

CHAPTER 8

**Environment Bureau
Environmental Protection Department
Architectural Services Department**

**Provision and management of
Community Green Stations**

**Audit Commission
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This audit review was carried out under a set of guidelines tabled in the Provisional Legislative Council by the Chairman of the Public Accounts Committee on 11 February 1998. The guidelines were agreed between the Public Accounts Committee and the Director of Audit and accepted by the Government of the Hong Kong Special Administrative Region.

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PROVISION AND MANAGEMENT OF COMMUNITY GREEN STATIONS

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PROVISION AND MANAGEMENT OF COMMUNITY GREEN STATIONS

Executive Summary

1. In early 2013, the Environment Bureau (ENB) announced a plan to develop five pilot Community Green Stations (CGSs) in different parts of the territory to promote environmental/green education and to enhance the collection network of recyclables. The development of CGSs is under the policy purview of ENB and the Environmental Protection Department (EPD). The 2014 Policy Address announced the development of a CGS in each of the 18 districts. According to ENB, the setting up of 18 CGSs would involve an estimated capital expenditure of about \$400 million, and a non-governmental organisation (NGO) would be appointed by way of tender to operate each CGS which would help green living to take root at the community level.

2. According to EPD, each CGS should preferably have a site area of no less than 1,500 square metres and should as far as practicable be conveniently located so as to facilitate visits by local residents. It should also have space for temporary storage of recyclable materials, designated area for loading/unloading of recyclable materials by collection vehicles, general office space, multi-purpose rooms and other ancillary facilities for outdoor activities for the purpose of environmental education. EPD is the project proponent for CGSs and the Architectural Services Department (ArchSD) acts as the works agent for implementation of CGS projects. As of December 2019, regarding the progress for provision of CGSs in the 18 districts: (a) a total funding of \$286.8 million had been approved for implementing 11 CGS projects and a total expenditure of \$195.5 million had been incurred. The construction works for 9 CGSs were completed between 2015 and 2018 and 2 CGSs were in progress; and (b) the remaining 7 CGSs were at planning or site selection stage.

3. According to EPD, private recyclers mainly collect recyclables of higher commercial value. CGSs will enhance environmental education and help collect different types of recyclables, especially those of low economic value (including electrical appliances, computers, glass bottles, rechargeable batteries, and

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compacted fluorescent lamps and fluorescent tubes) in the local community, with a view to promoting green living at the community level.

4. EPD appoints NGOs to operate CGSs by way of open tender. As of December 2019, the operating contracts for the 9 CGSs with construction works completed had been awarded. Of these 9 CGSs, 8 CGSs commenced operation between May 2015 and October 2019 and the remaining CGS would commence operation in the second quarter of 2020. In 2018, the total operating expenditure for CGSs was about \$24 million. EPD monitors the performance of CGS operators. The Audit Commission (Audit) has recently conducted a review to examine the Government's efforts in provision and management of CGSs.

Provision of Community Green Stations

5. *Need to make continued efforts to address challenges faced in developing CGSs.* In 2014, ENB informed the Legislative Council (LegCo) Panel on Environmental Affairs that it estimated that all 18 CGSs would be completed by phases in the following three years (i.e. from 2015 to 2017). However, the estimated timeframe for completing the 18 CGSs was not met. As of February 2020, the construction works of 9 (50%) CGSs were completed and 2 (11%) CGSs in progress, and the remaining 7 (39%) CGSs were at planning or site selection stage. According to EPD: (a) the identification of a suitable site for development of a CGS in each of the 18 districts had met with great practical challenges; and (b) for the districts in which no suitable sites could be secured for development of CGSs, EPD was exploring alternative ways to expedite the delivery of the core services of CGSs. In Audit's view, EPD needs to make continued efforts to address the challenges faced in the development of the remaining CGSs and expedite actions in exploring alternative ways to deliver core CGS services for districts with no CGSs (paras. 2.4, 2.6 and 2.7).

6. *Delay in completing construction works of some CGSs.* As of December 2019, for the 9 CGSs with construction works completed, they were completed about 1.5 to 14 months later than their respective original contract completion dates. According to ArchSD, after consideration of extensions of time granted, there was delay in completion of works for 3 of the 9 CGSs, with delay ranging from 1 month to 5 months (paras. 2.11 and 2.12).

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7. ***Construction works carried out before approval of related drawings and not in accordance with the approved drawings.*** For two CGSs (i.e. Sham Shui Po and Tuen Mun CGSs), according to EPD's requirements, there should be a storage block with a sorting area for installation and operation of a baling machine. EPD's area requirements for the baling machine had been incorporated into the contract as a contract requirement. According to the contract, the related drawings should also be approved by ArchSD before commencement of works and the works should be carried out according to the approved drawings. However, for the two CGSs, construction of the structural steel frame of the sorting areas in the storage blocks was completed before ArchSD's approval of the related drawings and not in accordance with the approved drawings. In the event, EPD's area requirements for installation of baling machines were not met and baling machines of a smaller size and capacity were installed at both CGSs (paras. 2.14 to 2.17).

8. ***Need to draw lessons from various facility problems encountered after some CGSs had commenced operation.*** Audit noted that works were carried out for tackling various facility problems after two CGSs had commenced operation: (a) for Sha Tin CGS, works were needed for tackling water leakage problems at the roofs of buildings and flushing problems in the toilets. In the event, it took more than three years to fully resolve all the problems; and (b) for Eastern CGS, works were needed for tackling stagnant water problems on roofs of buildings. In the event, it took about two years to fully resolve the problems. In Audit's view, ArchSD needs to draw lessons from the facility problems at the two CGSs with a view to improving the implementation of CGS projects (paras. 2.18 to 2.22).

Services provided by Community Green Stations

9. EPD appoints NGOs to operate CGSs by way of open tender, and the operating contracts are generally for a period of three years. According to the operating contracts, CGS operators should provide services including educational services, recyclables collection services and management of the facility. CGS operators provide three types of educational events, namely regular educational events, featured educational events and special community events. In addition, CGS operators generally collect two categories of recyclables, namely permitted recyclables (e.g. glass bottles, household appliances (including electrical and electronic equipment), computers and accessories, rechargeable batteries, and compacted fluorescent lamps and fluorescent tubes) and secondary recyclables (e.g. old clothing and textiles, books and toys) (paras. 3.2, 3.5 and 3.19).

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10. ***Minimum quantity requirements for educational events not met by some CGSs.*** According to the operating contracts, there is a minimum quantity requirement on the number of different types of educational events provided by a CGS operator in each contract year. Audit noted that, for the first contract year under the current operating contracts of two CGSs (i.e. Sha Tin and Tuen Mun CGSs), the number of outreach regular educational events and special community events held fell short of the minimum quantity requirements by 40% to 67%. According to EPD, the operators of both CGSs met unexpected difficulties in fulfilling the new requirements for these two events (which were introduced in November 2017), and it was reviewing the contract requirements for regular educational events. In Audit's view, EPD needs to early complete the review of the minimum quantity requirements for educational events, and share among CGS operators their experience in providing educational services (e.g. difficulties encountered) (paras. 3.6 to 3.8).

11. ***Need to disseminate the methodology in counting the number of regular educational events held by CGSs.*** Under the operating contracts, only those educational events fulfilling the contract requirements will be qualified for payment and counted in meeting the minimum quantity requirement. Audit noted that EPD had agreed with an operator (which operated Sha Tin and Kwun Tong CGSs) for the methodology for counting the number of regular educational events qualified for payment (through an e-mail from EPD to the operator). As the agreed methodology may also be applicable to other CGSs, in Audit's view, EPD needs to disseminate the methodology in counting the number of educational events held by CGSs to its staff and CGS operators, with a view to standardising the practice and facilitating operators' organisation of such events (paras. 3.9, 3.11 and 3.12).

12. ***Minimum tonnage requirements for recyclables collection not met by some CGSs.*** According to the operating contracts, CGS operators are required to provide recyclables collection services no less than the minimum tonnage requirements of recyclables. Audit noted that for the first contract year under the first operating contract of three CGSs (i.e. Sha Tin, Kwai Tsing and Sham Shui Po CGSs), the quantities of recyclables collected fell short of the minimum tonnage requirements by 6% to 39%. According to EPD, the three CGS operators did not meet the minimum tonnage requirements during their initial operation due to specific circumstances, and they substantially exceeded the minimum tonnage

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requirements in subsequent contract periods. In Audit's view, EPD needs to keep under review the minimum tonnage requirements for collection of recyclables (paras. 3.23 and 3.25).

13. ***Scope for improving service network of CGSs.*** CGS operators collect recyclables through various channels (e.g. in-station collection at CGS and housing collection points). For the service network of the seven CGSs which commenced operation between 2015 and 2018, Audit noted that the annual summaries of monthly reports submitted by the seven CGS operators had included the coverage rate of housing collection points (ranging from 65% to 90% of the population in residential area in their districts), but had not included the calculation of the coverage rate. Neither had EPD documented its verification of the calculation. In Audit's view, EPD needs to require CGS operators to include the calculation of the coverage rate of housing collection points in the annual summaries of monthly reports for EPD's verification (paras. 3.21, 3.27 and 3.28).

14. ***Storage specification for recyclables not met by CGSs.*** According to the operating contracts, regarding storage of recyclables at CGSs, CGS operators should not store recyclables at the stations for longer than 7 days without prior consent from EPD. Audit noted that for the seven CGSs which commenced operation between 2015 and 2018, they had not met the 7-day maximum storage specification for the recyclables collected from October 2018 to June 2019. According to EPD: (a) the 7-day maximum storage specification was introduced at the very beginning of the CGS project initiative to address local community's concern that "dirty waste" might be stored at CGSs; (b) with the promotion of "clean recycling" at CGSs in these years, recyclables received and stored at CGSs were generally in good hygiene condition; and (c) EPD had given consent during regular site inspections for CGS operators to store recyclables at their storage area for longer than 7 days. In Audit's view, EPD needs to review the 7-day maximum storage specification for storage of recyclables, having regard to the latest operating conditions of CGSs and hygiene conditions of recyclables stored therein (paras. 3.29 to 3.32).

15. ***Scope for improving the counting methodology for visitors to CGSs.*** CGS operators report the number of visitors to CGSs in the monthly reports submitted to EPD. According to EPD, some CGS operators counted the number of visitors manually while other CGS operators counted the number by installing electronic counters at the boundary of CGSs. Audit considers that EPD needs to

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review the effectiveness of CGS operators' methodologies for counting the number of visitors with a view to enhancing the counting methodologies (para. 3.36).

16. *Number of visitors to some CGSs less than expected.* In March 2016, EPD informed the Finance Committee of LegCo that the expected number of daily visitors received by each CGS could achieve 100 on average. Audit noted that of the five CGSs which commenced operation between 2015 and 2017: (a) the number of visitors received by 4 (80%) CGSs fell short of the expected number in all years with a full-year operation; and (b) the numbers of visitors to 3 CGSs decreased by 6%, 17% and 26% respectively from 2017 to 2018. According to EPD, new outreach activities had been introduced since November 2017 and it considered that the level of services provided by individual CGSs should be measured by both the number of visitors to CGSs and the number of persons served by CGSs' outreach activities. However, Audit noted that EPD had not set the expected number of persons served by the outreach activities (paras. 3.37 to 3.39).

Other management issues

17. *Need to document the analysis of inspection results.* To monitor the performance and operation of CGSs, EPD staff periodically conduct routine inspections of recyclables collection services, educational services and facilities of CGS. According to EPD guidelines, the inspectors should record the inspection results on the specified standard inspection forms. Audit examined the routine inspection records from January to June 2019 for the six CGSs (which commenced operation between 2015 and September 2018) and noted that, of the 298 inspections recorded on inspection forms, a total of 235 observations were found in 146 inspections and some observations were frequently found during routine inspections. According to EPD, the CGS team had shared latest inspection observations at regular team meetings and followed up on observations of a recurrent nature. However, Audit noted that EPD had not documented the analysis of the observations found (paras. 4.2 to 4.4 and 4.8).

18. *Scope for enhancing the reporting and vetting of recyclables collected and dispatched.* CGS operators are required to report the approximate weights of permitted and secondary recyclables collected and dispatched in the monthly reports. Audit examined the monthly reports of the seven CGSs (which commenced

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operation between 2015 and 2018) since contract commencement dates and up to June 2019 for the cumulative weights of recyclables collected and dispatched and noted that for some types of permitted and secondary recyclables, there were significant differences between the cumulative weights of recyclables collected and dispatched. According to EPD, the reasons for the significant differences included: (a) the dispatched quantities of permitted recyclables also included those unused secondary recyclables and materials collected which could not be re-distributed or donated within a reasonable time period. The operating contracts allowed EPD to designate other recyclables as permitted recyclables and EPD had given consent from time to time for CGS operators to turn some of the secondary recyclables collected into permitted recyclables; (b) free distribution of significant quantities of secondary recyclables collected through flea markets set up by some CGS operators were not included in the dispatched quantities in the monthly reports; and (c) there was a surge of the quantities of certain types of permitted and secondary recyclables stored at CGSs as at June 2019. Audit considers that there is scope for enhancing the reporting by CGS operators and vetting by EPD with a view to providing a better way for monitoring the flow of recyclables and whether the recyclables are properly handled (paras. 4.13 to 4.16).

19. ***Delay in submission of reports and audited financial statements.*** According to the operating contracts, CGS operators are required to submit to EPD monthly reports, annual summaries of monthly reports and annual audited financial statements. Audit noted that for some CGSs, there was delay in submission of these reports and audited financial statements. According to EPD, while there was an operational need to have early submission of regular reports, some of the supporting information would not be available within the report submission timeline. In view of the practical circumstances, EPD would review the existing arrangements to strike a balance. In Audit's view, EPD needs to expedite actions in reviewing the existing reporting requirements for CGS operators and remind CGS operators to comply with the contract requirements for timely submission of audited financial statements (paras. 4.17 to 4.19).

20. ***Need to share experience for operation of CGSs.*** As of December 2019, seven CGSs had already been in operation for over one to four years. Audit noted that EPD had not promulgated any good practice guide to CGS operators. In Audit's view, EPD needs to consider promulgating good practices identified over the years for sharing among CGS operators with a view to improving the services of CGSs (para. 4.24).

