

CHAPTER 5

**Environment Bureau
Environmental Protection Department**

Development of EcoPark

**Audit Commission
Hong Kong
29 March 2010**

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.

Report No. 54 of the Director of Audit contains 8 Chapters which are available on our website at <http://www.aud.gov.hk>.

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DEVELOPMENT OF ECOPARK

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PART 1: INTRODUCTION

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

Background

1.2 In 2005, the Government published the Policy Framework for the Management of Municipal Solid Waste (the **2005 Policy Framework**). The 2005 Policy Framework laid down targets on the re-use, recovery and recycling of waste to help achieve waste reduction (Note 1). Waste recovery and recycling is a key element in the Government's waste management strategy. According to the 2005 Policy Framework, waste reduction and recycling would not only reduce pressure on landfills, but also conserve resources and jump-start a circular economy (Note 2).

1.3 In 2008, over 3 million tonnes or 48% of the total municipal solid waste generated in Hong Kong were recovered for recycling. Over 90% of the locally recovered recyclable materials were exported for further re-processing while less than 10% were treated locally and manufactured into useful products.

1.4 The Government provides land through short-term and long-term leases at affordable rents to the local recycling industries. As at December 2009, 39 sites totalling 7 hectares were allocated to recyclers on short-term tenancies.

Note 1: *Under the 2005 Policy Framework, the Administration set the following three targets on municipal solid waste management:*

- (a) **Waste avoidance and minimisation.** *Reducing the quantity of municipal solid waste generated by 1% per annum up to 2014, based on the 2003 level;*
- (b) **Waste recovery, recycling and re-use.** *Increasing the recovery of municipal solid waste to 45% of the municipal solid waste generated by 2009 and 50% by 2014; and*
- (c) **Bulk reduction and disposal of unrecyclable waste.** *Reducing the total municipal solid waste disposed of at landfills to less than 25% of the municipal solid waste generated by 2014.*

Note 2: *A circular economy is one where recyclable materials collected locally are re-processed into value-added recycled products or raw materials for products.*

Provision of long-term land for recycling industries

1.5 In 2001, the Administration announced plans for developing a recovery park (renamed as EcoPark in 2005) in Tuen Mun Area 38 (see Photograph 1) for exclusive use by recycling operators on a long-term basis. According to the Environmental Protection Department (EPD), EcoPark would provide an outlet for locally recovered materials, and alleviate the heavy reliance on the export of recyclable waste. In particular, EcoPark would encourage the development of value-added environmental and recycling technologies that help minimise waste generation, or turn locally recovered materials into raw materials and products.

Photograph 1

**EcoPark in Tuen Mun
(October 2009)**



Source: EPD records

1.6 According to the papers submitted to the Panel on Environmental Affairs (EA Panel) and the Public Works Subcommittee (PWSC) of the Finance Committee (FC) of the Legislative Council (LegCo) in December 2005 and February 2006 respectively, the 20-hectare EcoPark would be developed by two phases (see para. 1.7) with the following objectives:

- (a) to provide land for processing of recovered materials at affordable rents with a target throughput of 58,600 tonnes per year;
- (b) to provide basic infrastructure (including a marine frontage) and environmental control facilities to reduce tenants' operating cost; and
- (c) to create job opportunities for recycling and related industries.

1.7 According to the EPD, EcoPark is developed solely for environmental and recycling operations. A recycling trader may rent an area of land at affordable cost with a tenure sufficiently long to justify his investment in value-added and higher-end operations (Note 3) in EcoPark. The basic infrastructure of EcoPark would be built and funded by the Government, while an operator would be appointed for the operation and management of EcoPark. Phase 1 (with an area of 8 hectares) and Phase 2 (with an area of 12 hectares) of EcoPark were planned to be commissioned (i.e. the land lots would be made available for leasing to tenants) by the end of 2006 and 2009 respectively.

1.8 In March 2006, the FC approved funding of \$319 million for the development of EcoPark in Tuen Mun Area 38 (the EcoPark project). In July 2006, construction works commenced. In November 2006, the EPD employed a management company (the Operator) to manage, maintain and market EcoPark. In December 2006, the first batch of lots under Phase 1 were available for leasing to recycling industries. As at December 2009, the EPD had awarded tenancies for all the six Phase 1 lots.

Note 3: *Higher-end operations involve the processing of waste materials into useful materials or products, whereas low-end operations mainly involve collection and baling activities.*

Audit review

1.9 The Audit Commission (Audit) has recently conducted a review to examine the EPD's planning and administration of land in EcoPark. The review focused on the following areas:

- (a) planning of EcoPark (PART 2);
- (b) Phase 1 development (PART 3);
- (c) Phase 2 development (PART 4); and
- (d) administration of management contract (PART 5).

Audit has found areas where improvements can be made and has made a number of recommendations to address the issues.

Acknowledgement

1.10 Audit would like to acknowledge with gratitude the full cooperation of the staff of the Environment Bureau (ENB — Note 4) and the EPD during the course of the audit review.

Note 4: *In 2001, the Environment and Food Bureau was responsible for the policy on environmental matters. In July 2002, the Environment, Transport and Works Bureau was formed to take up the environment portfolio from the Environment and Food Bureau. In July 2007, the ENB was formed to take up the policy on environmental matters. For simplicity, all the previous policy bureaux which had been responsible for the policy on environmental matters are referred to as the ENB in this Report.*

PART 2: PLANNING OF ECOPARK

2.1 This PART examines the planning of EcoPark with a view to identifying room for improvement.

Planning of EcoPark

2.2 In September 2001, the ENB announced that the Government would build EcoPark to provide long-term land for the local recycling industries. In November 2001, the EPD employed an engineering consultant (Consultant A) to conduct a preliminary study of EcoPark. In October 2002, Consultant A completed the study. According to the study report:

- (a) the capital cost of EcoPark would be \$316 million with an annual recurrent cost of \$10.6 million;
- (b) given the low profit margin and market viability of recyclable waste, the Government had to directly finance the capital cost in order to make the EcoPark project viable;
- (c) the private sector should be involved to bring in private-sector management expertise to the project and to innovate and market the recovery park concept; and
- (d) full government ownership was not appropriate.

