%).....	100	100	100
bacteriological quality satisfying standards (%)	100	100#	100

One non-compliant bacteriological test result was found in 2021 and temporary water supply was provided. The compliance rate of fresh water quality was 99.997 per cent rounded to the nearest integer as 100 per cent.

¶ Revised description of the previous indicator “sampling visits at treatment works, service reservoirs, connection points and consumers' taps” as from 2022. The Department has extended the scope of Drinking Water Quality Monitoring Programme to cover the monitoring of water tanks starting from April 2021.

Matters Requiring Special Attention in 2022–23

11 During 2022–23, the Department will carry out the following work to safeguard the drinking water quality:

- continue to encourage private building owners and property management agents to implement WSP in their buildings in order to further safeguard drinking water quality in the community, and process applications under the WSPSS;
- lead by example and provide necessary assistance to relevant bureaux/departments to implement WSP for their buildings;
- continue with the publicity and public education on drinking water safety; and
- proceed with amendments to the Waterworks Ordinance and Waterworks Regulations to, amongst others, safeguard the drinking water quality through enhanced regulatory control of plumbing works and materials.

Programme (3): Customer Services

	2020–21 (Actual)	2021–22 (Original)	2021–22 (Revised)	2022–23 (Estimate)
Financial provision (\$m)	610.8	596.3	616.8 (+3.4%)	615.5 (–0.2%)
				(or +3.2% on 2021–22 Original)

Aim

12 The aim is to provide customer services and to enforce the Waterworks Ordinance and Waterworks Regulations.

Brief Description

13 The Department is responsible for the provision of efficient and effective services to customers and for enforcing the Waterworks Ordinance and Waterworks Regulations. This work involves:

- ensuring efficiency and effectiveness in dealing with customer enquiries and complaints and in processing applications for water supplies;
- enforcing the Waterworks Ordinance and Waterworks Regulations;
- ensuring timeliness of billing and promptness in updating customer accounts;

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- monitoring closely the level of arrears of water charges; and
- coping with the growth in the number of customer accounts.

14 In 2021, the Department continued to provide efficient and effective services to customers and enforce the Waterworks Ordinance and Waterworks Regulations including streamlining the procedures for processing applications for water supplies as well as the control of plumbing materials and commissioning of new plumbing installations. The Department has analysed the results of the public consultation on the proposed legislative amendments to the Waterworks Ordinance and Waterworks Regulations, covering amongst others enhancing regulatory control of inside service leakage, and continued with the preparation work for law drafting.

15 The key performance measures in respect of customer services are:

Targets

	Target	2020 (Actual)	2021 (Actual)	2022 (Plan)
processing application for taking up of consumership				
by post within seven working days (%).....	100	99.9	99.9	100
in person at Customer Enquiry Centres (all-purpose counter) within 15 minutes (%)	100	100	100	98Ψ
issue of final bill upon closure of account within three working days (%)	100	100	100	98.4Ψ
refund of water deposit within nine working days (%).....	100	99.9	99.9	98.4Ψ
processing application for meter test within eight working days (%)	100	100	99.6	99.8Ψ
processing application for autopay service (upon receipt of notification from banks) within three working days (%).....	100	100	100	99.2Ψ
accuracy of water meters (inaccuracy not exceeding +/- 3%) (%).....	98.0‡	98.8	96.8	98.0
response time for attendance to fault complaints				
within half a day for fresh water supply fault (%)	100	100	100	100
within 24 hours for others (%).....	100	100	100	100
notice for planned suspension of water supply issued not less than four working days in advance (%).....	100	100	100	100
conducting publicity campaigns and seminars for promotion of combatting unauthorised water consumption	70	70	72	75
initiating an investigation after receiving a complaint on suspected unauthorised water consumption within one working day (%)	92	92	93	93

Ψ The Customer Care and Billing System (CCBS) will be suspended for over a week in 2022 for system upgrade thus affecting the performance achievements in 2022.

‡ The target is revised from 100 per cent to 98 per cent as from 2022 due to the more economical use of meters for longer period.

Indicators

	2020 (Actual)	2021 (Actual)	2022 (Estimate)
no. of customer accounts.....	3 110 000	3 140 000	3 180 000
fees, water charges and deposits demanded (\$m)	2,260	2,720	2,570
arrears of water charges at year end in terms of no. of days of water charges demanded	1.2	1.0	1.1
prosecutions.....	152	230	230
finest imposed (\$).....	212,800	354,595	350,000
house service inspections due to irregular consumption.....	10 374	9 751	9 999
public enquiries and requests for services.....	1 437 787	1 533 887	1 555 774
disputes and complaints handled.....	20 910	20 279	20 145

Matters Requiring Special Attention in 2022–23

16 During 2022–23, the Department will:

- continue to streamline and enhance the efficiency of the approval process of application of water supplies;
- continue to strengthen regulatory control on inside service leakage to minimise water loss in inside services;
- continue to implement automatic meter reading for suitable new developments;
- proceed with amendments to the Waterworks Ordinance and Waterworks Regulations relating to regulation of plumbing works, control of plumbing materials, safeguarding drinking water safety at consumers' taps, the mandatory water efficiency labelling scheme, the enhancement of regulatory control of inside service leakage and supply of recycled water, as well as the revision of other parts of the legislation;
- continue to provide necessary technical advice and support to building owners and property management agents and render assistance to the market in developing capacity to deal with inside service leakage;
- support and maintain the information technology systems and pursue innovative technologies such as artificial intelligence and smart data analytics to enhance the customer service experience of the public; and
- continue to enhance the CCBS.