Audit recommendations

21. Audit recommendations are made in the respective sections of this Audit Report. Only the key ones are highlighted in this Executive Summary. Audit has *recommended* that the Director of Environmental Protection should:

Provision of CGSs

- (a) make continued efforts to address the challenges faced in the development of the remaining CGSs (including identification of suitable sites) and expedite actions in exploring alternative ways to deliver core CGS services for districts with no CGSs (para. 2.7);

Services provided by CGSs

- (b) early complete the review of the minimum quantity requirements for educational events, having regard to CGS operation and the need of local residents for such services (para. 3.15(a));
- (c) share among CGS operators their experience in providing educational services (e.g. difficulties encountered) with a view to facilitating them to provide such services (para. 3.15(b));
- (d) disseminate the methodology in counting the number of educational events held by CGSs to EPD staff and CGS operators, with a view to standardising the practice and facilitating CGS operators' organisation of such events (para. 3.15(c));
- (e) keep under review the minimum tonnage requirements for collection of recyclables, having regard to the operation of and difficulties encountered by CGS operators (para. 3.33(a));

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- (f) **require CGS operators to include the calculation of the coverage rate of housing collection points in the annual summaries of monthly reports for EPD's verification (para. 3.33(c));**
- (g) **review the 7-day maximum storage specification for storage of recyclables, having regard to the latest operating conditions of CGSs and hygiene conditions of recyclables stored therein (para. 3.33(e));**
- (h) **review the effectiveness of CGS operators' methodologies for counting the number of visitors with a view to enhancing the counting methodologies (para. 3.44(a));**
- (i) **review the expected number of persons served by both on-site and outreach activities of CGSs with a view to fully reflecting the service level of CGSs and monitor the achievement of the expected number as adopted after the review (para. 3.44(b));**

Other management issues

- (j) **document the analysis of the observations found during inspections with a view to identifying those commonly found for assessing the need for helping CGS operators enhance their operation (para. 4.9(b));**
- (k) **enhance CGS operators' reporting of recyclables collected and dispatched (para. 4.25(a));**
- (l) **enhance the vetting by EPD staff of the quantities of permitted and secondary recyclables reported by CGS operators (para. 4.25(b));**
- (m) **expedite actions in reviewing the existing reporting requirements for CGS operators, including the submission time of regular reports (para. 4.25(c));**
- (n) **remind CGS operators to comply with the contract requirements for timely submission of audited financial statements (para. 4.25(d)); and**

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- (o) **consider promulgating good practices identified over the years for sharing among CGS operators with a view to improving the services of CGSs (para. 4.25(h)).**
22. **Regarding provision of CGSs, Audit has also *recommended* that the Director of Architectural Services should:**
- (a) **monitor the works progress and endeavour to complete the works as soon as practicable in implementing the construction works of CGS projects (para. 2.22(a));**
 - (b) **strengthen actions to ensure that contractors comply with the contract requirements of carrying out construction works after approval of the related drawings and in accordance with the approved drawings (para. 2.22(b)); and**
 - (c) **draw lessons from the problems of water leakage and toilet flushing at Sha Tin CGS and stagnant water at Eastern CGS with a view to improving the implementation of CGS projects (para 2.22(c)).**

Response from the Government

23. The Director of Environmental Protection and the Director of Architectural Services generally agree with the audit recommendations.

PART 1: INTRODUCTION

1.1 This PART describes the background to the audit and outlines the audit objectives and scope.

Background

1.2 In early 2013, the Environment Bureau (ENB) announced a plan to develop five pilot Community Green Stations (CGSs) in different parts of the territory to promote environmental/green education and to enhance the collection network of recyclables. The development of CGSs is under the policy purview of ENB and the Environmental Protection Department (EPD).

1.3 According to the “Hong Kong Blueprint for Sustainable Use of Resources (2013-2022)” published by ENB in May 2013, CGS was one of the policy initiatives for mobilising the community to reduce waste (Note 1). The Government aimed to commission five pilot CGSs to bring green living to community in phases starting from late 2013 with a planned term of three years.

1.4 The 2014 Policy Address announced the development of a CGS in each of the 18 districts. In January 2014, ENB informed the Legislative Council (LegCo) Panel on Environmental Affairs that:

- (a) the setting up of 18 CGSs would involve an estimated capital expenditure of about \$400 million. The design and construction of CGSs would be both sustainable and aesthetically pleasing. ENB estimated that the CGS in Sha Tin District would be completed in mid-2014 while other CGSs would be completed by phases in the following three years (i.e. from 2015 to 2017); and

Note 1: *The Blueprint sets out the vision to use less and waste less of the Earth’s resources through instilling an environmentally sustainable culture into Hong Kong people’s daily life. Apart from CGSs, other policy initiatives include those related to food waste, glass beverage bottles collection and “bring your own bag”.*

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- (b) a non-governmental organisation (NGO) would be appointed by way of tender to operate each CGS which would help green living to take root at the community level. The Government would provide financial support to NGO operators. Leveraging on their local connections, NGO operators would collaborate with schools, property management and other relevant stakeholders or institutions on publicity and educational programmes as well as supporting recycling efforts at community level.

Provision of CGSs

1.5 According to EPD:

- (a) in general, each CGS (see Photograph 1 for an example) should preferably have a site area of no less than 1,500 square metres (m²) (Note 2) and should as far as practicable be conveniently located so as to facilitate visits by local residents;
- (b) to meet operational needs, each CGS should have space for temporary storage of recyclable materials (see Photograph 2 for an example) and simple operations, and designated area for loading/unloading of recyclable materials by collection vehicles; and
- (c) in addition to general office space, CGSs should have multi-purpose rooms (see Photograph 3 for an example) and other ancillary facilities for outdoor activities for the purpose of environmental education.

Note 2: *According to EPD, as of December 2019: (a) for the 9 CGSs with construction works completed (see para. 1.6(a)(i)), the site area for each CGS ranged from 1,770 m² to 7,090 m²; (b) for the 2 CGSs with construction works in progress (i.e. Sai Kung and Wan Chai CGSs — see para. 1.6(a)(ii)), their site areas were 1,460 m² and 695 m² respectively; and (c) the 11 CGSs with construction works completed or in progress included all the facilities mentioned in paragraph 1.5(b) and (c).*

Photograph 1

Tai Po CGS



Source: Photograph taken by Audit Commission staff in January 2020

Photograph 2

Storage area of recyclable materials of Tai Po CGS

Storage area of recyclable materials



Source: Photograph taken by Audit Commission staff in January 2020

Photograph 3

Multi-purpose room of Tai Po CGS



Source: Photograph taken by Audit Commission staff in January 2020

1.6 EPD is the project proponent for CGSs and the Architectural Services Department (ArchSD) acts as the works agent for implementation of CGS projects. Construction of CGSs is funded under block votes for Category D projects (Note 3) in the Public Works Programme under the Capital Works Reserve Fund (CWRP). As of December 2019, the progress for provision of CGSs in the 18 districts was as follows:

- (a) a total funding of \$286.8 million had been approved for implementing 11 CGS projects and a total expenditure of \$195.5 million had been incurred (see Table 1). The works for the 11 CGS projects commenced between 2014 and 2018 and their progress was as follows:

Note 3: *The Director of Architectural Services is the vote controller of the block vote (Head 703, Subhead 3101GX) for the construction of Sha Tin and Eastern CGSs, while the Director of Environmental Protection is the vote controller of the block vote (Head 705, Subhead 5101DX) for the construction of other CGSs.*

- (i) for 9 CGSs (i.e. Sha Tin, Eastern (Note 4), Kwun Tong, Yuen Long, Sham Shui Po, Tuen Mun, Kwai Tsing, Tai Po and Islands), the construction works were completed between 2015 and 2018 and operators had been appointed by EPD to operate them (see para. 1.8); and
 - (ii) for 2 CGSs (i.e. Sai Kung and Wan Chai), the construction works were in progress; and
- (b) the remaining 7 CGSs were at planning or site selection stage.

Note 4: *According to ArchSD, the construction works of Sha Tin and Eastern CGSs were the first two pilot projects of this building type in Hong Kong.*

Table 1
CGS projects with funding approved
(December 2019)

CGS	Works commencement date	Works completion date (Note 1)	Approved funding (\$ million)	Actual expenditure (Note 2) (\$ million)
Works completed				
1. Sha Tin	4/2014	1/2015	20.5	19.4
2. Eastern	3/2014	5/2015	27.3	25.7
3. Kwun Tong	6/2015	11/2016	29.0	23.8
4. Yuen Long	7/2015	11/2016	29.0	23.5
5. Sham Shui Po	10/2015	9/2017	29.0	21.7
6. Tuen Mun	12/2015	12/2017	25.0	15.4
7. Kwai Tsing	3/2016	7/2018	26.0	16.1
8. Tai Po	5/2016	11/2018	25.0	10.9
9. Islands	5/2016	12/2018	25.0	15.7
Subtotal (a)			235.8	172.2
Works in progress				
10. Sai Kung	7/2017	In progress (Note 3)	22.0	10.7
11. Wan Chai	5/2018	In progress (Note 3)	29.0	12.6
Subtotal (b)			51.0	23.3
Total (c) = (a) + (b)			286.8	195.5

Source: ArchSD and EPD records

Note 1: The works completion date refers to the date of substantial completion of works, after which there is a 12-month maintenance period for the contractor to carry out outstanding works and to rectify defects.

Note 2: As of December 2019, the accounts for the construction works of Sha Tin and Eastern CGSs had been finalised. For other CGSs with the contract accounts not yet finalised, there would be further payments after the contractors had fulfilled all their obligations under the contracts.

Note 3: The original contract completion dates for the construction of Sai Kung and Wan Chai CGSs were December 2018 and October 2019 respectively. As of December 2019, the works had not been completed.

Services provided by CGSs

1.7 According to EPD, private recyclers mainly collect recyclables of higher commercial value. CGSs will enhance environmental education and help collect different types of recyclables, especially those of low economic value (including electrical appliances, computers, glass bottles, rechargeable batteries, and compacted fluorescent lamps and fluorescent tubes) in the local community, with a view to promoting green living at the community level. Through promotion of source separation of waste and clean recycling, the value of recyclables recovered by the community is also expected to be enhanced. The main services provided by CGSs include the following:

- (a) ***Environmental educational services.*** CGSs promote environmental education with various publicity and public educational programmes that target at local residents of different status and background. Organised either on-site or outside the CGS facility, these programmes aim to instil a green living culture into the community from different perspectives, particularly waste reduction and recycling; and
- (b) ***Recyclables collection services.*** CGSs provide support to waste reduction and recycling programmes at the community level, including collaboration with different stakeholders to collect recyclables and enhance the community collection network (e.g. setting up collection points at housing estates and mobile collection points at public places). According to EPD, such collaboration may allow members of the public to get involved in waste reduction and recycling in person and help implement other source separation initiatives.

Operation of CGSs

1.8 EPD appoints NGOs to operate CGSs by way of open tender. The operating contracts are generally for a period of three years, comprising a preparatory period (Note 5) and a service period (from the expiry of the preparatory period to the expiry of the contract). As of December 2019, the operating contracts

Note 5: *The preparatory period commencing on the contract commencement date is for the operators to prepare for and initiate the provision of services. Under the first operating contract for each of the 9 CGSs with construction works completed, the preparatory period was up to six months.*

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for the 9 CGSs with construction works completed (see para. 1.6(a)(i)) had been awarded (Note 6). Of these 9 CGSs, 8 CGSs commenced operation between May 2015 and October 2019 and the remaining CGS would commence operation in the second quarter of 2020 (see Table 2).

Table 2
Operating contracts of nine CGSs
(December 2019)

CGS	Operating contract commencement date	CGS operation commencement date	Operating expenditure in 2018 (\$ million)
1. Sha Tin	November 2014 (renewed in November 2017)	May 2015	4.76
2. Eastern	April 2015 (renewed in April 2018)	August 2015	3.91
3. Kwun Tong	September 2016 (renewed in December 2019 — Note)	January 2017	4.27
4. Yuen Long	October 2016 (renewed in January 2020 — Note)	January 2017	3.46
5. Sham Shui Po	April 2017	October 2017	4.70
6. Tuen Mun	June 2018	September 2018	2.10
7. Kwai Tsing	June 2018	November 2018	0.77
8. Tai Po	June 2019	October 2019	N/A
9. Islands	October 2019	Second quarter of 2020	N/A
Total			23.97

Source: EPD records

Note 6: *The operating contracts for the 9 CGSs had been awarded to six NGOs, with three of them each operating two CGSs and the other three each operating one CGS.*

Note: According to EPD, the first contracts for Kwun Tong and Yuen Long CGSs had been extended for about three months in light of the progress of award of the follow-on contracts.

1.9 EPD makes payments to the operators of CGSs in accordance with the operating contracts, as follows:

- (a) a fixed lump sum for setting up of a CGS (Note 7); and
- (b) an amount based on the actual quantity of services provided on a monthly basis (Note 8).

In 2018, the total operating expenditure for CGSs was about \$24 million. For the 5 CGSs with a full-year operation in 2018 (see items 1 to 5 in Table 2 in para. 1.8), their operating expenditures ranged from about \$3.46 million to \$4.76 million.

Monitoring of CGS operation

1.10 EPD monitors the performance of CGS operators mainly through the following means:

- (a) ***Setting of reporting requirements and vetting of reports submitted by CGS operators.*** Under the operating contracts, each CGS operator is required to submit to EPD for approval an operation plan describing the detailed arrangements for the delivery of the relevant services including in particular educational services and recyclables collection services. The operator is required to submit a monthly report on its operation detailing the performance statistics in relation to its educational and recyclables collection services and other matters requiring attention in the reporting period. The monthly report is vetted by EPD and the operator is paid based on actual work done detailed in the report. In addition, according

Note 7: *For a CGS, the fixed lump sum includes setting up for the station and recyclables collection, such as procurement and installation of furniture and equipment at the station and recyclables collection points at housing estates and public places.*

Note 8: *The monthly payment includes fees for management of facilities and for actual quantity of services provided in a particular month in accordance with the prices set out by the operator under the contract. Services include recyclables collection (payment based on tonnage of recyclables collected) and educational services (payment based on number of educational events held).*

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to EPD, in order to enhance transparency and to proactively solicit feedback, the operator is required to publish a quarterly report on its work. The operator is also required to submit annual audited financial statements and an annual summary of monthly reports to EPD;

- (b) ***Inspection.*** To monitor the performance and operation of CGSs, EPD staff periodically conduct inspections of recyclables collection services, educational services and facilities of CGSs; and
- (c) ***Stakeholder feedback.*** Under the operating contracts, each CGS operator is required to engage with stakeholders on a regular basis to keep them informed regarding its CGS, including its objectives, services, achievements and programmes. According to EPD, it assesses the public acceptance of the CGS initiative and the community's satisfaction on a particular CGS based on stakeholder feedback which provides reference on areas of improvement or suggestions on work priority for CGS operators to follow up.

Responsible division of EPD

1.11 Development and monitoring of CGSs fall under the responsibility of EPD's Waste Management Policy Division (see Appendix A for an extract of EPD's organisation chart as at 31 October 2019). As of October 2019, 13 of 80 staff in the Waste Management Policy Group under the Waste Management Policy Division were tasked for management of CGSs, and their related staff expenditure for 2018-19 was about \$13 million.

Audit review

1.12 In October 2019, the Audit Commission (Audit) commenced a review to examine the Government's efforts in provision and management of CGSs. The audit review has focused on the following areas:

- (a) provision of CGSs (PART 2);
- (b) services provided by CGSs (PART 3); and

- (c) other management issues (PART 4).

Audit has found room for improvement in the above areas, and has made a number of recommendations to address the issues.

Acknowledgement

1.13 Audit would like to acknowledge with gratitude the full cooperation of the staff of ENB, EPD and ArchSD during the course of the audit review.

PART 2: PROVISION OF COMMUNITY GREEN STATIONS

2.1 This PART examines actions taken by EPD and ArchSD in provision of CGSs, focusing on:

- (a) development of CGSs (paras. 2.2 to 2.8); and
- (b) management of works projects (paras. 2.9 to 2.24).

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2.2 The 2014 Policy Address announced the development of a CGS in each of the 18 districts. According to EPD:

- (a) each CGS is a purpose-built facility;
- (b) in general, a suitable CGS site should preferably have a site area of no less than 1,500 m² and should as far as practicable be conveniently located so as to facilitate visits by local residents; and
- (c) when identifying locations for the development of CGSs, the Government will strike an appropriate balance between facilitating collection of recyclables and minimising possible environmental impacts on nearby residents.

2.3 EPD is the project proponent for CGSs and ArchSD acts as the works agent for implementation of CGS projects. The procedures in developing a CGS are, in general, as follows:

- (a) ***Site search, consultation and feasibility study.*** EPD will conduct site search to identify a suitable site for development of CGS. After a suitable site has been identified, EPD will conduct consultation with local communities and the relevant District Council (DC). ArchSD will carry

out technical feasibility study and preliminary design upon receiving the proposal from EPD;

- (b) ***Land allocation and funding approval.*** After obtaining local support and completion of feasibility study, EPD will formally apply for land allocation for CGS (by way of temporary government land allocation for a five-year period subject to further extension). After obtaining approval for land allocation, funding approval will be sought for the construction of CGS (see para. 2.9); and
- (c) ***Detailed design and implementation of works.*** After obtaining funding approval, ArchSD will arrange to carry out detailed design and implement the construction works of CGS. After the works have been completed, ArchSD will hand over the CGS to EPD for commencement of operation.