The study recommended that a further review be carried out to determine the most appropriate management option for developing EcoPark.

2.3 In November 2002, the EcoPark project was upgraded to Category B of the Public Works Programme (Note 5). The EcoPark project was estimated to cost \$316 million under the Capital Works Reserve Fund (CWRP). According to the then implementation programme, the capital works were scheduled for completion by the end

Note 5: *Category B projects under the Public Works Programme refer to projects which have resources earmarked for the capital works expenditure with technical feasibility established. Once a project is upgraded to Category B, works departments may undertake the necessary pre-construction work including planning, investigation and design to render the project ready in all respects for upgrading to Category A (see Note 6).*

of 2004. In the same month, the Financial Services and the Treasury Bureau (FSTB) reminded the EPD that:

- (a) **the EcoPark project could not be upgraded to Category A (Note 6) unless and until the recurrent consequence issue was satisfactorily resolved; and**
- (b) the EPD should proceed with the detailed design and any other pre-construction work if they would not become abortive.

2.4 In November 2002, the ENB informed the EPD that:

- (a) the operation of EcoPark should be self-financing;
- (b) in view of budgetary constraint, additional funding would not be available for meeting the recurrent cost of EcoPark; and
- (c) the EPD had to explore the feasibility of involving the private sector in the development and operation of EcoPark.

2.5 In March 2003, the EPD engaged a financial consultant (Consultant B) to conduct a financial study to explore feasible procurement options with private-sector participation. Consultant B identified the following options of involving private-sector participation with a view to achieving self-financing:

- (a) ***Option A: Build-Operate-Transfer (BOT) Contract (Note 7) — Lump Sum Payment.*** A private company would act as both the developer and the operator. The Government would make capital contributions in the form of a lump sum payment to the operator to meet the capital cost;
- (b) ***Option B: Government Business Enterprise.*** A joint venture company, formed between a government-owned company and a private company, would act as the developer and the operator of EcoPark. The Government would make capital contributions to meet the capital cost;

Note 6: *Category A projects refer to projects which have been approved by the FC and are ready in all respects for works to proceed.*

Note 7: *A BOT contract is a type of project financing arrangement in which a private entity receives the right to build an infrastructure project, to operate it for a given period of time, and eventually to transfer ownership of the project back to the Government.*

- (c) **Option C: Management Contract.** The Government would fully meet the capital cost of the EcoPark project. A private company would be appointed to design, construct and operate EcoPark. The operator would take any risks on the financial performance of the EcoPark operation by being responsible for charging and collecting fees as well as paying all operating costs; and
- (d) **Option D: BOT Contract — Instalment Payment.** Similar to Option A, a private company would act as the developer and the operator of EcoPark. Unlike Option A, the Government would make periodical payments, instead of a lump sum payment, to the private company as capital contributions.

2.6 In May and June 2003, Consultant B conducted a market survey on potential investors. According to Consultant B's report submitted in November 2003:

- (a) the response from potential investors was not encouraging;
- (b) the commercial viability of the project was in doubt if it relied solely on the rental revenue from the leasing of land in EcoPark; and
- (c) the Government's financial support to take on some or all of the revenue risks was required.

2.7 Between May 2003 and October 2004, the ENB, the FSTB and the EPD discussed the financing arrangement. It was generally agreed that Option D should be adopted to bring in private-sector management expertise.

2.8 In October 2004, the EPD requested the ENB to make an early decision on the contract arrangement to be adopted for the commissioning of EcoPark. In November 2004, in view of the lukewarm response from potential contractors on the BOT arrangement under Option D, the ENB asked the EPD to proceed as follows:

- (a) basic infrastructure at EcoPark should be provided under a public works project; and
- (b) interested parties should be invited to take on the management of EcoPark on behalf of the Government.

The EPD undertook to explore the form of management contract to be adopted.

2.9 In November 2004, the ENB requested the EPD to proceed with the construction of EcoPark, and to critically examine the implementation programme with a view to expediting action and enabling the project to be commissioned at an early date. The ENB informed the EPD that:

- (a) since the announcement of the construction of EcoPark, the project had been delayed for nearly two years. It would be unacceptable for the programme to further slip to mid-2007; and
- (b) **the crux of the problem had been the lack of recurrent resources.**

2.10 In December 2004, the ENB informed the EPD that the Bureau would continue to liaise with the relevant parties to help resolve the management contract issue due to the EPD's difficulty in absorbing the recurrent cost of EcoPark. With a view to determining a feasible procurement arrangement of the management contract (see para. 2.8), the EPD consulted the relevant departments including the FSTB, the Department of Justice and the Lands Department (Lands D), and also liaised with potential management contractors. In April 2005, the EPD engaged Consultant A to undertake the detailed design of the EcoPark project. In May 2005, the EPD informed the EA Panel of the progress of the development of EcoPark. The following views were expressed by Members of the EA Panel:

- (a) the Operator might operate EcoPark according to commercial principles, with the result that only large waste recycling operations could afford to rent the lots, thereby giving rise to monopolisation and adverse impact on existing recycling industries; and
- (b) EcoPark should not be operated strictly on commercial principles but should set its own environmental objectives.

2.11 In June 2005, the EPD sought the advice of the FSTB on the financial arrangement and contract option for the operation and management of EcoPark. The EPD proposed to adopt a management contract with private-sector involvement (i.e. Option C — see para. 2.5(c)). On the financial aspect, the EPD proposed to adopt the following arrangements:

- (a) the Operator would be allowed to collect and retain rents and management fees from tenants to cover the maintenance and operating costs; and
- (b) if there was shortfall, it would be met by the EPD. If there was surplus, it would be shared by the Government and the Operator.

