BUSINESS ENVIRONMENT COUNCIL 商界環保協會

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Submission on the Supply of Recycled Water in Hong Kong
Views from Business Environment Council Limited
商界環保協會有限公司

Over the last 25 years, Business Environment Council Limited 商界環保協會有限公司 ("BEC") has played a leading role in advocating the business case for environmental excellence, given the importance of sustainable development to Hong Kong. Our members are committed to actively engage with the HKSAR Government ("the Government") to help develop a supporting policy framework as well as impactful implementation in respect of environmental protection and sustainability.

Views expressed in this submission are those of BEC, in line with BEC's Mission and Vision as well as policy position on relevant issues, but may not necessarily be the same as the views of each individual member. BEC is an independent charitable membership organisation comprising approximately 200 member companies, from Hong Kong's major holding companies to small and medium-sized enterprises.

Preamble

BEC is in principle supportive of using more recycled water in Hong Kong. We view this as one step forward towards a closed-loop water management approach[1], which is important in many aspects: resource conservation, water security and climate resilience. This is especially important since Hong Kong lacks local water resources.

[1] A closed loop system is one where materials are consistently reused rather than discharged as waste.

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Recommendations

Replacing Fresh Water with Recycled Water for Flushing

1. We note that currently 85% of Hong Kong's population uses seawater for toilet flushing, while the remaining 15% uses fresh water. This 15% constitute areas that are distant from the coast or located at high altitudes rendering it less cost-effective to supply seawater. BEC considers it a priority to transition from fresh water to recycled water for flushing for better resource conservation, as well as for improved cost-effectiveness and lower overall environmental impact in the long run.

Transitioning Towards City-wide Provision of Recycled Water

2. For areas where seawater is currently used for flushing, the Government should also explore switching to recycled water for flushing in lieu of salt water where opportunities arise and when it is cost-effective to do so. Ultimately, the Government should aim for city-wide provision of recycled water for flushing.

3. One major consideration behind this approach is that it is more cost-effective to supply a single type of lower-grade water source, rather than multiple types, to the same area for non-potable uses. If a choice has to be made between salt water and recycled water, then the latter should be preferred as recycled water has the potential for wider applications, whereas salt water is limited only to flushing[2].

4. A phased approach could be taken for the transition from seawater to recycled water for flushing, as the replacement or upgrading of existing infrastructure would require financial and time resources and hence prioritisation. The Government should take an opportunistic, step-by-step approach in this process, methodically taking least-cost, least-interruptive steps to gradually transform the infrastructure network and system[3]. For example, new development areas and redevelopment projects could be selected as priority or pilot areas for the shift. Although this is an undertaking of tremendous scale,

[2] Currently, flushing accounts for 91% of non-potable water consumption. However, the remaining 9% should not be neglected. Furthermore, as trust and public perception towards recycled water improves, opportunities for using recycled water increases – so the consumption of non-potable non-flushing water has the potential to be much more than the current 9%. In this manner, recycled water has the potential to replace fresh water in many more applications compared to salt water, hence contributes more towards water conservation.

[3] Due to corrosion, the maintenance costs of a seawater distribution system are higher compared to that of recycled fresh water, however the water treatment costs for a recycled water system are expected to be higher than that of seawater. These are amongst the range of costs and considerations to balance during this process.

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we view that city-wide supply of recycled water is an important step to move Hong Kong towards a closed-loop model of water consumption and management, in line with the philosophy of circular economy.

Progressing Towards Wider Applications for Recycled Water

5. Beyond toilet flushing, recycled water can be used for many other purposes such as cleaning roads and vehicles, irrigating parks and sport fields, operating water features, firefighting, industrial production, urban development and landscaping. We also note that in Australia, for example, property owners have the choice of using recycled water in their clothes washing machines[4].

6. We agree that Government departments should take the lead in using recycled water for non-potable, non-flushing purposes in public premises.

