

The Audit Commission ("Audit") conducted a review of the Water Supplies Department's ("WSD") management of water supply and demand, and its implementation of government policy on water charges. WSD has implemented a number of initiatives under the 2008 Total Water Management Strategy¹ ("2008 TWMS") to strengthen its supply management. These included carrying out pilot schemes and studies on using reclaimed water from treated sewage, protecting existing water resources, and developing seawater desalination. On the other hand, initiatives to reduce water demand under the 2008 TWMS included stepping up public education on water conservations, promoting the use of water-saving devices, enhancing water leakage control and extending the use of seawater for flushing to more areas.

2. Pursuant to the Administration's policy, water tariff was set to recover production cost and achieve a target return on average net fixed assets ("ANFA"). Since 1996, water charges had not been revised. The Waterworks Operating Accounts had reported a deficit each year from 1998-1999 to 2013-2014 which resulted in negative returns on ANFA during the period.

3. The Committee noted the following findings from the Director of Audit's Report:

- according to the 2008 TWMS, WSD had planned to use reclaimed water to replace fresh water for flushing in the Northeast New Territories region. According to WSD, the proposed project would help to save 21 million cubic metres ("Mm³") of fresh water a year and that the cost of using reclaimed water (at \$3.8 per cubic metre ("m³")) was lower than that of using fresh water (at a marginal cost of \$5.6 per m³) for flushing. However, planning for related infrastructure works only commenced in 2012 for completion by 2022;
- based on a risk assessment of water resource adequacy under adverse scenarios (e.g. the occurrence of consecutive droughts and increase in water demand), it was projected that water shortage risk after 2020 would increase with an estimated deficit of fresh water resources of up to 39 Mm³ a year. Accordingly, WSD had proposed to commission a \$9.3 billion desalination plant in 2020 which would produce 50 Mm³

1 In 2008, with a view to ensuring sustainable use of water in Hong Kong, WSD promulgated the Total Water Management Strategy which covered five main areas, namely water conservation, active leakage control, extending use of seawater for flushing, using new water resources (including water reclamation) and protection of water resources.

(with provisions for future expansion to 100 Mm³) of fresh water a year. Given that the actual water supply of Dongjiang water in 2013 from Guangdong ("GD") Province at 611 Mm³ was less than the annual supply level of 820 Mm³, and that GD Province had agreed to allocate up to an ultimate supply level of 1 100 Mm³ of fresh water annually to Hong Kong for future use², the occurrence of water deficit in future would be subject to the supply of fresh water from GD Province. In view of the significant capital and recurrent costs of adopting a desalination plant, WSD would need to closely monitor the supply of fresh water from GD Province and the proposed desalination plant;

- 28% of 421 government buildings/schools had recorded increase (some more than 100%) in fresh water consumption even after being retrofitted with water-saving devices;
- water charges had not been revised since 1996, and waterworks operating accounts had reported a deficit each year from 1998-1999 to 2013-2014. While it was the government's policy to achieve a target return on ANFA, WSD had not informed the public that the production costs of fresh water had included a target return on ANFA; and
- despite the implementation of various water-saving initiatives in recent years, the daily per capita domestic water consumption in Hong Kong had been around 130 litres, which was 18% higher than the world average of 110 litres.

4. The Committee did not hold any public hearing on this subject. Instead, it asked for written responses regarding measures to reduce unmetered water consumption caused by water mains leakage, unauthorized water consumption and inaccurate metering, the necessary follow-up actions on unmetered water consumption, the effectiveness of the Replacement and Rehabilitation of Water Mains Programme, and the adoption of advanced technology in managing and maintaining water supply networks. The replies from **Director of Water Supplies** are in *Appendix 44*.

² According to the Dongjiang Water Supply Agreement between the government and GD provincial government in 2014 covering 2015 to 2017, GD Province would supply an annual quantity of up to 820 Mm³ of water to Hong Kong and allocate up to an ultimate annual quantity of 1 100 Mm³ of water to Hong Kong for future use. The timing of the supply in excess of 820 Mm³ and the price for such quantity is subject to future negotiation.

5. The Committee wishes to be kept informed of the progress made in implementing the various recommendations made by Audit.