Need to make continued efforts to address challenges faced in developing CGSs

2.4 In January 2014, ENB informed LegCo Panel on Environmental Affairs that the setting up of 18 CGSs would involve an estimated capital expenditure of about \$400 million, and it estimated that all 18 CGSs would be completed by phases in the following three years (i.e. from 2015 to 2017). However, the estimated timeframe for completing the 18 CGSs by 2017 was not met. As of February 2020:

- (a) for the 11 CGSs with approved funding (see also paras. 2.9 to 2.24 for management of works for these projects):
 - (i) construction works of 9 (50% of 18) CGSs had been completed (Note 9), with 6 CGSs completed between 2015 and 2017, and 3 CGSs completed in 2018; and
 - (ii) for 2 (11% of 18) CGSs (i.e. Sai Kung and Wan Chai), construction works were in progress; and

Note 9: *For the 9 completed CGSs, 8 CGSs (i.e. Sha Tin, Eastern, Kwun Tong, Yuen Long, Sham Shui Po, Tuen Mun, Kwai Tsing and Tai Po) had commenced operation as of December 2019 and 1 CGS (i.e. Islands) will commence operation in the second quarter of 2020.*

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- (b) for the remaining 7 (39% of 18) CGSs (i.e. Central and Western, Kowloon City, North, Southern, Tsuen Wan, Wong Tai Sin and Yau Tsim Mong), they were at planning or site selection stage.

2.5 According to EPD and ArchSD, for the 7 CGSs at planning or site selection stage (see para. 2.4(b)):

CGS with suitable site identified (i.e. at advanced planning stage)

- (a) **Wong Tai Sin.** EPD had identified a suitable site for CGS development and support from DC was obtained in June 2019. According to EPD, the site was expected to be available by end of 2020;

CGSs with suitable sites yet to be identified (i.e. at site selection stage)

- (b) **Central and Western.** In 2016, EPD identified a potential site for CGS development. In 2018, the site was considered not suitable due to site constraints as identified in feasibility study. As of February 2020, no alternative sites had been identified;
- (c) **Kowloon City.** In February 2019, EPD identified a potential site for CGS development. In January 2020, ArchSD informed EPD that the site was not feasible for CGS development. As of February 2020, no alternative sites had been identified;
- (d) **North.** In March 2016, EPD identified a potential site for CGS development. In March 2020, EPD informed Audit that an alternative site needed to be identified due to competing uses; and
- (e) **Southern, Tsuen Wan and Yau Tsim Mong.** Between 2014 and 2016, EPD consulted the relevant stakeholders, including DCs, on the proposed sites but concerns were raised over the sites proposed. As of February 2020, no alternative sites had been identified.

2.6 In March 2020, EPD informed Audit that:

- (a) the identification of a suitable site for development of a CGS in each of the 18 districts had met with great practical challenges, as follows:
 - (i) there were difficulties in identifying vacant sites at convenient locations with sufficient site area in many districts. Very often such sites had other competing uses to meet other policy priorities (e.g. transport infrastructure) and/or local community needs (e.g. parking);
 - (ii) upon identification of a potential site after prolonged consultation with stakeholders, it would still take a long time before the project could be proceeded. EPD, in collaboration with ArchSD, would need to establish the feasibility for development of CGS at the site, taking into account various factors (e.g. compatibility with existing and/or planned land uses around the potential site) and other specific site constraints (e.g. geotechnical conditions, underlying utilities and infrastructures); and
 - (iii) subsequently, EPD would consult the local stakeholders again on the CGS development. In many cases, EPD had spent considerable time and effort to address specific concerns raised by the local communities. In some cases, due to local objection to the CGS project, an alternative site had to be identified again; and
- (b) as of February 2020, there were six districts (see para. 2.5(b) to (e)) in which no suitable sites could be secured for development of CGSs. In light of the long lead time for site identification, EPD was exploring alternative ways to expedite the delivery of the core services of CGSs (i.e. waste reduction education/promotion and collection of low-value recyclables) in these six districts, including:
 - (i) engaging CGSs in adjacent districts to provide educational support and establish mobile collection services; and
 - (ii) establishing smaller community recycling centres in the six districts to collect recyclables.

Audit recommendation

2.7 Audit has *recommended* that the Director of Environmental Protection should make continued efforts to address the challenges faced in the development of the remaining CGSs (including identification of suitable sites) and expedite actions in exploring alternative ways to deliver core CGS services for districts with no CGSs.

Response from the Government

2.8 The Director of Environmental Protection agrees with the audit recommendation.

Management of works projects

2.9 ArchSD is EPD's works agent for implementation of CGS projects, which are funded under block votes for Category D projects in the Public Works Programme under CWRP, as follows:

- (a) the construction works of Sha Tin and Eastern CGSs (being the first two pilot CGS projects) were funded under the block vote for minor building works (Head 703 (Buildings), Subhead 3101GX controlled by ArchSD — Note 10) of CWRP; and
- (b) the construction works of other CGSs are funded under the block vote for environmental works (Head 705 (Civil Engineering), Subhead 5101DX controlled by EPD — Note 11) of CWRP.

Note 10: *Minor building works (including alterations, additions, improvement works and fitting-out works) are funded under this block vote (Head 703, Subhead 3101GX). The Deputy Secretary for Financial Services and the Treasury (Treasury)³, on the advice of the Accommodation Strategy Group, is authorised to approve funding of projects not exceeding \$30 million each.*

Note 11: *Environmental works, studies and investigations (including minor works, feasibility studies and site investigations in respect of waste management and environmental works) are funded under this block vote (Head 705, Subhead 5101DX). The Permanent Secretary for the Environment is authorised to approve funding of projects not exceeding \$30 million each.*

2.10 In general, ArchSD implemented CGS projects through its in-house resources if available, and also term consultants, term contractors and design-and-build term contractors which had been engaged by open tenders. For the 11 CGSs with funding approved as of December 2019 (see para. 1.6(a)), the projects were implemented as follows:

- (a) for Sha Tin CGS (being the first pilot CGS project), it was designed by ArchSD's in-house design team in order to meet the programme urgency, and the works were carried out by a contractor engaged through open tender;
- (b) for Kwun Tong and Yuen Long CGSs, ArchSD issued assignment letters and works orders to the term consultants and term contractors respectively for project implementation; and
- (c) for the other CGSs, ArchSD assigned the projects to design-and-build term contractors. The contractors were required to design and carry out the construction works.

ArchSD is responsible for administering consultancy agreements and works contracts (including issuing assignment letters and works orders, monitoring the progress, cost and quality of works, certifying completion of works and arranging handover of completed works to EPD).

Delay in completing construction works of some CGSs

2.11 For the 11 CGSs with funding approved for implementation as of December 2019 (see para. 1.6 (a)), as shown in Table 3, Audit noted that:

- (a) for the 9 CGSs with construction works completed, they were completed about 1.5 to 14 months later than their respective original contract completion dates; and
- (b) for the 2 CGSs with construction works in progress, as of December 2019, they had already missed their original contract completion dates by about 2.8 and 12.9 months respectively.

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Table 3

Implementation of construction works of CGSs (December 2019)

CGS	Works commencement date	Original contract completion date (a)	Actual completion date (b)	No. of months later than original contract completion date (c) = [(b)-(a)]÷30
Works completed (Note 1)				
1. Sha Tin	29.4.2014	14.12.2014	29.1.2015	1.5
2. Eastern	12.3.2014	27.2.2015	5.5.2015	2.2
3. Kwun Tong	17.6.2015	16.4.2016	10.11.2016	6.9
4. Yuen Long	16.7.2015	16.6.2016	16.11.2016	5.1
5. Sham Shui Po	19.10.2015	18.1.2017	21.9.2017	8.1
6. Tuen Mun	10.12.2015	4.5.2017	29.12.2017	8.0
7. Kwai Tsing	3.3.2016	25.7.2017	18.7.2018	11.9
8. Tai Po	30.5.2016	21.10.2017	22.11.2018	13.2
9. Islands	20.5.2016	11.10.2017	5.12.2018	14.0
Works in progress (Note 2)				
10. Sai Kung	17.7.2017	8.12.2018	In progress	12.9
11. Wan Chai	14.5.2018	7.10.2019	In progress	2.8

Source: ArchSD records

Note 1: According to ArchSD, for the 9 CGSs with works completed, there was delay in completion of works for only 3 CGSs (i.e. 1 month for Sham Shui Po CGS, 1.4 months for Tuen Mun CGS and 5 months for Kwai Tsing CGS) after taking into account extensions of time granted (see para. 2.12).

Note 2: For Sai Kung and Wan Chai CGSs, as the construction works were in progress, the duration of 12.9 and 2.8 months showed the position as of December 2019. In March 2020, ArchSD informed Audit that the completion dates for Sai Kung and Wan Chai CGSs had been extended to January and February 2020 respectively with extensions of time granted.

2.12 In March 2020, ArchSD informed Audit that:

- (a) for the 9 CGSs with works completed, the contractors were granted extensions of time (ranging from 1.5 to 14 months) for completion of works later than the original contract completion dates. After consideration of extensions of time granted, there was delay in completion of works for only 3 CGSs (i.e. Sham Shui Po, Tuen Mun and Kwai Tsing CGSs), with delay of 1 month, 1.4 months and 5 months respectively;
- (b) major incidents leading to granting extensions of time in accordance with the contract provision included unforeseen underground obstructions requiring changes of layout or diversion of utilities to resolve the conflict, and longer time required for completing utilities supply or drainage connections from connecting points outside project sites. In some of these cases, works completion was significantly affected by the need to carry out excavation works along a long section of busy road, which was unanticipated and required application of an excavation permit with complex coordination with relevant parties for temporary traffic management; and
- (c) liquidated damages were imposed on the contractor for Sham Shui Po and Tuen Mun CGSs and would be imposed on the contractor for Kwai Tsing CGS in accordance with the contract conditions based on the extent of delay after considering all extensions of time.

2.13 Audit noted that, for the 9 CGSs with works completed, there was delay in completion of works for 3 CGSs (see para. 2.12(a)). In Audit's view, ArchSD needs to monitor the works progress and endeavour to complete the works as soon as practicable in implementing the construction works of CGS projects.

Construction works carried out before approval of related drawings and not in accordance with the approved drawings

2.14 According to EPD, to meet operational needs, each CGS should have space for temporary storage of recyclable materials and simple operations (see para. 1.5(b)). Audit noted that, for two CGSs (i.e. Sham Shui Po and Tuen Mun CGSs), the construction works were carried out before the approval of the related drawings and not in accordance with the approved drawings. In the event, the

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sorting areas in the storage blocks were built with floor areas less than those specified by EPD (see paras. 2.15 to 2.17).

2.15 In October 2015, ArchSD issued a works order to a design-and-build term contractor (Contractor A) for construction of a CGS in Sham Shui Po. According to EPD's requirements, there should be a storage block in Sham Shui Po CGS with a sorting area of 24.84 m² (with width of 4.6 metres (m) and length of 5.4 m) for installation and operation of a baling machine (Note 12). EPD's area requirements for the baling machine had been incorporated into the design-and-build contract as a contract requirement.

2.16 Regarding the sorting area for installation of a baling machine, the salient points are as follows:

- (a) in September 2016, ArchSD approved Contractor A's architectural drawings (Note 13) for the storage block for Sham Shui Po CGS. In December 2016, ArchSD reminded Contractor A to submit the outstanding structural drawings for the storage block for approval before commencement of the related works. In January 2017, ArchSD noted that erection of the main structural steel frame of the sorting area in the storage block had been completed before the related structural drawings were approved by ArchSD. ArchSD warned Contractor A that it would be held responsible for any delay that might occur if the works were later found to be unacceptable;
- (b) in February and March 2017, ArchSD conducted site inspections of Sham Shui Po CGS and noted that due to obstruction by additional steel

Note 12: *A baling machine is used for compacting similar types of waste, such as plastics and paper. The floor area specified by EPD was able to accommodate a baling machine with capacity of up to 100 tonnages (i.e. baling machine with width of 1.6 m and length of 1.3 m) as well as clear space for operation.*

Note 13: *According to ArchSD, Contractor A had to submit architectural drawings (i.e. layout plans showing the design of the buildings) and structural drawings (i.e. plans showing the details of the structural works in accordance with the approved architectural drawings, such as installation works of structural steel) before commencement of works.*

strengthening posts which were not shown on the approved architectural drawings, the space within the sorting area for the baling machine in the storage block might be inadequate. Contractor A was warned and urged to propose remedial measures for consideration by ArchSD;

- (c) ArchSD also noted that, for Tuen Mun CGS which was also built by Contractor A, construction of the structural steel frame of the sorting area in the storage block was completed before approval of the related structural drawings, and additional steel strengthening beams which were not shown on the approved architectural drawings were constructed in the sorting area;
- (d) in March 2017, ArchSD:
 - (i) informed EPD that the built floor areas for baling machines in both Sham Shui Po and Tuen Mun CGSs were less than EPD's requirements; and
 - (ii) while Contractor A's remedial proposals were being considered, in order not to have adverse effects on the overall progress and project completion, suggested EPD to liaise with the future operators and consider the viability of selecting baling machines that could be accommodated within the as-built areas;
- (e) after subsequent site visits and discussion with the operators, with due regard to the impacts on the programme and building design, EPD informed ArchSD that baling machines of a smaller size and capacity (of 60 tonnages — Note 14) were acceptable and would be installed in both CGSs to prevent further delay in CGS handover;
- (f) in September and December 2017, the construction works for Sham Shui Po and Tuen Mun CGSs were completed respectively; and

Note 14: *According to the tender requirements for the operating contracts of Sham Shui Po and Tuen Mun CGSs, each operator was required to install a baling machine with recommended capacity of 60 tonnages or higher. The original floor area specified by EPD was able to accommodate a baling machine with capacity of up to 100 tonnages (see Note 12 to para. 2.15).*

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- (g) in March 2020, ArchSD informed Audit that the arrangement of installing baling machines of a smaller size and capacity in both Sham Shui Po and Tuen Mun CGSs was considered pragmatic as it would avoid further delay in handing over the CGSs, and Contractor A's unsatisfactory performance was duly reflected in its performance reports.

2.17 According to the contract for the construction of Sham Shui Po and Tuen Mun CGSs, the related drawings should be approved by ArchSD before commencement of works and the works should be carried out according to the approved drawings. However, for the two CGSs, construction of the structural steel frame of the sorting areas in the storage blocks was completed before ArchSD's approval of the related drawings and not in accordance with the approved drawings (see para. 2.16(a) and (c)). In the event, EPD's area requirements for installation of baling machines (see para. 2.15) were not met and baling machines of a smaller size and capacity were installed at both CGSs (see para. 2.16(e)). In Audit's view, ArchSD needs to strengthen actions to ensure that contractors comply with the contract requirements of carrying out construction works after approval of the related drawings and in accordance with the approved drawings.

Need to draw lessons from various facility problems encountered after some CGSs had commenced operation

2.18 Audit noted that after some CGSs had commenced operation, works were carried out for tackling various facility problems, as follows:

- (a) for Sha Tin CGS, works were needed for tackling water leakage problems at the roofs of buildings and flushing problems in the toilets (see paras. 2.19 and 2.20); and
- (b) for Eastern CGS, works were needed for tackling stagnant water problems on roofs of buildings (see para. 2.21).