2.12 In July 2005, the FSTB expressed concern about the EPD's proposal, as follows:

- (a) if the shortfall had to be met by the Government, the Operator merely acted as an agent (service contractor) for the Government, rather than managed EcoPark in his own right; and
- (b) the EPD should clarify the rights and obligations of the Operator, in particular whether the Operator was a service contractor (see (a) above), a lessee, a tenant or a licensee.

2.13 In September 2005, in the light of the views of the EA Panel and the FSTB, as well as the lack of interest from private investors to invest in the project in partnership with the Government, the EPD proposed to adopt a conventional management contract (**the Adopted Option**). Under the Adopted Option:

- (a) the Operator would receive a monthly operation fee from the EPD;
- (b) the rent received from the tenant would be credited to the General Revenue;
- (c) **the EPD would absorb the recurrent cost of EcoPark;** and
- (d) the Operator would only act as the agent of the Government. Private-sector involvement was confined to the management and maintenance of facilities.

The option was supported by the ENB and the FSTB. The project was upgraded to Category A in 2006.

Audit observations and recommendations

Need to resolve financial arrangement on recurrent expenditure

2.14 In November 2002, the Government reserved a sum of \$316 million under the CWRP to meet the capital cost of EcoPark (see para. 2.3). In the same month, the ENB informed the EPD that the operation of EcoPark should be self-financing (see para. 2.4(a)). In March 2003, the EPD commissioned Consultant B to further examine the financial arrangement and explore different contract options. In November 2003, Consultant B said that the EcoPark project would not be financially viable without the Government's financial support. In December 2004, the ENB said that it would continue to help resolve the issue on recurrent cost (see para. 2.10). Following discussions among the EPD, the ENB and the FSTB, agreement was eventually reached in September 2005 on the financial arrangement and the contract option to be adopted.

2.15 The financial arrangements and contract options were inter-related. While the ENB decided in November 2002 that the EcoPark project should be self-financing (see para. 2.4(a)), the financial arrangements on recurrent cost and the contract option to be adopted were only resolved in September 2005 (see para. 2.13). In the event, the target commissioning date of Phase 1 of EcoPark had to be revised from the end of 2004 (see para. 2.3) to late 2006.

2.16 While the EPD had taken steps to compress the implementation programme to make available the Phase 1 lots for leasing, up to February 2010, the EcoPark recycling operation had not yet commenced. **Audit considers that, in planning environmental projects in future, the ENB and the EPD need to resolve the contract and financial arrangements early during the planning stage, and consult the FSTB where necessary, so as to minimise delay in project implementation.**

Need to explore alternative contract arrangements to bring in private-sector expertise

2.17 In September 2005, the EPD decided not to adopt the four options proposed by Consultant B but to proceed with the Adopted Option. Audit found that under the Adopted Option:

- (a) the Government would be responsible for designing and constructing the basic infrastructure of EcoPark. It would award the tenancy of individual lots by open tenders to recycling traders. **The Operator would not have any tenancy, lease or title rights of the site and would not be allowed to run any business at EcoPark;**
- (b) private-sector expertise would not be fully involved in the development of EcoPark (see para. 2.13(d)). The Operator would manage and maintain EcoPark in accordance with the guidelines the Government set in the management contract, and in return receive a monthly fee from the EPD;
- (c) the Operator had little incentive to promote and market EcoPark with a view to maximising the recycling throughput as it was only engaged to manage EcoPark on behalf of the Government. The Operator would only carry out marketing work in accordance with EPD instructions as provided in the management contract; and
- (d) since the award of the management contract in November 2006, the Operator had only played a limited role in promoting and marketing EcoPark (see paras. 5.10 to 5.12).

2.18 According to Consultant A, the private sector should be involved to bring in private-sector management expertise and to innovate and market the recovery park concept (see para. 2.2(c)). The ENB had also informed the EPD to explore the feasibility of involving the private sector in the development (see para. 2.4(c)). However, Audit notes that, under the Adopted Option, private-sector expertise is not fully employed in the development and operation of EcoPark because the Operator would only act as a management and maintenance agent (see para. 2.17(b)). In contrast, under the four different options proposed by Consultant B:

- (a) the Operator would have greater flexibility in leasing and marketing lots; and
- (b) the benefit of removing inefficiencies and developing innovative approaches might be realised (see para. 2.2(c)).

2.19 In response to Audit's enquiry on the planning of EcoPark, the EPD said in January and March 2010 that:

- (a) the EcoPark project was a completely new and innovative idea to support and further develop the local waste recycling industries by means of provision of long-term land at an affordable price to promote more higher value-added waste processing operations in Hong Kong instead of the commonly employed mode of bale-and-export process (Note 8);
- (b) in planning the EcoPark project, the views of an environmental consultant and major stakeholders including the local recycling trades and professional organisations were sought. There was a lack of interest from the private sector due to the economic downturn at the time, the uncertainty of the markets of the recycled materials and the risk associated with the move towards higher value-added waste processing operations, which were not prevalent in Hong Kong;
- (c) in view of (b) above and to ensure certainty, the Government decided to implement and manage EcoPark as a public project in accordance with the established construction and management arrangements. Under the Adopted Option, the Government would take on all financial (including revenue) risk, thus removing the risk of a private-sector investor in having to abandon the project under unfavourable economic circumstances;

Note 8: *Bale-and-export process is the traditional simple mode of recycling operations in Hong Kong whereby waste materials are collected, sorted and baled for exporting to the Mainland or overseas countries for further processing.*

- (d) while there were constraints in the Adopted Option in maximising private-sector experience and commercial expertise, it was an open, transparent and fair procurement option in accordance with the established arrangements for a public project. The Adopted Option was the only feasible option at the time of planning and development;
- (e) the policy intent at the early planning stage of the EcoPark project in late 2002 was to engage maximum private-sector involvement and to achieve a self-financing mode of operation as far as practicable; and
- (f) the deliberations among relevant policy bureaux and departments (the ENB, the FSTB, the EPD, the Lands D and the Department of Justice) during the subsequent planning process on project management, procurement and land disposal options, and the associated financial arrangement was to address:
 - (i) the policy objectives as set out in the 2005 Policy Framework to facilitate the development of the local recycling industry and to reduce waste by setting up EcoPark in Hong Kong;
 - (ii) the fact that the EcoPark project was a completely new and innovative concept to support the local recycling industry to move from a low-end mode of operation to value-added and higher-end operations. While EcoPark would provide the land for the local recycling industry to move up the value chain, the provision should be accompanied by the industry's initiatives having regard to the business environment and their business development plans; and
 - (iii) the lack of interest from private investors in investing in the development of the project as it was assessed to be not commercially viable (see (b) above).