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ANALYSIS OF FINANCIAL PROVISION

Programme	2020–21 (Actual) (\$m)	2021–22 (Original) (\$m)	2021–22 (Revised) (\$m)	2022–23 (Estimate) (\$m)
(1) Water Supply: Planning and Distribution	8,230.1	8,150.4	8,137.5	8,288.8
(2) Water Quality Control	315.8	489.9	353.7	411.5
(3) Customer Services	610.8	596.3	616.8	615.5
	9,156.7	9,236.6	9,108.0 (–1.4%)	9,315.8 (+2.3%)

(or +0.9% on
2021–22 Original)

Analysis of Financial and Staffing Provision

Programme (1)

Provision for 2022–23 is \$151.3 million (1.9%) higher than the revised estimate for 2021–22. This is mainly due to the increased provision for purchase of water, light and power and personnel related expenses, partly offset by reduced provision for contract maintenance. There will be a net decrease of six civil service posts primarily for handling water supply planning and distribution matters.

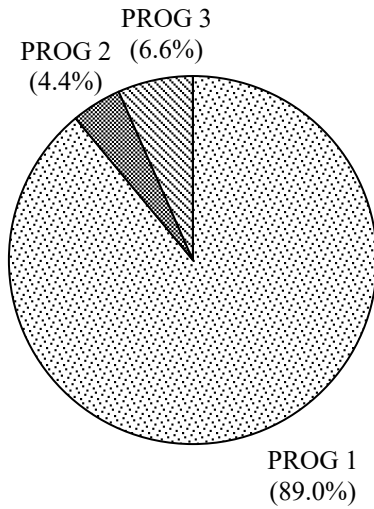
Programme (2)

Provision for 2022–23 is \$57.8 million (16.3%) higher than the revised estimate for 2021–22. This is mainly due to the increased provision for implementation of the WSPSS, hire of services and professional fees and other operating expenses relating to water quality control.

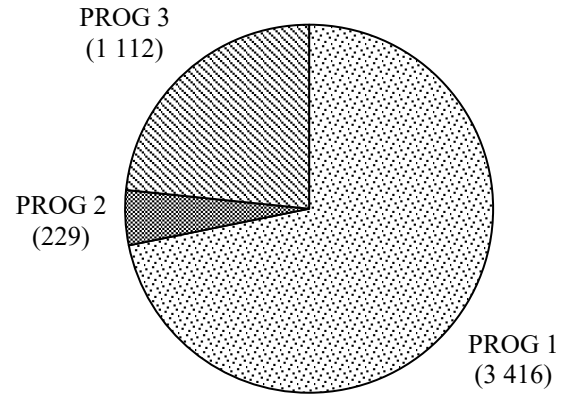
Programme (3)

Provision for 2022–23 is \$1.3 million (0.2%) lower than the revised estimate for 2021–22. This is mainly due to the reduced provision for contract maintenance, partly offset by increased provision for personnel related expenses and other operating expenses relating to customer services. There will be a net decrease of eight civil service posts for handling customer service matters.

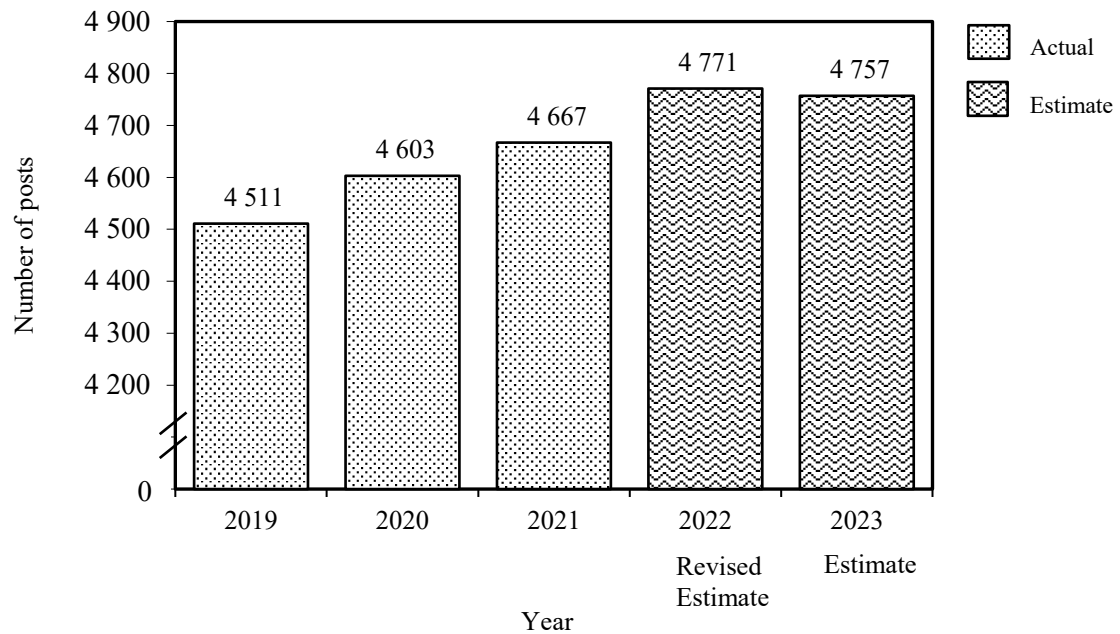
*Allocation of provision
to programmes
(2022-23)*