2.19 ***Water leakage problems at Sha Tin CGS.*** After Sha Tin CGS commenced operation in May 2015, water leakage was observed at various facilities. The salient points are as follows:

- (a) in December 2015, EPD requested ArchSD to carry out water proofing works at the roof of the office block as water leakage had been observed. In January 2016, ArchSD visited the CGS with EPD. In March 2016, EPD reported that water leakage had also been found at the roof of a multi-purpose room. In October 2016, repair and water proofing works were completed at a cost of about \$196,000;
- (b) in August 2016, EPD reported that water leakage had been observed at the roofs of the storage block and another multi-purpose room. In January 2017, water leakage was also observed at the roof of the toilet block. In April 2017, water proofing works were completed at a cost of about \$128,000; and
- (c) in January 2018, EPD reported that water leakage had been observed at the roof of the toilet block. After its inspection, ArchSD considered that enhancement works for the toilet block were necessary. In July 2019, enhancement works were completed at a cost of about \$3,000. In March 2020, ArchSD informed Audit that no further incident of leakage had been noted since July 2019.

In Audit's view, ArchSD needs to draw lessons from the water leakage problems at Sha Tin CGS with a view to improving the implementation of CGS projects.

2.20 *Toilet flushing problems at Sha Tin CGS.* The salient points are as follows:

- (a) in December 2016, EPD informed ArchSD that the flushing system of the toilets in Sha Tin CGS was not functioning properly, causing hygiene problems. EPD and ArchSD conducted a joint inspection in January 2017 and found that the problem was caused by a defective flushing water cistern. EPD agreed to follow up with the operator to rectify the defective flushing water cistern;
- (b) in November 2017, EPD expressed concerns on the provision of flushing water at the toilets, and that the CGS operator had to use fresh water for flushing in order to upkeep the hygiene standard. During the subsequent inspection in January 2018, ArchSD found that the electronic operated flushing valves were out of order. Replacement works were arranged

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and completed in April 2018 and the flushing water supply resumed normal afterwards;

- (c) in May 2018, since there was no flushing water supply to the toilets, the CGS operator had to use fresh water for flushing purpose. According to ArchSD, after investigation, it had arranged to clear the blocked flushing water pipes and the flushing water supply resumed normal afterwards;
- (d) in July 2018, in view of the repeated requests for repairing the flushing system of the toilets, ArchSD proposed to EPD to install an additional pumping system to improve the water pressure in the flushing system. The design of the enhancement proposal was accepted by EPD in November 2018 and ArchSD then commenced the preparatory work;
- (e) in March 2019, ArchSD issued works orders to a term contractor for carrying out the installation of the additional pumping system in the toilets with a total cost of about \$202,000;
- (f) in October 2019, the installation of the additional pumping system was completed. According to ArchSD, the construction of the enclosure to protect the pumping system for operational needs was yet to be completed;
- (g) in January 2020, Audit conducted a site visit to Sha Tin CGS and found that the toilets were not functioning properly and fresh water was used for flushing purpose; and
- (h) in March 2020, ArchSD informed Audit that, after completion of the construction of the enclosure, the pumping system was put into use and the flushing water supply resumed with enhanced performance in February 2020.

In Audit's view, it was unsatisfactory that the flushing problems in Sha Tin CGS had not been fully resolved for more than three years after EPD first reported the problems to ArchSD in December 2016. ArchSD needs to draw lessons from the toilet flushing problems at Sha Tin CGS with a view to improving the implementation of CGS projects.

2.21 *Stagnant water problems at Eastern CGS.* After Eastern CGS commenced operation in August 2015, stagnant water problems were observed. The salient points are as follows:

- (a) in May 2016, EPD and the CGS operator raised concerns about stagnant water being found occasionally on the rooftops of storage blocks and workshop building after raining. In addition, dripping of rainwater from the roof edge over the workshop building was observed, thus affecting the CGS's operation;
- (b) in July 2016, ArchSD considered that the roofs of the related buildings were not high and could be safely accessed by ladder and suggested EPD to explore if certain proprietary ladder platform meeting the required industrial safety standard could be provided for cleansing staff to clear the stagnant water on the rooftops when needed. However, the proposal was not adopted as the CGS operator had raised operation concerns;
- (c) in December 2016 and January 2017, EPD requested ArchSD to reconsider providing long-term architectural solution to resolve the stagnant water problems;
- (d) in March 2017, at a regular coordination meeting between ArchSD and EPD, it was agreed that artificial grass mat on the roofs of the related buildings could be installed to resolve the stagnant water problem. According to EPD, it had verbally informed the CGS operator about the proposal of installing artificial grass mat on the related roofs;
- (e) on 17 May 2017:
 - (i) ArchSD awarded a contract to a contractor (Contractor B) to carry out the installation of artificial grass mat and metal fin on the roofs of the related buildings to resolve the stagnant water and water dripping problems respectively, with works commencing on the same day;
 - (ii) the CGS operator informed EPD of its objection to the proposal of installing artificial grass mat due to maintenance concerns, and EPD requested ArchSD to consider suspending the installation of artificial grass mat; and

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- (iii) ArchSD informed Contractor B to withhold the installation works pending further review of the design with EPD;
- (f) in December 2017, ArchSD proposed and both EPD and the CGS operator agreed to use lightweight concrete screed over the roofs of the related buildings to resolve the stagnant water situation; and
- (g) in March 2018, the works were completed at a total cost of about \$735,000. According to ArchSD, the total cost included a deposit payment of about \$51,000 for the purchase of materials for artificial grass mat (based on the original design) which was not recoverable.

In Audit's view, ArchSD needs to draw lessons from the stagnant water problems at Eastern CGS with a view to improving the implementation of CGS projects. ArchSD also needs to, in collaboration with EPD, liaise closely with CGS operators on proposed works at CGSs with a view to improving communications.

Audit recommendations

2.22 Audit has *recommended* that the Director of Architectural Services should:

- (a) **monitor the works progress and endeavour to complete the works as soon as practicable in implementing the construction works of CGS projects;**
- (b) **strengthen actions to ensure that contractors comply with the contract requirements of carrying out construction works after approval of the related drawings and in accordance with the approved drawings;**
- (c) **draw lessons from the problems of water leakage and toilet flushing at Sha Tin CGS and stagnant water at Eastern CGS with a view to improving the implementation of CGS projects; and**
- (d) **in collaboration with the Director of Environmental Protection, liaise closely with CGS operators on proposed works at CGSs with a view to improving communications.**

Response from the Government

2.23 The Director of Architectural Services agrees with the audit recommendations. She has said that ArchSD will:

- (a) in implementing the construction works of CGS projects, monitor the works progress and endeavour to complete the works as soon as practicable according to programme;
- (b) in implementing the construction works of CGS projects, strengthen monitoring actions on the contractors' site works and take appropriate action to avoid works being carried out before approval of relevant design drawings and to ensure compliance of works with the approved design drawings;
- (c) share the experience about the enhancement works carried out for CGSs after operation with ArchSD staff with a view to improving the implementation of future CGS projects; and
- (d) collaborate with EPD in liaising closely with CGS operators for the proposal of enhancement works at CGSs, if any, to ensure their clear understanding and timely confirmation of agreement before implementing the works.

2.24 The Director of Environmental Protection agrees with the audit recommendation in paragraph 2.22(d).

PART 3: SERVICES PROVIDED BY COMMUNITY GREEN STATIONS

3.1 This PART examines EPD's actions in monitoring the services provided by CGSs, focusing on:

- (a) environmental educational services (paras. 3.4 to 3.16);
- (b) recyclables collection services (paras. 3.17 to 3.34); and
- (c) visitors' patronage of CGSs (paras. 3.35 to 3.45).

3.2 EPD appoints NGOs to operate CGSs by way of open tender, and the operating contracts are generally for a period of three years. According to the operating contracts, CGS operators should provide services including educational services, recyclables collection services and management of the facility, and the services should meet the following objectives:

- (a) to promote environmental education and awareness;
- (b) to provide a collection service for prescribed recyclables for the local community;
- (c) to foster recycling at a local community level; and
- (d) to provide accessible and visible support for green living at the community level.

3.3 The operating contracts set out the services that CGS operators are required to deliver in the contract period and the performance indicators (e.g. number of educational events to be provided and quantities of recyclables to be collected). If a CGS operator fails to deliver the services as required, it should provide explanations and submit a remedial action plan for EPD's approval. Otherwise, EPD will be entitled to withhold payments to the operator.

Environmental educational services

3.4 The main function of CGSs is to promote environmental education with various publicity and public educational programmes that target at local residents of different status and background. CGS operators are required to provide educational services to meet the following objectives:

- (a) to promote environmental education and awareness, and to foster waste reduction and recycling; and
- (b) to enhance community involvement in environmental, conservation and green living issues.

3.5 According to the operating contracts, CGS operators should provide the following three types of educational events (Note 15):

- (a) ***Regular educational events.*** A regular educational event means an event of at least one hour and attended by not fewer than the specified minimum number of participants (Note 16) to promote environmental education and/or green living and/or sustainability. For operating contracts commencing since November 2017, regular educational events are further separated into two types, namely on-site regular educational events (conducted within CGS premises — see Photograph 4 for an example) and outreach regular educational events (conducted outside CGS premises and outreaching to target groups, such as schools — see Photograph 5 for an example);

Note 15: *According to the operating contracts: (a) in principle, CGS operators should provide educational events free of charge to the participants; and (b) in special cases (e.g. where special speakers are invited or expensive materials are involved), subject to approval by EPD, the operators may collect charges from participants for the events in the principle of non-profit-making.*

Note 16: *For the eight CGSs which commenced operation between 2015 and 2019, under their operating contracts as of October 2019, the minimum number of participants required for each regular educational event was 10 people for three CGSs (i.e. Kwun Tong, Yuen Long and Sham Shui Po CGSs) and 20 people for the other five CGSs (i.e. Sha Tin, Eastern, Tuen Mun, Kwai Tsing and Tai Po).*

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- (b) ***Featured educational events.*** A featured educational event means a large scale public event of at least 6 hours to engage the public, and promote environmental education and/or green living and/or sustainability (Note 17) (see Photograph 6 for an example); and
- (c) ***Special community events.*** For operating contracts commencing since November 2017, CGS operators are required to organise special community events. A special community event means an event or a series of activities to engage the public and/or organisations and to provide education and collect unwanted but usable items from the public for distribution, donation or sales of such for reuse by others (see Photograph 7 for an example). Each event has to meet a minimum collection requirement of 500 kilograms (kg) of reusable items (Note 18).

Photograph 4

**On-site regular educational event
held by Sham Shui Po CGS
(May 2019)**



Source: EPD records

Photograph 5

**Outreach regular educational event
held by Eastern CGS
(March 2019)**



Source: EPD records

Note 17: *A featured educational event may include a full-day programme (minimum 6 hours) to promote waste recycling/green education (e.g. an “Environmental Fair”) and activities including educational games, booths promoting green education/sustainable products and an exchange programme where recyclables would be exchanged for a gift.*

Note 18: *Examples of special community events are collecting unwanted but usable items discarded by students before they leave their hostels for summer vacation and arranging the exchange and distribution of such items, and collecting used clothes from the public for distribution, donation or sales to others.*

Photograph 6

Featured educational event
held by Sha Tin CGS
(January 2019)



Source: EPD records

Photograph 7

Special community event
held by Eastern CGS
(August 2019)



Source: EPD records

***Minimum quantity requirements for educational events
not met by some CGSs***

3.6 According to the operating contracts, there is a minimum quantity requirement on the number of different types of educational events provided by a CGS operator in each contract year (see Appendix B). For the seven CGSs which commenced operation between 2015 and 2018 (see items 1 to 7 in Table 2 in para. 1.8), Audit noted that, for the first contract year under the current operating contracts of Sha Tin CGS (24 November 2017 to 23 November 2018) and Tuen Mun CGS (1 June 2018 to 31 May 2019), the number of outreach regular educational events and special community events held fell short of the minimum quantity requirements by 40% to 67% (see Table 4).

Table 4

**Minimum quantity requirements for educational events
not met by two CGSs
(November 2017 to May 2019)**

CGS	Contract period	Type of educational events (Note 1)	Educational events (No.)		
			Minimum requirement (a)	Actual (Note 2) (b)	Below minimum requirement (c) = (a) – (b)
Sha Tin	24.11.2017 to 23.11.2018	Outreach regular educational events	40	24	16 (40%)
		Special community events	4	2	2 (50%)
Tuen Mun	1.6.2018 to 31.5.2019	Outreach regular educational events	25	13	12 (48%)
		Special community events	3	1	2 (67%)

Source: EPD records

Note 1: The requirements of outreach regular educational events (see para. 3.5(a)) and special community events (see para. 3.5(c)) were introduced for contracts commencing since November 2017. As of June 2019, there were four CGSs (i.e. Sha Tin, Eastern, Kwai Tsing and Tuen Mun CGSs) with these requirements imposed for more than one year.

Note 2: The number of educational events actually held refers to those satisfying the relevant performance requirements (e.g. number of participants and quantity of recyclables received).

3.7 In March 2020, EPD informed Audit that:

- (a) as the outreach regular educational events and special community events were new contract requirements introduced in November 2017, the operators of Sha Tin and Tuen Mun CGSs both met unexpected difficulties in fulfilling the new requirements;

- (b) for regular educational events, the local community was more interested in on-site events rather than outreach ones, resulting in more of the former being organised. While both operators did not meet the specific quantity requirement for outreach regular educational events, the total number of regular educational events (including both on-site and outreach events) held met the overall quantity requirements, as follows:
 - (i) for Sha Tin CGS, in the contract year from 24 November 2017 to 23 November 2018, the total number of regular educational events held was 120 (comprising 96 on-site and 24 outreach events), which met the minimum quantity requirement of 120 (comprising 80 on-site and 40 outreach events); and
 - (ii) for Tuen Mun CGS, in the contract year from 1 June 2018 to 31 May 2019, the total number of regular educational events held was 88 (comprising 75 on-site and 13 outreach events), which exceeded the minimum quantity requirement of 75 (comprising 50 on-site and 25 outreach events);
- (c) for special community events, which involved the collection of recyclables (e.g. books, clothes, furniture and electrical appliances) for subsequent exchange or donation activities, both operators took much longer-than-expected time to complete the planned events. The operator of Tuen Mun CGS also encountered unexpected situation, such as insufficient storage area for second-hand furniture, which resulted in some events not completed as planned. EPD had closely monitored the progress and agreed to allow both operators a longer period for completing these events, and their progress was as follows:
 - (i) for Sha Tin CGS, in the contract year from 24 November 2017 to 23 November 2018, the operator launched four special community events (minimum quantity requirement), with two events completed in the same contract year and the remaining two events completed in the following contract year; and
 - (ii) for Tuen Mun CGS, in the contract year from 1 June 2018 to 31 May 2019, the operator launched three special community events (minimum quantity requirement), with one event completed in the same contract year, another one completed in the first month

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of the following contract year and the remaining one in progress as of December 2019;

- (d) EPD had taken measures to monitor the performance of CGS operators in meeting the quantity requirements on educational events, and provided assistance (e.g. publicity and connecting with relevant stakeholders) as necessary; and
- (e) EPD was reviewing the contract requirements for regular educational events, and would consider adopting an overall target for on-site and outreach educational events, to better address the specific situation of individual CGSs.

3.8 In Audit's view, EPD needs to early complete the review of the minimum quantity requirements for educational events (see para. 3.7(e)), having regard to CGS operation and the need of local residents for such services. EPD also needs to share among CGS operators their experience in providing educational services (e.g. difficulties encountered) with a view to facilitating them to provide such services.

Need to disseminate the methodology in counting the number of regular educational events held by CGSs

3.9 Under the operating contracts, only those educational events fulfilling the contract requirements will be qualified for payment (Note 19) and counted in meeting the minimum quantity requirement (hereinafter referred to as qualifying events). For example, a regular educational event should be of at least one hour and attended by not fewer than the specified minimum number of participants (see para. 3.5(a)). CGS operators will include in the monthly reports the details of all educational events held or cancelled during the month (e.g. date, duration, type of event and number of participants). EPD will check the monthly reports and confirm the number of qualifying events.