2.20 **Audit considers that, in planning environmental projects in future, the ENB and the EPD need to critically examine the need for involving the private sector in the project development and operation, and, if necessary, explore alternative contract arrangements with a view to:**

- (a) **bringing in the private-sector expertise which would help improve the service quality; and**
- (b) **allowing flexibility to meet market changes.**

Need to take into account landfill cost in project evaluation

2.21 As stated in the 2005 Policy Framework and the PWSC paper of February 2006 on the EcoPark project, one of the objectives of EcoPark was to promote waste recycling and thereby reduce the reliance on landfills for waste disposal. According to the EPD, the existing landfills (namely the South East New Territories Landfill, the West New Territories Landfill and the North East New Territories Landfill) would reach their full capacities commencing in mid-2010s. As stated in the PWSC paper of February 2006, EcoPark would have an annual waste throughput of 58,600 tonnes. Based on the EPD's estimate that each tonne of waste disposed of at landfills would cost \$125, the saving of recycling 58,600 tonnes of waste in EcoPark instead of disposing of it at landfills would amount to \$7.3 million a year. However, information about the landfill cost saving was not provided in the PWSC paper for EcoPark. **Audit considers that, in planning environmental projects in future, the ENB and the EPD need to take into account the full costs and benefits, including the cost savings, in the financial evaluation of the projects.**

Audit recommendations

2.22 **Audit has recommended that, in planning environmental projects in future, the Secretary for the Environment and the Director of Environmental Protection should:**

- (a) **take action to resolve the contract and financial arrangements early during the planning stage, and consult the FSTB where necessary, so as to minimise delay in project implementation (see para. 2.16);**
- (b) **critically examine the need for involving the private sector in the project development and operation, and, if necessary, explore alternative contract arrangements with a view to:**
 - (i) **bringing in the private-sector expertise to help improve the service quality; and**
 - (ii) **allowing flexibility to meet market changes (see para. 2.20); and**
- (c) **in the financial evaluation of the projects, take into account the full costs and benefits, including the cost savings, and consider providing such information in the PWSC/FC papers where appropriate (see para. 2.21).**

Response from the Administration

2.23 The **Secretary for the Environment** and the **Director of Environmental Protection** agree with the audit recommendations.

2.24 The **Director of Environmental Protection** has said that:

- (a) the key objective of the EcoPark project is to promote local recycling of recyclable materials through value-added technologies as a more sustainable means (in terms of economic return and industrial development) in place of the existing simple “bale-and-export” operation for most waste materials recovered in Hong Kong;
- (b) the EPD together with the ENB have spent considerable efforts and time in exploring possible arrangements to bring in private-sector participation in developing and operating EcoPark; and
- (c) the EPD agrees to provide estimates on cost savings in the financial evaluation of future projects of similar nature (see para. 2.22(c)). The saving on landfill disposal cost of the EcoPark project may only indicate notional savings. Some of the targeted materials for processing in EcoPark (e.g. metal waste) would be exported for recycling, rather than disposed of at landfills, if these materials are not processed at EcoPark.

2.25 The **Secretary for Financial Services and the Treasury** agrees with the audit recommendation in paragraph 2.22(a). He has said that:

- (a) if the operation of EcoPark was intended to be self-financing (see para. 2.4(a)), then the bearing of budget constraint, if any, would be less direct; and
- (b) the key problem in the engagement of private-sector participation in the EcoPark project was more on the lukewarm response from potential contractors, which had an impact on the viability of the project, rather than budget constraint (see para. 2.9(b)).

PART 3: PHASE 1 DEVELOPMENT

3.1 This PART examines the Phase 1 development of EcoPark with a view to identifying areas for improvement.

Objectives of EcoPark

3.2 In March 2006, the FC approved funding of \$319 million for the EcoPark project. According to the PWSC paper of February 2006:

- (a) the Government would provide land and essential infrastructure facilities in EcoPark for the recycling traders to operate their business;
- (b) the management of EcoPark would be funded by the Government and recycling traders would have to pay rent for their operation in EcoPark;
- (c) the selection criteria for the occupant recycling traders would be set with priority given to processes involving value-added technologies and the target materials under the proposed Producer Responsibility Scheme (PRS — Note 9). The major types of recycling materials to be processed included plastic waste (Note 10), rubber tyres and waste electrical and electronic equipment (WEEE — Note 11) with a total materials throughput of 58,600 tonnes per year (see Appendix A);
- (d) **EcoPark would not become a waste sorting centre and its operation would not affect the business of operators engaging in waste collection for recycling purposes; and**
- (e) the EcoPark project would be implemented by two phases.