7. However, we disagree with the Government's suggestion of opening up the recycled water supply for non-flushing purposes to government departments only. In our view, the Government must in the long run also open up recycled water supply for non-flushing uses to the private sector and the wider community. Again, BEC believes that this may transpire through a phased approach, taking into account a range of considerations including whether adequate mechanisms are in place to avoid misuse of recycled water, intentional or unintentional.

8. To enable and promote wider use of recycled water for non-flushing purposes to all sectors, the Government should provide robust and holistic support – this could be a combination of setting fair regulations, establishing technical protocols and guidelines, and raising awareness through education and campaigns. In fact, the Government could encourage the use of recycled water for non-potable, non-flushing purposes through government tenders and contract specifications.

Managing and Utilising Recycled Water

9. At the moment, the Government does not charge any tariff for the supply of seawater for flushing, while a tariff is charged for fresh flushing water as well as potable water. In line with the principle of water conservation, the

[4] http://www.vba.vic.gov.au/media/latest-news/article/2015/recycled-water-for-clothes-washing-machines-from-january-2015

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Government should implement a tariff for recycled water as well. Setting a price for water consumption is consistent with the Government's fundamental "User Pays" philosophy.

10. Beyond pricing of water, we also stress the continued need for non-financial mechanisms to incentivise water conservation, such as education and promotion of smart water-saving devices. These means would naturally apply to recycled water.

11. While a tariff should be set, it must be at a level where it encourages business and the community to make use of, and invest in, infrastructure for recycled water. It should be lower than that of potable fresh water so as to create a business case for using recycled water rather than conventional fresh water supply for different uses. Beyond a sensible tariff rate, the Government can also consider providing other forms of support for the private sector and the community for a smooth transition. As recycled water will be used for flushing, the tariff must be set at a reasonable rate where Hong Kong's sanitation, hygiene, and liveability is safeguarded.

12. An added advantage of charging for recycled water is to discourage its misuse. Smart water meters can also be used to monitor consumption patterns and ensure appropriate use of recycled water.

13. As such, the need for colour-labelling[5] of recycled water will be lessened. We recognize a range of benefits for not colour-labelling recycled water: colour-labelling recycled water limits its application to primarily flushing purposes only, and it may become an unintended barrier towards building positive public perception towards recycled water and for its wider applications. Beyond the uses described in Paragraph 5, we see huge potential for eventually even wider use of recycled water, as in the case of Singapore[6]. This also supplements the rationale for city-wide provision of recycled water described in Paragraph 3.

Other Considerations

14. We note that increased use of recycled water, in lieu of fresh water and salt

[5] Colour-labelling of recycled water through the addition of food-grade dye was proposed in the consultation document, primarily for the purpose of distinguishing from potable water and to avoid misuse.
[6] Within Singapore's NEWater program, small amounts of recycled water is fed into the potable water supply.

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water, may increase energy use for treatment and pumping. As such, we stress the need for Hong Kong to progress towards low-carbon energy supply and efficient energy consumption.

15. Key to the success of a recycled water programme is building trust through excellent transparency and disclosure of the quality of recycled water. This includes regular reporting against all necessary water quality parameters, coupled with easy access to this information. We recommend the Government to take initiative to proactively communicate such information to end users – such as by including the information in water bill documents.

16. The consultation document has identified treated sewage effluent, grey water, and rain water as potential water sources for recycling. In line with water conservation, we urge the Government to be creative in identifying other potential sources of water for recycling. For example, condensate from air conditioners could also become a source for water recovery, given Hong Kong's wide use of air conditioning and humid climate.

In conclusion, we affirm our support for making use of recycled water and moving towards a closed-loop water management approach in Hong Kong. Taking initial and necessary steps to conserve resources and improve water security is a direction we must progress towards, given we are reaching planetary limits in different aspects due to current patterns of consumption.

For queries related to this submission, please contact our Chief Executive Officer, Mr Adam Koo at adamkoo@bec.org.hk.

Yours sincerely,

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