Note 19: *The payment is based on the numbers of different types of educational events held and the prices of the corresponding events set out by the operator under the contract.*

3.10 Audit examined the monthly reports of three CGSs (i.e. Eastern, Kwun Tong and Sha Tin CGSs) from January to June 2019, and noted that different methodologies were used by EPD in counting the number of regular educational events qualified for payment. For example, for regular educational events of the same content held on the same day for participants from the same organisation (see Table 5):

- (a) for two classes held at the same time slot, EPD counted them as two qualifying events (see Case A);
- (b) for two classes held at different time slots, EPD counted them as one qualifying event in one case (see Case B) and two qualifying events in another case (see Case C); and
- (c) for four classes held at two different time slots, EPD counted them as four qualifying events in one case (see Case D) and two qualifying events in another case (see Case E).

Table 5

**Different methodologies in counting the number of
regular educational events
(January to June 2019)**

Class (Note 1)	Time (Duration)	No. of participants (Note 2)	Counted as one qualifying event by EPD
Case A (Sha Tin CGS) on 20 February 2019			
1.	10:00 – 11:30 (1.5 hours)	28	Yes
2.	10:00 – 11:30 (1.5 hours)	28	Yes
Case B (Kwun Tong CGS) on 15 March 2019			
1.	09:30 – 10:30 (1 hour)	36	Yes
2.	10:35 – 11:40 (1 hour 5 minutes)	32	No
Case C (Kwun Tong CGS) on 29 June 2019			
1.	10:00 – 12:00 (2 hours)	60	Yes
2.	15:00 – 17:00 (2 hours)	16	Yes
Case D (Eastern CGS) on 22 January 2019			
1.	10:50 – 12:10 (1 hour 20 minutes)	28	Yes
2.	10:50 – 12:10 (1 hour 20 minutes)	22	Yes
3.	13:00 – 14:20 (1 hour 20 minutes)	22	Yes
4.	13:00 – 14:20 (1 hour 20 minutes)	27	Yes
Case E (Sha Tin CGS) on 19 March 2019			
1.	10:00 – 11:30 (1.5 hours)	29	Yes
2.	10:00 – 11:30 (1.5 hours)	31	Yes
3.	14:00 – 15:30 (1.5 hours)	28	No
4.	14:00 – 15:30 (1.5 hours)	28	No

Source: EPD records

Note 1: In each case, based on the monthly reports of the CGS operators, all the classes having the same content were conducted for participants from the same organisation on the same day.

Note 2: The number of participants for all classes met the minimum number of participants required for each regular educational event (i.e. at least 10 or at least 20 people).

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3.11 In March 2020, EPD informed Audit that:

- (a) a large number of regular educational events had been organised by the operator of Sha Tin CGS (which also operated Kwun Tong CGS) in the initial operation period. EPD followed up with the operator with a view to achieving better use of available resources to meet all core services of CGS operation;
- (b) EPD and the operator then mutually agreed (through an e-mail from EPD to the operator in July 2016) that if members of a particular organisation joined regular educational events at different timeslots on the same day, only one regular educational event would be qualified for payment, so as to enhance the coverage of educational services to different users. The counting of events for subsequent payment was then based consistently on the agreement with the operator of Sha Tin CGS; and
- (c) for Case C, while the related monthly report indicated that the two classes were held for the same organisation, the participants were in fact from five schools (i.e. the two classes were requested by the organisation on behalf of the schools). Therefore, the two classes were counted as two qualifying educational events.

3.12 Audit noted that EPD had documented the agreed methodology for counting the number of regular educational events in an e-mail with the operator of Sha Tin CGS in July 2016 (see para. 3.11(b)). However, as the agreed methodology may also be applicable to other CGSs, and the payment to CGS operators and the compliance with the minimum quantity requirement are based on the number of qualifying educational events, in Audit's view, EPD needs to disseminate the methodology in counting the number of educational events held by CGSs to its staff and CGS operators, with a view to standardising the practice and facilitating operators' organisation of such events.

Scope for improving evaluation of educational events

3.13 According to EPD:

- (a) some CGS operators had conducted feedback surveys of participants for selected events; and
- (b) there was no specific contract requirement for CGS operators to conduct feedback survey for each educational event, and so the operators did not need to pass those feedback forms to EPD in regular reporting.

3.14 In Audit's view, since feedback surveys of participants provide useful information for evaluation of educational events held by CGSs, EPD needs to require CGS operators to conduct feedback surveys of participants for educational events held (e.g. including the requirement of conducting feedback surveys in operating contracts).

Audit recommendations

3.15 **Audit has *recommended* that the Director of Environmental Protection should:**

- (a) **early complete the review of the minimum quantity requirements for educational events, having regard to CGS operation and the need of local residents for such services;**
- (b) **share among CGS operators their experience in providing educational services (e.g. difficulties encountered) with a view to facilitating them to provide such services;**
- (c) **disseminate the methodology in counting the number of educational events held by CGSs to EPD staff and CGS operators, with a view to standardising the practice and facilitating CGS operators' organisation of such events; and**

- (d) **require CGS operators to conduct feedback surveys of participants for educational events held (e.g. including the requirement of conducting feedback surveys in operating contracts).**

Response from the Government

3.16 The Director of Environmental Protection generally agrees with the audit recommendations. She has said that:

- (a) EPD will review the minimum quantity requirements for educational events having regard to the practical constraints faced by CGS operators and the prevailing demand of local residents for such services. It would be more pragmatic to adopt an overall target collectively for on-site and outreach educational events;
- (b) EPD will arrange experience sharing workshops for all CGS operators from time to time;
- (c) while agreeing in principle to adopt a consistent counting method for all CGSs on the number of educational events completed, EPD will review the current counting method, taking into account the experience of different CGSs, and make allowance under the general contract specifications for adoption of an updated counting method; and
- (d) EPD will incorporate the requirement of conducting feedback surveys for regular educational events (where the participants will stay for around one hour) in the operating contracts. EPD will also consider the practicality of conducting feedback surveys for other types of educational events (e.g. educational booths) where the participants only stay for a short time in most cases.

Recyclables collection services

3.17 According to EPD, CGSs help the collection of different types of recyclables, especially those of low economic value (e.g. electrical appliances, computers, glass bottles and rechargeable batteries) in the local community. By focusing their services on the collection of low economic value recyclables, CGSs will serve to supplement the existing services of local private recyclers. Recyclables collection services also help encourage public participation in waste reduction and recovery to increase the quantity of materials recovered, and promote the “recycle clean” concept to enhance the quality of the recyclables.

3.18 According to the operating contracts of CGSs, in principle, in providing recyclables collection services, CGS operators should not compete with local recyclers, local recycling shops and existing recycling programmes. CGS operators should provide recyclables collection services to promote the following objectives:

- (a) to collect and recover materials, that would otherwise be disposed of as waste, for recycling and reuse;
- (b) to increase the recycling and recovery of waste in Hong Kong, and thereby reduce the waste intake into landfills;
- (c) to increase the volume of recyclables collected in Hong Kong and encourage the development of local commercially viable recycling technologies that turn recovered materials into products for material conservation;
- (d) to promote clean recycling and foster sustainability through reduce, reuse and recycle; and
- (e) to enhance community involvement in environmental and conservation issues.

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3.19 ***Categories of recyclables collected.*** CGS operators generally collect two categories of recyclables:

- (a) ***Permitted recyclables.*** CGS operators collect the following permitted recyclables: (i) glass bottles; (ii) household appliances (including electrical and electronic equipment); (iii) computers and accessories; (iv) rechargeable batteries; (v) compacted fluorescent lamps and fluorescent tubes; (vi) paper; (vii) metals; and (viii) plastics; and
- (b) ***Secondary recyclables.*** CGS operators may collect any type of secondary recyclables with EPD's consent, including toner cartridges, old clothing and textiles, books and toys.

3.20 According to EPD:

- (a) in general, the quantity measured for payment purposes should only include permitted recyclables, but not secondary recyclables; and
- (b) under the General and Particular Specifications of the operating contracts, other recyclables, including secondary recyclables, may be considered as permitted recyclables with the agreement of EPD. EPD will give consent to the operators as and when necessary following the operational plans for specific educational events.

3.21 ***Recyclables collection services network.*** According to the operating contracts, CGS operators collect recyclables through the following channels:

- (a) ***In-station collection at CGS.*** CGS operators need to ensure that the station is open during the opening hours to receive, sort and weigh recyclables delivered to the station (see Photograph 8 for an example);
- (b) ***Mobile collection points at public places.*** CGS operators need to maintain not fewer than the specified minimum number of mobile collection points

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(at least three hours at each collection point) at public places per week (Note 20) to collect recyclables (see Photograph 9 for an example). These mobile collection points should be located in suitable locations so as to provide recycling support to areas lacking recycling facilities;

- (c) **Housing collection points.** CGS operators need to connect with housing estates and property management companies in their districts to establish the service network to collect recyclables; and
- (d) **Other facility collection points.** CGS operators need to set up collection points at other suitable sites (e.g. schools and social service organisations) in the districts to collect recyclables.

CGS operators also need to operate collection vehicles for the receipt of recyclables from different collection points.

Photograph 8

Collection of recyclables at Eastern CGS



Source: Photograph taken by Audit staff in November 2019

Note 20: Under the current operating contracts, CGS operators need to maintain not less than 10 mobile collection points at public places per week to collect recyclables, and the 10 collection points should be from 10 different places.

Photograph 9

**Mobile collection point at public place
maintained by Kwun Tong CGS operator**



*Source: Photograph taken by Audit staff in
December 2019*

3.22 According to the operating contracts, CGS operators should reject those recyclables that do not meet the specified acceptance standards (Note 21) and ensure that such unacceptable recyclables are removed from the collection points or CGS. CGS operators are required to ensure that all recyclables collected are sent to suitable recyclers for proper handling and recycling instead of being disposed of at landfills. For secondary recyclables collected, such as used books and old clothing, CGS operators may also distribute them through donation and exchange programmes.

Note 21: *Under the operating contracts, CGS operators should reject recyclables if they: (a) appear to have been tampered with water to increase their weight; (b) are contaminated; (c) are mixed with other waste; (d) do not meet specified requirements imposed by EPD; or (e) do not meet the standards required by the downstream recyclers.*

Minimum tonnage requirements for recyclables collection not met by some CGSs and scope for collecting more types of recyclables

3.23 According to the operating contracts, CGS operators are required to provide recyclables collection services no less than the minimum tonnage requirements of recyclables (see Appendix C — Note 22). For the seven CGSs which commenced operation between 2015 and 2018 (see items 1 to 7 in Table 2 in para. 1.8), Audit noted that for the first contract year under the first operating contract of Sha Tin CGS (24 November 2014 to 23 November 2015), Kwai Tsing CGS (1 June 2018 to 31 May 2019) and Sham Shui Po CGS (1 April 2017 to 31 March 2018), the quantities of recyclables collected fell short of the minimum tonnage requirements by 6% to 39% (see Table 6).

Table 6

**Minimum tonnage requirements for recyclables collection
not met by three CGSs
(November 2014 to May 2019)**

CGS	Contract period	Recyclables collected (Tonnes)		
		Minimum requirement (a)	Actual (b)	Below minimum requirement (c) = (a) – (b)
Sha Tin	24.11.2014 to 23.11.2015	100	94	6 (6%)
Kwai Tsing	1.6.2018 to 31.5.2019	200	161	39 (20%)
Sham Shui Po	1.4.2017 to 31.3.2018	100	61	39 (39%)

Source: EPD records

Note 22: For operating contracts commencing before November 2017, the minimum tonnage requirement only counts the quantities of permitted recyclables collected. For operating contracts commencing since November 2017, the minimum tonnage requirement counts the quantities of both permitted and secondary recyclables collected (see also para. 3.19). According to EPD, the reasons for including secondary recyclables in the minimum tonnage requirement are: (a) to encourage the public to recycle and reuse materials that are in good condition and still usable; and (b) to provide convenient collection channels in the local community to accept usable second-hand materials for circulation in society, so as to cultivate a habit of “Waste Less, Save More”.

3.24 In March 2020, EPD informed Audit that:

- (a) there were specific circumstances leading to the quantities of recyclables collected falling short of the minimum tonnage requirements for the three CGSs (see para. 3.23), such as delayed delivery of facilities to the operators and extra lead time required to establish collection network during the initial operation; and
- (b) the quantities of recyclables collected by these CGS operators in subsequent contract periods had substantially exceeded the minimum tonnage requirements, as follows:
 - (i) for Sha Tin CGS, the quantities of recyclables collected in the second contract year (24 November 2015 to 23 November 2016) and third contract year (24 November 2016 to 23 November 2017) under the first operating contract exceeded the minimum tonnage requirements by 22% and 56% respectively;
 - (ii) for Kwai Tsing CGS, the quantities of recyclables collected in the 6-month period of the second contract year (1 June 2019 to 30 November 2019) exceeded the minimum tonnage requirement (half of the contract requirement for the whole-contract year) by 29%; and
 - (iii) for Sham Shui Po CGS, the quantities of recyclables collected in the second contract year (1 April 2018 to 31 March 2019) exceeded the minimum tonnage requirement by 86%.

3.25 According to EPD, the three CGS operators did not meet the minimum tonnage requirements during their initial operation due to specific circumstances, and they substantially exceeded the minimum tonnage requirements in subsequent contract periods (see para. 3.24). Audit noted that the minimum tonnage requirements for the first contract year were lower than subsequent contract years under the CGS operating contracts (see Appendix C). In Audit's view, EPD needs to keep under review the minimum tonnage requirements for collection of recyclables, having regard to the operation of and difficulties encountered by CGS operators.

3.26 Regarding the types of recyclables collected by the seven CGSs (see para. 3.23) in 2018 (see Table 7), Audit noted that glass bottles (about 74%) and household appliances and computers (about 14%) accounted for most of the recyclables collected in terms of weight. Other types of recyclables collected were on the low side (e.g. compacted fluorescent lamps and fluorescent tubes and rechargeable batteries). As CGSs help the collection of different types of recyclables in the local community (see para. 3.17), there is merit for EPD to encourage CGS operators to publicise the collection services for different types of recyclables.

Table 7

**Types of recyclables collected by seven CGSs
(2018)**

Type of recyclables	Tonnes
Permitted recyclables	
Glass bottles	1,555.7 (74%)
Household appliances and computers	303.8 (14%)
Paper	90.4 (4%)
Plastics	59.1 (3%)
Compacted fluorescent lamps and fluorescent tubes	16.2 (1%)
Metals	12.9 (1%)
Rechargeable batteries	5.0 (1%)
Secondary recyclables	41.3 (2%)
Total	2,084.4 (100%)

Source: EPD records

Scope for improving service network of CGSs

3.27 CGS operators set up service network for collection of recyclables in their districts. For the seven CGSs (see para. 3.23), during the period from January to June 2019, recyclables collected through housing collection points and other facility collection points (e.g. schools and social service organisations), in-station collection and mobile collection points at public places are shown in Table 8.

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Table 8

**Recyclables collected through different channels by seven CGSs
(January to June 2019)**

Collection channel	Tonnes
(a) Housing collection points and other facility collection points (Note)	1,069.2 (76%)
(b) In-station collection	232.8 (16%)
(c) Mobile collection points at public places	112.2 (8%)
Total	1,414.2 (100%)

Source: EPD records

Note: According to EPD, breakdown of quantities of recyclables collected through housing collection points and other facility collection points was not readily available.