Note 9: *The PRS is a shared responsibility tool to enhance reduction, re-use, recovery and recycling of waste. Under the PRS, a host of stakeholders (including the manufacturers, importers, distributors, retailers and consumers) are held responsible for the collection, treatment, recycling and environmentally sound disposal of the end-of-life products. In July 2008, the Product Eco-responsibility Ordinance (Cap. 603) was enacted to provide the framework for the PRS.*

Note 10: *In April 2009, LegCo approved the Product Eco-responsibility (Plastic Shopping Bags) Regulation (Cap. 603A) which provided for the charging of the environmental levy on plastic shopping bags with effect from July 2009.*

Note 11: *In January 2010, the EPD commenced a three-month consultation on the implementation of a mandatory PRS for the proper management of WEEE.*

Land allocation of Phase 1 of EcoPark

3.3 There are six lots of land (totalling 3.6 hectares) available for leasing to recycling traders under Phase 1. In March and April 2006, the EPD conducted an expression-of-interest exercise to obtain information about the recycling traders' preference on:

- (a) the types of recyclable materials to be processed and the recycling processes to be adopted in EcoPark;
- (b) the tenancy arrangements, lot sizes, utility requirements and superstructure requirements; and
- (c) the management services to be provided by the Government.

3.4 Based on the recycling traders' views collected, the EPD noted that:

- (a) in general, the market responses for EcoPark were positive; and
- (b) the planning and design of EcoPark infrastructure, and operational arrangements appeared to be fitting the requirements of the respondents.

3.5 In December 2006, the Government set up an EcoPark Advisory Committee (EAC — Note 12) to provide advice on the development and operation of EcoPark. In the same month, the EPD decided to allocate the first batch of lots for recycling of plastic waste, vehicle tyres and building materials. The EPD considered that the market had a strong demand for the three materials and that their sources of supply were readily available locally.

3.6 As at December 2009, the EPD had entered into tenancy agreements for all the six Phase 1 lots with the recycling traders. However, none of the recycling traders had commenced operation and produced any throughput. Table 1 shows the progress of awarding tenancies for the six lots. Table 2 shows the forecast operation commencement date and the progress of the Phase 1 lots. Figure 1 shows the lot allocation of Phase 1.

Note 12: *The EAC is chaired by the Director of Environmental Protection or the Deputy Director of Environmental Protection with representatives from trade associations, universities and professional bodies, including Hong Kong General Chamber of Commerce, Federation of Hong Kong Industries, Hong Kong Chinese General Chamber of Commerce, Hong Kong Productivity Council, Hong Kong Waste Management Association, Hong Kong Institution of Engineers, Invest Hong Kong and Hong Kong Science and Technology Park Corporation.*

Table 1
Progress of awarding tenancies under Phase 1
(December 2009)

Lot	Date	Particulars
1	December 2006 April 2007 November 2007 February 2008 April 2008	Tender invited for recycling of plastic waste Tenancy awarded Tenancy terminated due to failure to submit performance bond Lot re-tendered for recycling of plastic waste Tenancy awarded
2	December 2006 April 2007 March 2008 October 2008 December 2008	Tender invited for recycling of waste tyres Tenancy awarded Tenancy terminated due to default in rent payments Lot re-tendered for recycling of waste metals Tenancy awarded
3	December 2006 April 2007	Tender invited for recycling of waste wood Tenancy awarded
4	September 2007 February 2008 April/May 2008 December 2008 February 2009	Tender invited for recycling of plastic waste but no conforming tender received Lot re-tendered for recycling of organic waste Successful tenderer repudiated the tenancy after the award of tenancy Lot re-tendered for recycling of used batteries Tenancy awarded
5	September 2007 December 2007	Tender invited for recycling of WEEE Tenancy awarded
6	September 2007 December 2007	Tender invited for recycling of used cooking oil Tenancy awarded