*Staff by programme
(as at 31 March 2023)*



*Changes in the size of the establishment
(as at 31 March)*



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Sub-head (Code)		Actual expenditure 2020–21	Approved estimate 2021–22	Revised estimate 2021–22	Estimate 2022–23
		\$'000	\$'000	\$'000	\$'000
Operating Account					
	Recurrent				
000	Operational expenses	4,307,986	4,258,252	4,259,284	4,291,502
223	Purchase of water	4,833,068	4,844,883	4,833,225	4,962,481
	Total, Recurrent	9,141,054	9,103,135	9,092,509	9,253,983
	Non-Recurrent				
700	General non-recurrent	3,530	120,000	2,000	47,800
	Total, Non-Recurrent	3,530	120,000	2,000	47,800
	Total, Operating Account	9,144,584	9,223,135	9,094,509	9,301,783
Capital Account					
	Plant, Equipment and Works				
661	Minor plant, vehicles and equipment (block vote)	12,097	13,465	13,462	14,028
	Total, Plant, Equipment and Works	12,097	13,465	13,462	14,028
	Total, Capital Account	12,097	13,465	13,462	14,028
	Total Expenditure	9,156,681	9,236,600	9,107,971	9,315,811

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Details of Expenditure by Subhead

The estimate of the amount required in 2022–23 for the salaries and expenses of the Water Supplies Department is \$9,315,811,000. This represents an increase of \$207,840,000 over the revised estimate for 2021–22 and \$159,130,000 over the actual expenditure in 2020–21.

Operating Account

Recurrent

2 Provision of \$4,291,502,000 under *Subhead 000 Operational expenses* is for the salaries, allowances and other operating expenses of the Water Supplies Department.

3 The establishment as at 31 March 2022 will be 4 771 posts. It is expected that there will be a net decrease of 14 posts in 2022–23. Subject to certain conditions, the controlling officer may under delegated power create or delete non-directorate posts during 2022–23, but the notional annual mid-point salary value of all such posts must not exceed \$1,863,631,000.

4 An analysis of the financial provision under *Subhead 000 Operational expenses* is as follows:

	2020–21 (Actual) (\$'000)	2021–22 (Original) (\$'000)	2021–22 (Revised) (\$'000)	2022–23 (Estimate) (\$'000)
Personal Emoluments				
- Salaries	1,858,631	1,895,947	1,894,376	1,896,741
- Allowances	149,472	148,201	158,019	155,805
- Job-related allowances.....	13,324	12,581	13,700	13,133
Personnel Related Expenses				
- Mandatory Provident Fund contribution	14,683	17,850	16,344	15,964
- Civil Service Provident Fund contribution	94,893	118,486	109,028	136,658
Departmental Expenses				
- Light and power.....	784,798	791,980	839,372	888,295
- Hire of services and professional fees	186,843	160,981	162,573	165,905
- Fuel and lubricating oil.....	247	246	2,730	390
- Specialist supplies and equipment.....	132,206	136,660	142,390	137,653
- Maintenance materials.....	53,829	53,358	52,668	47,780
- Contract maintenance	768,860	665,740	632,899	577,487
- General departmental expenses	250,200	256,222	235,185	255,691
	4,307,986	4,258,252	4,259,284	4,291,502

5 Provision of \$4,962,481,000 under *Subhead 223 Purchase of water* is for the purchase of water from Guangdong.

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Commitments

Sub-head (Code)	Item (Code)	Ambit	Approved commitment	Accumulated expenditure to 31.3.2021	Revised estimated expenditure for 2021–22	Balance
			\$'000	\$'000	\$'000	\$'000
<i>Operating Account</i>						
700		<i>General non-recurrent</i>				
	802	Water Safety Plan Subsidy Scheme	440,000	3,530	2,000	434,470
		Total	<u>440,000</u>	<u>3,530</u>	<u>2,000</u>	<u>434,470</u>