3.28 Regarding the service network of the seven CGSs, Audit noted room for improvement in the following areas:

- (a) ***Need to document the calculation of coverage rate of housing collection points.*** According to the annual summaries of monthly reports submitted by the seven CGS operators, the coverage rate of housing collection points (Note 23) ranged from about 65% to 90% of the population in residential area in their districts (see Table 9). However, the calculation of the coverage rate (i.e. population served by each housing collection point and population of the districts) was not included in the annual summaries of monthly reports. Neither had EPD documented its verification of the calculation. In Audit's view, EPD needs to require CGS operators to include the calculation of the coverage rate of housing collection points in the annual summaries of monthly reports for EPD's verification; and

Note 23: *According to EPD, the coverage rate of housing collection points refers to the percentage of population in the corresponding residential area in the districts that are served by CGS's collection services.*

Table 9

**Coverage rate of housing collection points of CGSs
(September 2018 to May 2019)**

CGS	Position	No. of housing collection points	Coverage rate of population in residential area in the district
Sha Tin	November 2018	156	90 %
Eastern	April 2019	144	90 %
Kwun Tong	September 2018	96	90 %
Kwai Tsing	May 2019	66	80 %
Tuen Mun	May 2019	117	75 %
Yuen Long	October 2018	121	70 %
Sham Shui Po	March 2019	73	65 %

Source: EPD records

- (b) ***Need to review the approach for provision of mobile collection points at public places.*** Under the operating contracts, CGS operators need to maintain not fewer than the specified minimum number of mobile collection points (at least three hours at each collection point) at public places per week to collect recyclables, and the collection points should be located in suitable locations so as to provide recycling support to areas lacking recycling facilities (see para. 3.21(b)). Audit noted that comparatively low quantities of recyclables were collected at mobile collection points (about 8% of the total recyclables collected by the seven CGSs from January to June 2019 — see item (c) in Table 8 in para. 3.27). In March 2020, EPD informed Audit that:
- (i) the implementation of ad-hoc mobile collection points met a number of practical challenges, including, for instance, the need for approval by relevant authorities on collection point locations and weather conditions;
 - (ii) EPD considered that the operation of mobile collection points at specific time of a week and location might better serve the needs of local community. This alternative approach would also reduce

uncertainty in connection with seeking the approval of the relevant authorities for the collection point locations from time to time; and

- (iii) EPD was exploring a suitable approach for adoption in future CGS operating contracts.

In Audit's view, EPD needs to expedite the review on the approach for provision of mobile collection points at public places to collect recyclables with a view to better serving the local community's waste recycling needs.

Storage specification for recyclables not met by CGSs

3.29 According to the operating contracts, regarding storage of recyclables at CGSs, CGS operators should:

- (a) store recyclables in a safe manner without causing nuisance and adverse environmental impact to the environment, and for periods as short as practicable; and
- (b) in no cases, without prior consent from EPD, store recyclables at the stations for longer than 7 days (i.e. 7-day maximum storage specification).

3.30 For the seven CGSs which commenced operation between 2015 and 2018, Audit examined their monthly reports (Note 24) submitted to EPD for the 9-month period from October 2018 to June 2019, and noted that all the seven CGSs had not met the 7-day maximum storage specification for the recyclables collected during the 9-month period (see Table 10). The storage period for some types of recyclables was relatively long (e.g. rechargeable batteries were stored in the seven CGSs for 86 to 297 days, which were far longer than the 7-day maximum storage specification).

Note 24: *The monthly reports showed: (a) recyclables collection dates from mobile collection points at public places, housing collection points and other facility connection points; and (b) recyclables delivery dates to recyclers. The duration between these two dates was taken as the storage time at the CGSs.*

Table 10

**Seven CGSs not meeting the 7-day maximum storage specification
(October 2018 to June 2019)**

Type of recyclables	Storage time longer than 7-day maximum storage specification	
	No. of CGSs	Storage time
Rechargeable batteries	7 (100%)	86 to 297 days
Compacted fluorescent lamps and fluorescent tubes	7 (100%)	28 to 112 days
Computers and accessories	4 (57%)	8 to 132 days
Household appliances	3 (43%)	14 to 148 days
Metals	3 (43%)	24 to 106 days
Plastics	3 (43%)	17 to 84 days
Paper	3 (43%)	9 to 55 days
Glass bottles	— (0%)	N/A

Source: Audit analysis of EPD records

3.31 In March 2020, EPD informed Audit that:

- (a) the 7-day maximum storage specification was introduced at the very beginning of the CGS project initiative to address local community's concern that "dirty waste" might be stored at CGSs which would cause nuisance to the public;
- (b) with the promotion of "clean recycling" at CGSs in these years, recyclables received and stored at CGSs were generally in good hygiene condition and did not cause any nuisance to local community. Hence, storage duration was no longer considered as an environmental issue; and
- (c) subject to actual quantities of recyclables received, available storage capacity at CGSs and logistic arrangement of the downstream recyclables outlets, EPD had given consent during regular site inspections for CGS operators to store recyclables at their storage area for longer than 7 days.

3.32 In view of the changes in circumstances as mentioned by EPD in paragraph 3.31, Audit considers that EPD needs to review the 7-day maximum storage specification for storage of recyclables, having regard to the latest operating conditions of CGSs and hygiene conditions of recyclables stored therein.

Audit recommendations

3.33 Audit has *recommended* that the Director of Environmental Protection should:

- (a) keep under review the minimum tonnage requirements for collection of recyclables, having regard to the operation of and difficulties encountered by CGS operators;
- (b) encourage CGS operators to publicise the collection services for different types of recyclables;
- (c) require CGS operators to include the calculation of the coverage rate of housing collection points in the annual summaries of monthly reports for EPD's verification;
- (d) expedite the review on the approach for provision of mobile collection points at public places to collect recyclables with a view to better serving the local community's waste recycling needs; and
- (e) review the 7-day maximum storage specification for storage of recyclables, having regard to the latest operating conditions of CGSs and hygiene conditions of recyclables stored therein.

Response from the Government

3.34 The Director of Environmental Protection generally agrees with the audit recommendations. She has said that EPD:

- (a) will review the minimum tonnage requirements for collection of recyclables, particularly taking into account the common difficulties encountered by the operators during the initial contract period;

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- (b) subject to the availability of downstream outlets and associated handling capacity for individual types of recyclable, will encourage CGS operators to publicise the collection services for different types of recyclables;
- (c) will update the monthly report template to include the calculation of the coverage rate of housing collection points to facilitate regular planning of off-site collection activities;
- (d) will expedite the review on the approach for provision of mobile collection points at public places to collect recyclables with a view to better serving local community's waste recycling needs; and
- (e) has decided to remove the 7-day maximum storage specification from the contract requirements starting from next batch of operating contracts.

Visitors' patronage of Community Green Stations

3.35 According to EPD, the opening hours of a CGS for recycling services are from 8 am to 8 pm (from Monday to Sunday), and that for administration office are from 8 am to 6 pm (from Tuesday to Sunday). The number of visitors to a CGS include:

- (a) walk-in visitors (e.g. visitors placing recyclables at the CGS);
- (b) participants of educational events held at the CGS;
- (c) participants of visitors reception services at the CGS (see para. 3.40); and
- (d) users of multi-purpose rooms at the CGS (booked by the public for holding activities).

Scope for improving the counting methodology for visitors to CGSs

3.36 CGS operators report the number of visitors to CGSs in the monthly reports submitted to EPD. According to EPD, some CGS operators counted the number of visitors manually while other CGS operators counted the number by installing electronic counters at the boundary of CGSs. Audit considers that EPD needs to review the effectiveness of CGS operators' methodologies for counting the number of visitors with a view to enhancing the counting methodologies.

Number of visitors to some CGSs less than expected

3.37 In March 2016, in discussing the funding for development of CGSs and the cost effectiveness of CGS projects, EPD informed the Finance Committee of LegCo that the expected number of daily visitors received by each CGS could achieve 100 on average. Regarding the numbers of visitors to five CGSs which commenced operation between 2015 and 2017 (see Table 11), Audit noted that:

- (a) while the expected number of visitors received by each CGS was about 35,300 visitors per year (i.e. 100 visitors \times 353 days — Note 25), for 4 (80%) of the 5 CGSs, visitors received fell short of this number in all years with a full-year operation; and
- (b) the numbers of visitors to 3 CGSs (i.e. Sha Tin, Kwun Tong and Yuen Long CGSs) decreased by 17%, 6% and 26% respectively from 2017 to 2018.


Note 25: *According to the operating contracts, the whole station of each CGS may be closed for not more than 12 days in a year. Accordingly, assuming the whole station of CGS is closed for 12 days, CGS will receive visitors for 353 (i.e. 365 less 12) days in a year.*

Table 11

**Number of visitors to five CGSs
(May 2015 to June 2019)**

Year	No. of visitors				
	Sha Tin CGS	Eastern CGS	Kwun Tong CGS	Yuen Long CGS	Sham Shui Po CGS
2015	12,940	18,447	N/A	N/A	N/A
2016	34,526	124,933	N/A	N/A	N/A
2017	33,982	182,526	32,609	29,580	9,213
2018	28,172	189,520	30,556	21,926	31,786
2019 (up to June)	16,152	104,772	16,834	14,454	15,395

Operation commencement date	May 2015	August 2015	January 2017	January 2017	October 2017
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Legend:  Below the expected number of 35,300 visitors per year for a CGS with a full-year operation

Source: EPD records

3.38 In March 2020, EPD informed Audit that:

- (a) CGS operators had been required since November 2017 to provide outreach regular educational events in addition to on-site regular educational events at CGSs (see para. 3.5(a)). The diversion of resources to meet the new service requirement resulted in a lower level of on-site activities, and hence the associated number of visitors; and
- (b) EPD considered that the level of services provided by individual CGSs should not only be measured by the number of visitors to CGSs, but also include the number of persons served by CGSs' outreach activities.

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3.39 Audit noted that while EPD had set the expected number of on-site visitors, it had not set the expected number of persons served by the new outreach activities (see para. 3.38(a)). In Audit's view, EPD needs to review the expected number of persons served by both on-site and outreach activities of CGSs with a view to fully reflecting the service level of CGSs. EPD also needs to monitor the achievement of the expected number as adopted after the review.

Visitors reception services for some CGSs not provided as required

3.40 For operating contracts commencing since November 2017, CGS operators are required to provide visitors reception services. Under the services, CGS operators have to schedule and provide weekly at least 10 guided tours each followed by a hands-on recycling workshop of at least 30 minutes for the visitors, and the services should be provided regardless of number of people, walk-in or pre-booked. Under the operating contracts, visitors reception services provided are not measured for payment to CGS operators.

3.41 As of June 2019, there were four CGSs with visitors reception services provided for more than one year (i.e. Sha Tin, Eastern, Tuen Mun and Kwai Tsing CGSs). For the 26-week period from January to June 2019, Audit noted that the number of visitors reception services provided by the four CGSs fell short of the minimum requirement of 260 (i.e. 26 weeks \times 10 occasions), ranging from 3 occasions (with 22 participants) for Sha Tin CGS to 249 occasions (with 943 participants) for Eastern CGS (see Table 12).

Table 12

**Visitors reception services provided by four CGSs
(January to June 2019)**

CGS (Note)	No. of visitors reception services	No. of participants
Sha Tin	3	22
Tuen Mun	12	38
Kwai Tsing	18	73
Eastern	249	943

Source: EPD records

Note: Sha Tin, Tuen Mun, Kwai Tsing and Eastern CGSs had been required to provide visitors reception services since November 2017, June 2018 (for both Tuen Mun and Kwai Tsing CGSs) and April 2018 respectively.

3.42 In April 2020, EPD informed Audit that as there had been notable changes in the community's demand for visitors reception services, it would review and revise the relevant contract specifications accordingly.

Scope for enhancing publicity of CGSs

3.43 According to the operating contracts, each CGS operator is required to set up and operate a website to disseminate information regarding the facility and the services provided. Audit noted that CGSs in operation provided details of their services via social media. Audit examined the information provided on the social media pages of eight CGSs (i.e. CGSs at Sha Tin, Eastern, Kwun Tong, Yuen Long, Sham Shui Po, Tuen Mun, Kwai Tsing and Tai Po) and noted the following:

- (a) ***Scope for providing more timely information on activities to be conducted.*** Under the operating contracts, CGS operators are required to provide on websites schedules of forthcoming seminars and community events to be conducted. Based on information posted onto the social media pages of the eight CGSs from January to June 2019, Audit noted that for one CGS, an activity (i.e. collection of recyclables at a mobile collection point) had been held (i.e. 1 June 2019) before the schedule of

activities was uploaded onto the social media pages (i.e. 6 June 2019). In Audit's view, EPD needs to remind CGS operators to timely disseminate information on activities to be conducted;

- (b) ***Exact locations of some mobile collection points not specified.*** Under the operating contracts, CGS operators are required to provide on websites updated lists of public place collection points and housing developments for which a housing collection is provided. Based on the social media pages of the eight CGSs as of December 2019, Audit noted that the locations of some mobile collection points at public place for recyclables were not clearly indicated. For example, the names of housing estates were listed without specifying the exact locations. In Audit's view, EPD needs to remind CGS operators to provide exact locations of mobile collection points for recyclables on their social media pages to facilitate the public in identifying the collection points; and
- (c) ***Need to promulgate the arrangements for on-line booking of multi-purpose rooms.*** According to the operating contracts, each CGS operator should operate a website which provides arrangements for on-line booking of multi-purpose rooms. According to EPD, there is a function on the social media pages of CGSs allowing interested parties to send messages to CGSs on booking arrangements. However, Audit noted that the availability of such booking arrangements was not indicated on the social media pages of CGSs. In Audit's view, EPD needs to remind CGS operators to promulgate the arrangements for on-line booking of multi-purpose rooms on their social media pages.

Audit recommendations

3.44 **Audit has recommended that the Director of Environmental Protection should:**

- (a) **review the effectiveness of CGS operators' methodologies for counting the number of visitors with a view to enhancing the counting methodologies;**
- (b) **review the expected number of persons served by both on-site and outreach activities of CGSs with a view to fully reflecting the service**

level of CGSs and monitor the achievement of the expected number as adopted after the review; and

- (c) remind CGS operators to:**
 - (i) timely disseminate information on activities to be conducted;**
 - (ii) provide exact locations of mobile collection points for recyclables on their social media pages to facilitate the public in identifying the collection points; and**
 - (iii) promulgate the arrangements for on-line booking of multi-purpose rooms on their social media pages.**

Response from the Government

3.45 The Director of Environmental Protection generally agrees with the audit recommendations. She has said that EPD will:

- (a) review the methodologies adopted by different CGS operators for physical counting of the number of visitors to enhance their effectiveness;**
- (b) review the current reporting requirement on the number of on-site visitors to allow a more comprehensive reflection of both on-site and off-site services provided by CGSs;**
- (c) invite the CGS operator concerned to look into the specific case held on 1 June 2019 as mentioned in paragraph 3.43(a) and, where appropriate, adopt necessary enhancement to current practice;**
- (d) while some of the CGSs provide exact locations of mobile collection points in the form of maps and photographs on their social media pages, invite all CGS operators to adopt the same good practice; and**
- (e) remind CGS operators to promulgate the arrangements for on-line booking of multi-purpose rooms.**

PART 4: OTHER MANAGEMENT ISSUES

4.1 This PART examines other management issues of CGSs, focusing on actions taken by EPD on:

- (a) inspection of CGSs (paras 4.2 to 4.10);
- (b) vetting of reports submitted by CGS operators and monitoring their compliance with reporting requirements (paras. 4.11 to 4.26); and
- (c) specification of quantities in Bills of Quantities (BQ) and minimum service requirements (paras. 4.27 to 4.32).

Inspection of Community Green Stations

4.2 To monitor the performance and operation of CGSs and to ensure that CGS operators manage CGSs properly and comply with the contractual requirements (including operational requirements on environment, hygiene, occupational safety and health), EPD carries out inspections and monitoring work on a regular basis.