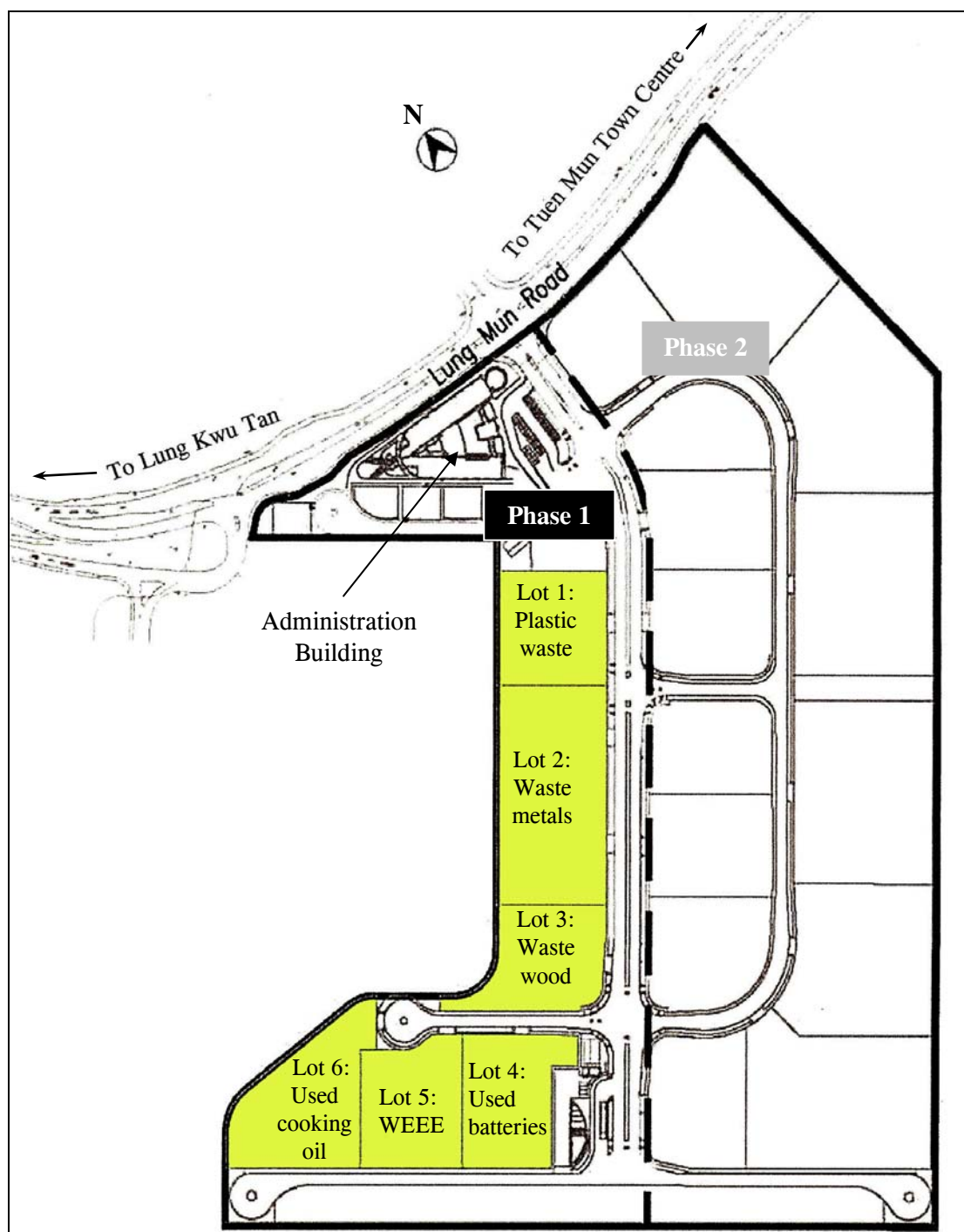
Source: EPD records

Table 2
Progress of Phase 1 lot allocation
(February 2010)

Lot	Tenancy award	Forecast operation commencement	Type of recycling materials processed	Progress
1	April 2008	Not yet determined	Plastic waste	General building plans had been approved by the Buildings Department (BD). Other building plans were to be submitted for the BD's review.
2	December 2008	First quarter of 2010	Waste metals	All building plans had been approved by the BD and construction works were in progress (see Photograph 2).
3	April 2007	Not yet determined	Waste wood	All building plans had been approved by the BD and appointment of construction contractors was in progress (see Photograph 3).
4	February 2009	Not yet determined	Used batteries	General building plans were rejected by the BD in mid-October 2009. Revised submissions were being considered by the BD.
5	December 2007	Second quarter of 2010	WEEE	All building plans had been approved by the BD and construction works were in progress (see Photograph 4).
6	December 2007	Second quarter of 2010	Used cooking oil	All building plans had been approved by the BD and construction works were completed (see Photograph 5). Operation would commence in April 2010.

Source: EPD records

Figure 1
Lot allocation in EcoPark Phase 1



Source: EPD records

Photograph 2

**EcoPark Phase 1 Lot 2 site
(February 2010)**



Source: EPD records

Photograph 3

**EcoPark Phase 1 Lot 3 site
(February 2010)**



Source: EPD records

Photograph 4

**EcoPark Phase 1 Lot 5 site
(February 2010)**



Source: EPD records

Photograph 5

**EcoPark Phase 1 Lot 6 site
(February 2010)**



Source: EPD records

Audit observations and recommendations

Need to step up efforts in expediting Phase 1 development

3.7 According to the 2005 Policy Address and the 2005 Policy Framework, Phase 1 of EcoPark would be commissioned (i.e. the lots would be made available for leasing to tenants) by 2006. According to the tenancy agreements, tenants should commence operation within 12 months from the date of site possession. Up to February 2010, Phase 1 had not yet commenced recycling operation (see Table 2 in para. 3.6). The delay was mainly attributable to the need for re-tendering the tenancy for three of the six lots, and the time required for tenants to obtain approval for building plans and to complete the building works.

3.8 In January and March 2010, in response to Audit's enquiry concerning the Phase 1 development, the EPD said that:

- (a) the commencement of recycling operations of Phase 1 tenants was slower than expected. Small-to-medium-sized recycling companies were:
 - (i) inexperienced in handling planning and approval seeking processes in connection with design and building their waste processing facilities; and
 - (ii) reluctant in making substantial investments in hiring professional services and in funding the capital costs during the difficult market situation prevailing in the past few years; and
- (b) it was expected that three of the six Phase 1 tenants would commence recycling operations in around March and April 2010.

Audit considers that the EPD needs to keep in view the progress of Phase 1 and step up efforts in expediting its development for an early commencement of recycling operation.

Need to critically assess the demand for land from recycling traders

3.9 It took more than two years (from December 2006 to February 2009) for the EPD to let out all the six lots. For the tender exercise conducted in September 2007 for Lot 4 for recycling of plastic waste, no conforming tenders were received. In order to meet the market demand, the EPD revised the types of recycling materials for two of the six lots (i.e. a change from waste tyres to waste metals for Lot 2, and a change from plastic waste to organic waste and then to used batteries for Lot 4). **In view of market volatility,**

Audit considers that the EPD needs to critically assess the demand for land from recycling traders before inviting tenders for the lots in EcoPark.

Need to take action to enforce tenancy requirements

3.10 According to the tenancy agreements, tenants should commence operations within 12 months from the date of site possession (see para. 3.7). However, up to February 2010, none of the tenants had commenced operation. The planned operation schedule of EcoPark Phase 1 is shown in Table 3.

Table 3

Planned operation schedule of EcoPark Phase 1

Lot	Tenancy award	Site possession	Planned operation commencement	Delay (up to end of February 2010)
1	April 2008	June 2008	June 2009	8 months
2	December 2008	June 2009	June 2010	Not applicable
3	April 2007	May 2007	May 2008	21 months
4	February 2009	August 2009	August 2010	Not applicable
5	December 2007	January 2008	January 2009	13 months
6	December 2007	January 2008	January 2009	13 months

Source: EPD records

3.11 Audit notes that some tenants did not commence operations on time. **Audit considers that the EPD needs to take measures to enforce tenancy conditions on those tenants who have failed to comply with tenancy conditions, including termination of tenancies if the breach is considered to be serious and substantial (e.g. the lot is used for storage purposes or kept vacant for a long time).**

Measures to help expedite processing of tenants' building plans

3.12 Some tenants had expressed difficulties to the EPD in complying with the requirement of commencing waste recovery/recycling activities within 12 months as stipulated in the tenancy agreement. Their views were summarised as follows:

- (a) a much longer lead time and much higher initial capital investment were required for setting up a recycling plant in EcoPark than a plant for simple bale-and-export process (see Note 8 to para. 2.19(a)); and
- (b) despite being built on government leased land, tenants' premises within the leased lots were not considered as "buildings belonging to the Government" under the Buildings Ordinance (Cap. 123). The tenants had to go through the same procedures as other private developers in obtaining consent for construction and occupation permits for their facilities.

3.13 Some tenants were small-to-medium-sized companies which might not be familiar with the building and fire-services requirements. At the EAC meeting held in May 2009, the EPD said that to assist the tenants in meeting the requirements of the Buildings Ordinance, it kept a good dialogue with the BD and the Fire Services Department so that the tenants' building plan submissions could be approved as early as possible. According to the EPD, it would be useful to set up an inter-departmental group with relevant authorities to assist tenants in submitting applications to meet statutory requirements. **In Audit's view, the EPD needs to continue taking measures to help expedite the processing of building plans submitted by tenants.**

Need to explore measures to facilitate recycling traders in setting up recycling business

3.14 Apart from the building plan submissions, tenants of Phase 1 EcoPark also experienced other difficulties, including cash flow problems, market volatility, lack of knowledge about government regulations, insufficient supply of recyclable wastes and price falls of waste materials due to the economic downturn.

3.15 According to the EPD, tenants' cash flow problems were aggravated by the requirements of placing rental deposits, advance rental payments and performance guarantees under the tenancy agreements. After seeking legal advice, the EPD considered that part of the rental deposits and performance guarantees could be returned to tenants provided that they had made certain capital investment in their business at EcoPark.

3.16 In response to Audit's enquiry, in January and February 2010, the EPD said that:

- (a) the EPD assisted the tenants in liaising with major waste producers on the supply of recyclable waste, and exploring partnership arrangements with trade associations, non-governmental organisations (NGOs) and government departments;
- (b) given the negative economic outlook, putting further pressure on tenants in strict compliance with the tenancy terms was unlikely to be productive;
- (c) to ensure the early commencement of recycling operation as soon as the lots were leased out, it was considered important for the Government to review the modus operandi with a view to facilitating commencement of the tenants' operation at EcoPark; and
- (d) provision of basic plant infrastructure and facilities (e.g. working sheds and fire services facilities) to tenants might be considered.

3.17 **To ensure the smooth operation of recycling activities at EcoPark, the EPD needs to consider whether there are other measures which can help tenants tackle their operational difficulties, especially those relating to compliance with government regulations and tenancy requirements.**

Need to consider other arrangements in letting lots in future

3.18 According to the EPD, there was scope to adjust certain existing tenancy requirements for new tenancies to facilitate the tenants' commencement of operation, including:

- (a) adopting early signing of tenancy agreements before the handing over of sites to allow early action for submitting building plans and other documents before commencement of tenancy;
- (b) permitting the tenants to process other waste materials in addition to the designated materials; and
- (c) allowing a wider scope of environmental industries to operate in addition to waste recycling.

3.19 According to the EPD, in order to increase the attractiveness of EcoPark, the approach in selecting operator would need to be reviewed. **In Audit's view, the EPD, in consultation with the FSTB, needs to consider whether, apart from open tendering, there are other appropriate arrangements for letting the lots in EcoPark in future.**

Need to monitor the throughput of recycling materials

3.20 In October 2002, Consultant A estimated that EcoPark could process 648,780 tonnes of recycling materials. The major types of recycling materials included metals, paper, plastics, tyres and wood. However, according to the PWSC paper of February 2006 (see para. 3.2(c)), the annual throughput was substantially reduced to 58,600 tonnes. A comparison of the change of materials throughput is shown in Appendix A.

3.21 The significant reduction of throughput was mainly attributable to the exclusion of waste metals and waste paper. In January 2010, in response to Audit's enquiry, the EPD said that the change in the types of recycling materials was intended to tie in with the target materials under the proposed PRS, and to deal with waste materials (e.g. WEEE) which had a significant environmental impact.

3.22 As shown in Table 4, the composition of recycling materials for EcoPark was different from that proposed in the PWSC paper. **In view of the market changes since 2006, Audit considers that the EPD needs to update the target materials throughput of EcoPark.**

Table 4

A comparison of recycling materials to be processed at EcoPark

Recycling materials to be processed	Consultant A's estimate (October 2002)	As stated in PWSC paper (February 2006)	As per tenancy agreement under Phase 1 (December 2009)
Glass	✓	×	×
Metals			
— Ferrous metals	✓	×	✓
— Non-ferrous metals	✓	×	×
Paper	✓	×	×
Plastics	✓	✓	✓
Tyres	✓	✓	×
Wood	✓	×	✓
Batteries	✓	✓	✓
Electronics/electrical appliances	✓	✓	✓
Organic food waste	✓	×	✓
Textiles	✓	×	×
Expanded polystyrene packaging	×	✓	×

Source: EPD records

3.23 Up to February 2010, Phase 1 tenants had not yet commenced production runs. At a meeting in December 2005, noting that the throughput of recycling materials was an important performance indicator of EcoPark, the EA Panel requested the Administration to provide information on the target throughput. **Audit considers that the EPD needs to closely monitor the throughput of the materials processed at EcoPark and consider reporting periodically the forecast and actual throughputs to the EA Panel.**

Need to review the achievement of waste-management objectives of EcoPark

3.24 At an EA Panel meeting held in June 2008, the following comments were made on the operation of EcoPark:

- (a) the modus operandi of EcoPark could not attract potential tenants as evidenced by the withdrawal and termination of tenancies;
- (b) there were concerns about the viability of EcoPark under the present modus operandi. A limited company should be set up to manage and operate EcoPark as a business enterprise, such that greater flexibility could be exercised in determining the size and operation of the lots to be leased out; and
- (c) if the waste-management strategy was aimed at encouraging the development of recycling industries, suitable measures should be adopted to facilitate the recycling operations in the first place.