4.3 According to EPD guidelines, EPD staff periodically conduct inspections of recyclables collection services, educational services and facilities of CGSs, as follows:

- (a) ***Routine inspection.*** Environmental Protection Inspectors are required to conduct inspections (Note 26) of:
 - (i) recyclables collection services, with frequency of four inspections per month for each CGS. The inspections include recording any malpractice in handling recyclables, checking if there is any unacceptable contamination of the collected recyclables, and

Note 26: *According to EPD guidelines, an inspection roster should be prepared by Senior Environmental Protection Inspectors, with at least one ad-hoc inspection per month for each CGS.*

checking whether the recyclables are properly weighed and recorded precisely in the record sheet;

- (ii) educational services, with frequency of four inspections per month for each CGS. The inspections include recording the number of attendants, duration of events and area for improvements; and
 - (iii) facilities of CGSs, with frequency of one inspection per month for each CGS. The inspections include checking staff attendance records, collection and delivery records of recyclables, and booking records and usage of multi-purpose rooms; and
- (b) ***Supervisory check.*** Senior Environmental Protection Inspectors should arrange surprise check inspections at least once per month to ensure that the inspectors are on duty to monitor CGS operators' performance as scheduled. In addition, Environmental Protection Officers should perform surprise supervisory checks on inspections quarterly.

4.4 For routine inspections, EPD has designed standard inspection forms for each type of inspections (i.e. recyclables collection services, educational services and facilities of CGSs) to facilitate the inspection work. According to EPD guidelines, the inspectors should record the inspection results on the specified standard inspection forms, which includes a checklist to indicate whether the requirements or conditions are complied with or satisfactory.

***Need to timely update inspection guidelines
and related inspection forms***

4.5 Audit noted that EPD had introduced special community events and visitors reception services (see paras. 3.5(c) and 3.40) for operating contracts commencing since November 2017. According to EPD, the routine inspection conducted on educational services (see para. 4.3(a)(ii)) had included inspection of such events and services. However, EPD guidelines and related inspection forms (revised in February 2017) did not cover inspection of such events and services.

4.6 In March 2020, EPD informed Audit that:

- (a) apart from the master guidelines, EPD also issued supplementary instructions to EPD frontline staff through e-mails and team meetings from time to time, particularly when there were new initiatives or practices; and
- (b) as a general practice, EPD staff would conduct inspections of CGSs in accordance with EPD guidelines and in conjunction with supplementary instructions issued. In some cases, EPD staff may provide supplement sheet for better illustration of their observations.

4.7 In Audit's view, EPD needs to timely update the inspection guidelines and the related inspection forms to cover new types of events and services included in the operating contracts of CGSs.

Scope for improving the keeping of inspection records and the analysis of inspection results

4.8 Audit examined the routine inspection records from January to June 2019 for the six CGSs which commenced operation between 2015 and September 2018 (see items 1 to 6 in Table 2 in para. 1.8) and noted the following:

- (a) ***Need to document the analysis of inspection results.*** According to EPD, if any observations including irregularities are found during inspections of CGSs, its staff will provide comments, advice or assistance to the CGS operators to rectify (particularly irregularity) at once to minimise the effect. Audit analysed the observations recorded on the checklists of the 298 inspections for the six CGSs from January to June 2019 and noted that:

- (i) a total of 235 observations (Note 27) were found in 146 inspections (Note 28) and the nature was recorded in the inspection forms (see Table 13); and
- (ii) some observations were frequently found during routine inspections. For example, from January to June 2019, 22 observations were related to “unacceptable recyclables were found in recycling bins” in five of the six CGSs (ranging from 1 to 13 observations for each CGS).

In March 2020, EPD informed Audit that the CGS team had shared latest inspection observations on a routine basis, for instance, at regular team meetings and followed up on observations of a recurrent nature (e.g. poor greening results in certain sites). However, Audit noted that EPD had not documented the analysis of the observations found. In Audit’s view, EPD needs to document the analysis of the observations found during inspections with a view to identifying those commonly found for assessing the need for helping CGS operators enhance their operation; and

Note 27: *According to EPD, many of the observations were relatively trivial or not related to specific contract requirements, which could be rectified or adjusted on the spot upon on-site communication with the operators during inspection.*

Note 28: *For the remaining 152 (298 – 146) inspections, no observations were noted on the checklists of the inspection forms.*

Table 13

**Nature of observations found in routine inspections for six CGSs
(January to June 2019)**

Nature of observations	No. of observations
(a) Recyclables without proper labelling with date and source	47
(b) Participants' feedback for the workshop experience and expectation was not collected	37
(c) Upcoming events were not promoted	27
(d) Workshops and teaching materials were not customised to address particular outcomes and specific participants	24
(e) Unacceptable recyclables were found in recycling bins	22
(f) Damage/defect of CGS facilities (e.g. site wall, gates and failure of cameras of security closed-circuit television system)	22
(g) Grass and plants were not in tidy and healthy condition	13
(h) Others (Note)	43
Total	235

Source: Audit analysis of EPD records

Note: Other observations included, for example, recyclables stored at the facility for longer than 7 days without EPD's prior consent, "one-time-use" items/disposable materials used for the workshop and nuisance caused to nearby residents and disturbance to traffic.

- (b) ***Need to explore the use of information technology for keeping inspection records of CGSs.*** Audit noted that the standard inspection forms for routine inspections were in manual form. In Audit's view, there is scope for EPD to explore the use of information technology for keeping such records.

Audit recommendations

4.9 **Audit has *recommended* that the Director of Environmental Protection should:**

- (a) **timely update EPD inspection guidelines and the related inspection forms to cover new types of events and services included in the operating contracts of CGSs;**
- (b) **document the analysis of the observations found during inspections with a view to identifying those commonly found for assessing the need for helping CGS operators enhance their operation; and**
- (c) **explore the use of information technology for keeping inspection records of CGSs.**

Response from the Government

4.10 The Director of Environmental Protection generally agrees with the audit recommendations. She has said that EPD will:

- (a) arrange more regular updating to the operating guidelines (including incorporating the supplementary instructions) and the related inspection forms;
- (b) apart from following up promptly all observations from routine inspections as usual, make it a standing practice to conduct regular analysis of the inspection results and discuss the analysis at regular team meetings; and
- (c) riding on its experience in other field operations, develop an electronic inspection form to allow on-site and real-time recording of the inspection results and to facilitate analysis of the inspection results.

Vetting of reports submitted by Community Green Station operators and monitoring their compliance with reporting requirements

4.11 According to the operating contracts, a CGS operator should keep records and provide reports to EPD on a regular basis to meet the following objectives:

- (a) to provide information on the usage of facility;
- (b) to demonstrate that the CGS operator is properly meeting the requirements of the contract; and
- (c) to identify procedures that may require improvement.

4.12 According to EPD, it reviews performance of each CGS through vetting of and providing comments on reports submitted by the CGS operator, including monthly reports, quarterly reports and annual summaries of monthly reports.

Scope for enhancing the reporting and vetting of recyclables collected and dispatched

4.13 According to EPD, CGS operators are required to ensure that all recyclables collected are sent to suitable recyclers for proper handling and recycling instead of being disposed of at landfills (see also para. 3.22). According to the operating contracts, CGS operators are required to prepare monthly reports showing approximate weights of permitted recyclables collected and dispatched. According to EPD, while the operating contracts do not have specific requirement for CGS operators to report the quantities of secondary recyclables received and dispatched, it has administratively required the operators to report such quantities in the monthly reports.

4.14 Audit examined the monthly reports of the seven CGSs (which commenced operation between 2015 and 2018 — see items 1 to 7 in Table 2 in para. 1.8) since contract commencement dates and up to June 2019 for the cumulative weights of recyclables collected and dispatched for both permitted and secondary recyclables, and noted the following:

- (a) *Significant differences between the cumulative weights collected and dispatched of some permitted recyclables.* Audit compared the cumulative weights of permitted recyclables collected and dispatched for the seven CGSs since commencement of contracts and up to June 2019, and noted that, for some types of permitted recyclables, there were significant differences between the cumulative weights of recyclables collected and dispatched. For example:
- (i) for Sha Tin CGS, the cumulative weight of paper collected was about 215% less than that dispatched (see Table 14); and
 - (ii) for Yuen Long CGS, the cumulative weight of compacted fluorescent lamps and fluorescent tubes collected was about 32% more than that dispatched (see Table 14); and

Table 14

**Differences between cumulative weights of permitted recyclables
collected and dispatched for two CGSs
(November 2014 to June 2019)**

Type of permitted recyclables	Cumulative weight of permitted recyclables (kg)		
	Collected (a)	Dispatched (b)	Difference (c) = (a) – (b)
(a) Sha Tin CGS (contract commenced in November 2014)			
1. Compacted fluorescent lamps and fluorescent tubes	17,058	13,116	3,942 (23%)
2. Rechargeable batteries	3,113	2,457	656 (21%)
3. Glass bottles	1,230,232	1,204,529	25,703 (2%)
4. Household appliances and computers	258,351	258,627	-276 (0%)
5. Plastics	6,774	8,895	-2,121 (-31%)
6. Metals	1,552	2,161	-609 (-39%)
7. Paper	7,771	24,512	-16,741 (-215%)
(b) Yuen Long CGS (contract commenced in October 2016)			
1. Compacted fluorescent lamps and fluorescent tubes	7,615	5,147 (Note)	2,468 (32%) (Note)
2. Rechargeable batteries	3,389	3,095	294 (9%)
3. Glass bottles	550,093	538,450	11,643 (2%)
4. Household appliances and computers	154,303	157,146	-2,843 (-2%)
5. Metals	10,252	10,848	-596 (-6%)
6. Plastics	20,254	22,940	-2,686 (-13%)
7. Paper	71,707	81,508	-9,801 (-14%)

Source: Audit analysis of related CGS monthly reports submitted to EPD

Note: According to EPD, for Yuen Long CGS, about one tonne of compacted fluorescent lamps and fluorescent tubes dispatched to the downstream recycler during the period had not been taken into account in assessing the difference in the cumulative weights of compacted fluorescent lamps and fluorescent tubes collected and dispatched. However, Audit noted that such dispatched quantity was not recorded in the monthly reports submitted to EPD.

- (b) *Significant differences between the cumulative weights collected and dispatched of secondary recyclables.* CGS operators may collect any type of secondary recyclables with EPD's consent. For secondary recyclables collected, such as used books and old clothing, CGS operators may distribute them through donation and exchange programmes. Audit compared the cumulative weights of secondary recyclables collected and dispatched for the seven CGSs since commencement of contracts and up to June 2019, and noted that there were significant differences between the cumulative weights of secondary recyclables collected and dispatched, ranging from 14% to 97% of secondary recyclables collected (see Table 15).

Table 15

**Differences between cumulative weights of secondary recyclables
collected and dispatched
(November 2014 to June 2019)**

CGS	Contract commencement date	Cumulative weight of secondary recyclables (kg)		
		Collected (a)	Dispatched (b)	Difference (c) = (a) – (b)
Eastern	April 2015	53,278	1,840	51,438 (97%)
Sham Shui Po	April 2017	24,411	1,797	22,614 (93%)
Kwai Tsing	June 2018	5,998	1,302	4,696 (78%)
Kwun Tong	September 2016	11,280	4,937	6,343 (56%)
Yuen Long	October 2016	43,317	19,966	23,351 (54%)
Sha Tin	November 2014	30,607	15,028	15,579 (51%)
Tuen Mun	June 2018	3,199	2,749	450 (14%)

Source: Audit analysis of EPD records

4.15 In response to Audit's enquiries of the significant differences between the cumulative weights collected and dispatched of recyclables as mentioned in paragraph 4.14, in March and April 2020, EPD informed Audit that:

- (a) the General Specifications of the operating contracts allowed EPD to designate other recyclables as permitted recyclables from time to time. Secondary recyclables that were not suitable for re-distribution nor

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donation could be designated as permitted recyclables and delivered to appropriate downstream recyclers for recycling. EPD had given consent from time to time for CGS operators to turn some of the secondary recyclables collected into permitted recyclables, upon following the operation plan for specific educational events. This clarified why certain portion of secondary recyclables were reported as quantities of permitted recyclables dispatched (see (b)(i) and (c)(ii) below);

- (b) for permitted recyclables:
 - (i) the dispatched quantities of permitted recyclables also included those unused secondary recyclables and materials collected which could not be re-distributed or donated within a reasonable time period (see (c)(ii) below). This, to a large extent, explained why some types of permitted recyclables had cumulative weight collected less than that dispatched;
 - (ii) due to transitional issues of some downstream recyclers, there was a surge of the quantity of certain types of permitted recyclables stored at CGSs as at June 2019, such as compacted fluorescent lamps and fluorescent tubes, which had yet to be dispatched; and
 - (iii) CGS operators accepted compacted fluorescent lamps and fluorescent tubes with packaging materials. The downstream recycler had an established practice to remove all packaging materials before weighing the recyclables received, and this contributed to difference in the cumulative weights of recyclables collected and dispatched by CGS operators; and
- (c) for secondary recyclables, the cumulative weights collected were more than that dispatched due to the following reasons:
 - (i) the dispatched quantities of secondary recyclables in the monthly reports only included a portion of recyclables successfully distributed in exchange programmes or donated to charitable organisations. For some CGSs, such as Eastern and Sham Shui Po CGSs, a standing flea market had been set up by each CGS operator for free distribution of significant quantities of secondary

recyclables collected, which were not included in the dispatched quantities in the monthly reports submitted by CGS operators;

- (ii) some of the collected secondary recyclables were sent to downstream recyclers as permitted recyclables (e.g. paper, plastics, metals and household appliances and computers) when they could not be re-distributed or donated within a reasonable time period (see (b)(i) above); and
- (iii) there was a surge of the quantities of secondary recyclables stored at CGSs as at June 2019.

4.16 While noting EPD's explanations for the differences between the cumulative weights of permitted and secondary recyclables collected and dispatched, in Audit's view, there is scope for enhancing the reporting by CGS operators and vetting by EPD with a view to providing a better way for monitoring the flow of recyclables and whether the recyclables are properly handled. As CGS operators are required to ensure that all recyclables collected are sent to suitable recyclers for proper handling and recycling (secondary recyclables may also be distributed through donation and exchange programmes) (see paras. 4.13 and 4.14(b)), in Audit's view, EPD needs to:

- (a) enhance CGS operators' reporting of recyclables collected and dispatched (e.g. reporting the dispatched quantities of secondary recyclables designated as permitted recyclables in the monthly reports); and
- (b) enhance the vetting of the reported quantities by CGS operators.

Scope for improvement in ensuring compliance with reporting requirements

4.17 ***Delay in submission of reports and audited financial statements.*** According to the operating contracts, CGS operators are required to submit to EPD monthly reports, annual summaries of monthly reports and annual audited financial statements. Audit noted that there was delay in submission of these reports and audited financial statements, as follows:

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- (a) **Monthly reports.** According to the operating contracts, a CGS operator is required to submit a monthly report (from the contract commencement date) within one week of the end of each reporting month. Audit noted that as of January 2020, for the eight CGSs which had commenced operation (see items 1 to 8 in Table 2 in para. 1.8), each CGS operator was yet to submit three monthly reports (i.e. October to December 2019 reports);
- (b) **Annual summary of monthly reports.** According to the operating contracts, a CGS operator is required to prepare an annual report summarising the monthly reports, which should be submitted within one month of the end of each contract year. Audit noted that as of January 2020, of the seven CGSs with contract having commenced for more than one year, the annual summaries of monthly reports of three CGSs had not been submitted to EPD, with delays ranging from about one month to four months; and
- (c) **Annual audited financial statements.** According to the operating contracts, a CGS operator is required to submit annual audited financial statements within four months after the closing of the respective financial year or period. In addition, the accounts for the participation incentive scheme (Note 29) should be submitted as part of the annual audited financial statements. As of January 2020, for the seven CGSs with contract having commenced for more than one year, Audit noted that:
 - (i) for two CGSs, while it was already 10 or 21 months after the closing of the respective financial year/period, a total of three sets of audited financial statements had not been submitted to EPD;
 - (ii) a total of 18 audited financial statements had been submitted by the seven CGSs. Audit noted that 14 of the 18 audited financial statements were certified more than four months (up to 30 months)

Note 29: *According to the operating contracts, CGS operators need to operate a participation incentive scheme to promote participation in recycling and separation of waste at source, and the scheme may include a membership system (similar to commercial loyalty programmes), under which credits can be used for household goods redemption.*

- after the closing of the respective financial year or period (Note 30); and
- (iii) 17 of the 18 audited financial statements submitted did not contain accounts for the participation incentive scheme, contrary to the contract requirement.

4.18 In March 2020, EPD informed Audit that:

- (a) CGS operators needed to obtain certain supporting documents (e.g. certification of monthly sales of recyclables) before submission of the regular reports, and some of the supporting information would not be available within the report submission timeline. On the other hand, there was an operational need to have early submission of regular reports (e.g. for EPD's early attention to the operator's performance and payment of operation fee). In view of the practical circumstances, EPD would review the existing arrangements to strike a balance. For instance, consideration would be given to amend the existing contract provisions to allow the submission of supplementary information at a later date; and
- (b) given that the participation incentive scheme was no longer funded by contract payment, EPD would review the appropriateness to include relevant accounts as part of the audited financial statements.

4.19 In Audit's view, EPD needs to expedite actions in reviewing the existing reporting requirements for CGS operators, including the submission time of regular reports and inclusion of accounts for the participation incentive scheme as part of the audited financial statements. EPD also needs to remind CGS operators to comply with the contract requirements for timely submission of audited financial statements.

4.20 *Scope for improving the provision of information by CGS operators.* Audit noted that there was scope for improvement in provision of information by CGS operators, as follows:

Note 30: *As of 2 April 2020, for audited financial statements submitted, EPD was not able to provide Audit with submission dates by CGS operators for audit analysis.*

- (a) ***Need to provide adequate information on compliance with reporting requirements for educational and collection services.*** The operating contracts set out the services and performance indicators that CGS operators are required to deliver in the contract period. CGS operators are required to submit monthly reports for summary of compliance with performance requirements for educational and collection services. For the seven CGSs which commenced operation between 2015 and 2018, Audit examined their monthly reports from January to June 2019 and noted the following:
- (i) ***Targeted households for featured educational events not reported.*** According to the operating contracts, the monthly reports submitted by CGS operators should include the estimated number of households targeted by each featured educational event. However, Audit examination of the monthly reports for the seven CGSs revealed that such information was not reported in the monthly reports. CGS operators only indicated the actual number of participants (instead of households) in the monthly reports. In March 2020, EPD informed Audit that the current practice of reporting the actual number of participants in featured educational events should be more practical and relevant for evaluating the effectiveness of a particular event. In Audit's view, EPD needs to consider revising the contract requirement accordingly; and
- (ii) ***Scope for improving reporting of information on housing collections.*** CGS operators need to operate collection vehicles for the receipt of recyclables from different collection points. According to the operating contracts for the seven CGSs, a CGS operator needs to maintain not less than 40 housing collections per week. Audit noted that information about the number of trips of collection vehicles to different collection points (including housing estates, public places and other facility) had been included in the monthly reports for the seven CGSs. However, there was no indication as to whether the requirement of 40 housing collections per week was met. In Audit's view, EPD needs to require CGS operators to provide such information in their monthly reports; and
- (b) ***Scope for exploring the use of information technology.*** Audit noted that CGS operators submitted the monthly reports to EPD using manual records and individual spreadsheets. In Audit's view, there is scope for

EPD to explore the use of information technology to facilitate CGS operators' submission of reports and EPD's monitoring actions.

Need to share experience for operation of CGSs

4.21 CGSs aim to enhance environmental education and help collect different types of recyclables with a view to promoting green living at the community level. According to EPD, it will evaluate the effectiveness of individual CGSs based on their respective operational statistics, and will take into account views from various stakeholders and make suitable adjustment to the work of the CGSs on environmental education and recycling support as and when necessary.

4.22 According to the operating contracts, each CGS operator is required to:

- (a) engage with stakeholders on a regular basis to keep them informed regarding the CGS, including its objectives, services, achievements and programmes; and
- (b) hold quarterly meetings to share experience with other CGS operators, which will be chaired by EPD.

4.23 In March 2020, EPD informed Audit that, regarding the engagement of stakeholders (see para. 4.22(a)), CGS operators had regularly reported in their monthly reports the engagement of any new stakeholders (i.e. new institutions or housing estates that joined the collection of recyclables).

4.24 As of December 2019, seven CGSs had already been in operation for over one to four years. Audit noted that EPD had not promulgated any good practice guide to CGS operators. In Audit's view, EPD needs to consider promulgating good practices identified over the years for sharing among CGS operators with a view to improving the services of CGSs. Audit also noted that there was no documentation for experience sharing meetings chaired by EPD and held with CGS

Other management issues

operators (see para. 4.22(b)). Audit considers that EPD needs to maintain proper documentation on the experience sharing meetings held with CGS operators.

Audit recommendations

4.25 Audit has *recommended* that the Director of Environmental Protection should:

- (a) enhance CGS operators' reporting of recyclables collected and dispatched (e.g. reporting the dispatched quantities of secondary recyclables designated as permitted recyclables in the monthly reports);**
- (b) enhance the vetting by EPD staff of the quantities of permitted and secondary recyclables reported by CGS operators;**
- (c) expedite actions in reviewing the existing reporting requirements for CGS operators, including the submission time of regular reports and inclusion of accounts for the participation incentive scheme as part of the audited financial statements;**
- (d) remind CGS operators to comply with the contract requirements for timely submission of audited financial statements;**
- (e) consider revising the contract requirement for reporting information about targeted households for featured educational events;**
- (f) require CGS operators to provide information on meeting the contract requirement for housing collections in their monthly reports;**
- (g) explore the use of information technology to facilitate CGS operators' submission of reports and EPD's monitoring actions;**
- (h) consider promulgating good practices identified over the years for sharing among CGS operators with a view to improving the services of CGSs; and**
- (i) maintain proper documentation on the experience sharing meetings held with CGS operators.**

Response from the Government

4.26 The Director of Environmental Protection generally agrees with the audit recommendations. She has said that EPD will:

- (a) discuss with CGS operators the pros and cons of introducing a new requirement for recording of reception and distribution of secondary recyclables, having regard to the primary objective of the green living promotion activities to allow hassle free exchange of reusable articles. For subsequent handling of unused secondary recyclables as permitted recyclables (instead of disposing of them) in accordance with relevant educational event proposals endorsed by EPD, EPD will review the contract requirements on reporting of such type of permitted recyclables to see whether changes are needed. In addition, subject to EPD's discussion with CGS operators, EPD will review whether it is necessary to enhance the vetting of reported quantities of permitted and secondary recyclables;
- (b) review the current submission time requirements in a pragmatic manner, taking into account any practical constraints faced by CGS operators. EPD will also consider the appropriateness of including the accounts for the participation incentive scheme as part of the audited financial statements given that the related funding is not paid by EPD;
- (c) consider revising the current contract requirement for reporting information about targeted households for featured educational events to make it more pragmatic;
- (d) revise the reporting template of monthly reports for CGS operators to provide information on meeting the contract requirement for housing collections;
- (e) discuss with CGS operators to understand their readiness to adopt information technologies in reporting and performance monitoring;
- (f) consolidate and disseminate the good practices of individual CGS operators to improve the services of CGSs; and

- (g) enhance the documentation of outcomes of experience sharing sessions with CGS operators.

Specification of quantities in Bills of Quantities and minimum service requirements

4.27 The payment to CGS operators is based on the actual quantity of services provided and the prices of different service items as priced by the operators in BQ according to the operating contracts. In general:

- (a) BQ are a list of items giving brief identifying descriptions and estimated quantities of the work to be performed;
- (b) the main functions of BQ are to:
 - (i) allow a comparison of tender prices; and
 - (ii) provide a means of valuing the work;
- (c) for each BQ item, an estimated quantity of work to be performed is included in BQ. During the tendering of the contract, tenderers are required to indicate in BQ:
 - (i) rate for each BQ item;
 - (ii) the amount of each BQ item (i.e. estimated quantity \times BQ rate); and
 - (iii) the sum of amounts for the BQ items; and
- (d) after the award of the contract, BQ form part of the contract.

Need to continue to keep under review quantities in BQ and minimum service requirements

4.28 Audit examined the operating contracts for nine CGSs and noted that the quantities stated in BQ for both educational and recyclables collection services

exceeded the minimum service requirements. As shown in Table 16, for the three-year contract period, the quantities stated in BQ for recyclables collection services exceeded the minimum tonnage requirements by 20% to 53% while that of the environmental educational services exceeded the minimum quantity requirements by 20% to 120%.

Table 16

Comparison of quantities in BQ and minimum service requirements

CGS	Contract period	Minimum service requirement (a)	BQ quantity (b)	Difference (c) = [(b) – (a)] ÷ (a) × 100%
(a) Recyclables collection services (quantity in tonnes)				
1. Sha Tin	2014 to 2017	600	915	53 %
	2017 to 2020	1,310	1,600	22 %
2. Eastern	2015 to 2018	600	915	53 %
	2018 to 2021	1,160	1,400	21 %
3. Kwun Tong	2016 to 2019	600	915	53 %
4. Yuen Long	2016 to 2019			
5. Sham Shui Po	2017 to 2020			
6. Tuen Mun	2018 to 2021	900	1,080	20 %
7. Kwai Tsing	2018 to 2021			
8. Tai Po	2019 to 2022	555	670	21 %
9. Islands	2019 to 2022	345	420	22 %
(b) Environmental educational services (quantity in number)				
1. Sha Tin	2014 to 2017	239	525	120 %
	2017 to 2020	468	570	22 %
2. Eastern	2015 to 2018	239	525	120 %
	2018 to 2021	468	570	22 %
3. Kwun Tong	2016 to 2019	239	525	120 %
4. Yuen Long	2016 to 2019			
5. Sham Shui Po	2017 to 2020			
6. Tuen Mun	2018 to 2021	420	505	20 %
7. Kwai Tsing	2018 to 2021			
8. Tai Po	2019 to 2022			
9. Islands	2019 to 2022			

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Source: EPD records

4.29 In March 2020, EPD informed Audit that:

- (a) the higher degree of difference appeared only in the first contracts of the first five CGSs (i.e. items 1 to 5 under categories (a) and (b) in Table 16 in para. 4.28), and this was purposely built in to address the uncertainties in service requirements, arising from local concerns on the level of activities of the first five CGSs when there was no readily available information to demonstrate the operational performance of CGSs at that point of time; and
- (b) with the availability of operation track records of the first five CGSs, local communities became more receptive to CGSs and similar local concerns were not encountered and thus the degree of difference had generally been reduced to a common level of about 20%.

4.30 Given that BQ quantities indicate the estimated quantities of services to be provided and the amount for such services is included in tender price, Audit considers that EPD needs to continue to keep under review the specification of the quantities in BQ and the minimum service requirements for CGS services.

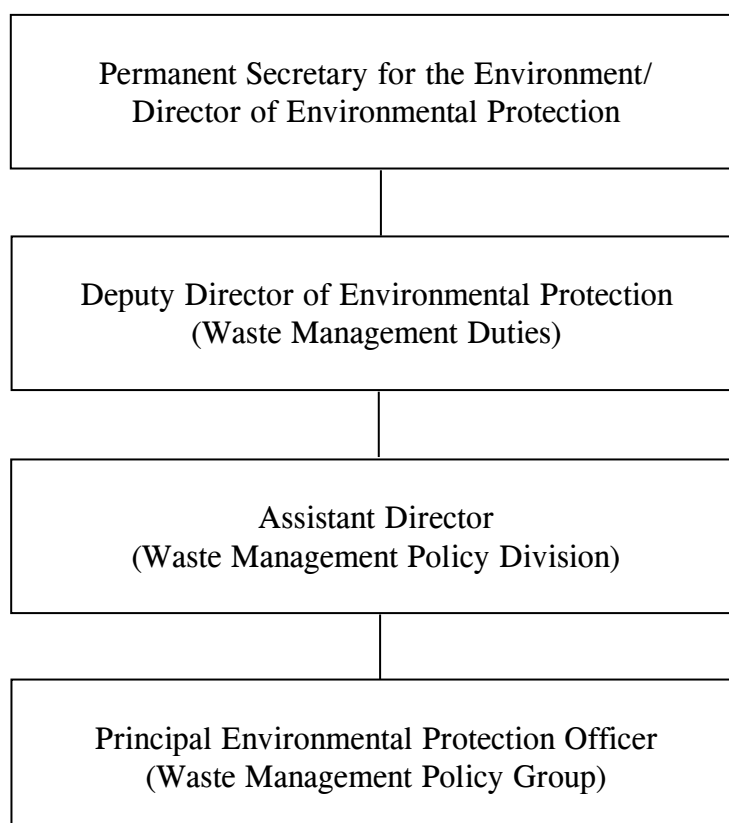
Audit recommendation

4.31 **Audit has *recommended* that the Director of Environmental Protection should continue to keep under review the specification of the quantities in BQ and the minimum service requirements for CGS services.**

Response from the Government

4.32 The Director of Environmental Protection agrees with the audit recommendation.

**Environmental Protection Department:
Organisation chart (extract)
(31 October 2019)**



Source: EPD records

Appendix B
(para. 3.6 refers)

**Minimum quantity requirements for educational events under
operating contracts for Community Green Stations
(September 2019)**

Type of educational event	Educational events (No.)			
	First contract year	Second contract year	Third contract year	Total
(a) Kwun Tong, Yuen Long and Sham Shui Po CGSs				
(i) Regular educational events	35	90	90	215
(ii) Featured educational events	4	10	10	24
(iii) Special community events	No requirement			
(b) Tuen Mun, Kwai Tsing, Tai Po and Islands CGSs				
(i) Regular educational events (on-site)	50	100	100	250
Regular educational events (outreach)	25	50	50	125
(ii) Featured educational events	6	12	12	30
(iii) Special community events	3	6	6	15
(c) Sha Tin and Eastern CGSs (Note)				
(i) Regular educational events (on-site)	80	100	100	280
Regular educational events (outreach)	40	50	50	140
(ii) Featured educational events	8	12	12	32
(iii) Special community events	4	6	6	16

375

420

Source: EPD records

Note: For Sha Tin and Eastern CGSs, the minimum quantity requirements shown in the Table referred to those under the current operating contracts, and the minimum quantity requirements under their first operating contracts were same as those for Kwun Tong, Yuen Long and Sham Shui Po CGSs.

**Minimum tonnage requirements for collection of recyclables
under operating contracts for Community Green Stations
(September 2019)**

CGS	Minimum tonnage requirement (Tonnes)			
	First contract year	Second contract year	Third contract year	Total
(a) Kwun Tong, Yuen Long and Sham Shui Po	100	250	250	600
(b) Tuen Mun and Kwai Tsing	200	300	400	900
(c) Tai Po	120	185	250	555
(d) Islands	80	115	150	345
(e) Sha Tin (Note)	320	440	550	1,310
(f) Eastern (Note)	320	390	450	1,160

Source: EPD records

Note: For Sha Tin and Eastern CGSs, the minimum tonnage requirements shown in the Table referred to those under the current operating contracts, and the minimum tonnage requirements under their first operating contracts were same as those for Kwun Tong, Yuen Long and Sham Shui Po CGSs.

Acronyms and abbreviations

ArchSD	Architectural Services Department
Audit	Audit Commission
BQ	Bills of Quantities
CGS	Community Green Station
CWRF	Capital Works Reserve Fund
DC	District Council
ENB	Environment Bureau
EPD	Environmental Protection Department
kg	Kilograms
LegCo	Legislative Council
m	Metres
m ²	Square metres
NGO	Non-governmental organisation