3.25 In December 2008, the EAC discussed the future direction of the EcoPark development. The following views were made:

- (a) alternative lot allocation method should be explored, for example, by tender negotiation;
- (b) the land use of EcoPark should be revisited. Other environmental uses, in addition to waste recycling, and processing of imported materials should be allowed;
- (c) the feasibility of providing assistance by the Government on the collection of recyclable materials and procurement of recycled products should be explored; and
- (d) the Government should provide standard factory premises for use by EcoPark tenants.

3.26 Audit noted that, as at December 2009, the PRS for certain target materials (e.g. WEEE) had not yet been implemented, which might affect the financial viability of certain types of recyclable waste.

3.27 Audit considers that the EPD needs to review the extent of achievement of the waste-management objectives of EcoPark, in particular whether the objectives of establishing value-added and higher-end operations can be sustained. In reviewing the achievement of EcoPark, the EPD needs to take into account the views of LegCo Members (see para. 3.24).

Audit recommendations

3.28 Audit has *recommended* that, in administering EcoPark in its future developments, the Director of Environmental Protection should:

- (a) keep in view the progress of Phase 1 and step up efforts in expediting its development (see para. 3.8);
- (b) critically assess the demand for land from recycling traders, including conducting more market research and extensive consultations with the traders, before inviting tenders (see para. 3.9);
- (c) take measures, including termination of tenancies if the breach is serious and substantial, to enforce tenancy conditions on tenants who have failed to comply with the requirements (see para. 3.11);
- (d) continue taking measures to help expedite the processing of building plans submitted by tenants (see para. 3.13);
- (e) explore measures which can help tenants tackle their operational difficulties, especially those relating to compliance with government regulations and tenancy requirements (see para. 3.17);
- (f) in consultation with the Secretary for Financial Services and the Treasury, consider whether, apart from open tendering, there are other appropriate arrangements for letting the lots in EcoPark (see para. 3.19);
- (g) update the target materials throughput of EcoPark in the light of market changes, and closely monitor the actual throughput of the materials (see paras. 3.22 and 3.23);
- (h) consider reporting periodically the forecast and actual throughputs of EcoPark to the EA Panel (see para. 3.23); and

- (i) **review the extent of achievement of the waste-management objectives of EcoPark, in particular whether the objectives of establishing value-added and higher-end operations can be sustained (see para. 3.27).**

Response from the Administration

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

- (a) given the unprecedented nature of the project and the arguably difficult market situation, it is expected that three of the six Phase 1 tenants will commence recycling operation in the first quarter of 2010. For the other three tenants, the EPD will continue to provide appropriate assistance and step up efforts to encourage/facilitate their early commissioning of recycling operation;
- (b) since all six lots in Phase 1 have been let out, the EPD will critically assess the land demand from the recycling and environmental industry before letting the lots in Phase 2;
- (c) while three of the six tenants in Phase 1 are expected to commence recycling operation in the first quarter of 2010, and one of the remaining three tenants (with site possession only in August 2009) is still in its engineering preparation/planning stage, the EPD will continue to provide appropriate assistance to the remaining two tenants to facilitate their early commissioning of recycling operation;
- (d) the EPD will keep in view the situation and take appropriate contract enforcement measures which include termination of tenancy if there is any serious and substantial breach of tenancy conditions;
- (e) in order to facilitate and assist EcoPark tenants to obtain approval of statutory plans/permits/licences, the EPD has maintained very close communication with the BD and the Fire Services Department on tenants' submissions. In addition, the EPD has been providing EcoPark tenants with relevant advice and guidance through various means, including meetings on individual basis, briefings on relevant statutory requirements and procedures by experienced Authorised Person, workshop on utilities installation and procedures by relevant utilities companies, and experience-sharing platforms. The EPD will continue to provide necessary assistance to EcoPark tenants in this respect;

- (f) the EPD has taken the following measures to help Phase 1 tenants to tackle operational difficulties:
 - (i) releasing part of the rental deposits to relieve tenants' short-term cash flow problem;
 - (ii) releasing part of the performance guarantee to tenants when considerable capital investment has been injected;
 - (iii) deferring handing over of lots to tenants for a period of up to three months to allow more time for tenants to prepare for plant development/operation without immediate commencement of rental period;
 - (iv) providing supporting letters for tenants to facilitate their liaison with local waste generators; and
 - (v) assisting tenants to explore partnership arrangements with relevant organisations such as trade associations, NGOs and government departments;
- (g) in the light of the experience of the Phase 1 development and the views from stakeholders, the EPD will continue to explore appropriate measures and arrangements to ensure the early setting up of waste recycling operations at EcoPark following the award of tenancies;
- (h) in reviewing the Phase 2 letting arrangements, the EPD will work closely with the FSTB having regard to the objectives of the EcoPark project, the experience of the Phase 1 development, the views from stakeholders, as well as the principles of fair competition and open and transparent process;
- (i) a minimum processing tonnage is stipulated in individual tenancies. The total minimum tonnage for the six Phase 1 lots is around 53,720 tonnes a year. However, it is expected that the actual total tonnage will be greater than this minimum according to the latest operation plans of some tenants. The EPD will closely monitor the actual throughput; and

- (j) the EPD has been reporting regularly to the EA Panel on the progress of the EcoPark project. Having regard to the views of stakeholders, the EPD will also review the *modus operandi* of EcoPark with a view to increasing the attractiveness of EcoPark to the recycling and environmental industry, and the practicability of attaching more weight to value-added and higher-end operations.

3.30 The **Secretary for Financial Services and the Treasury** agrees with the audit recommendation in paragraph 3.28(f).

PART 4: PHASE 2 DEVELOPMENT

4.1 This PART examines the Phase 2 development of EcoPark with a view to identifying areas for improvement.

Phase 2 of EcoPark

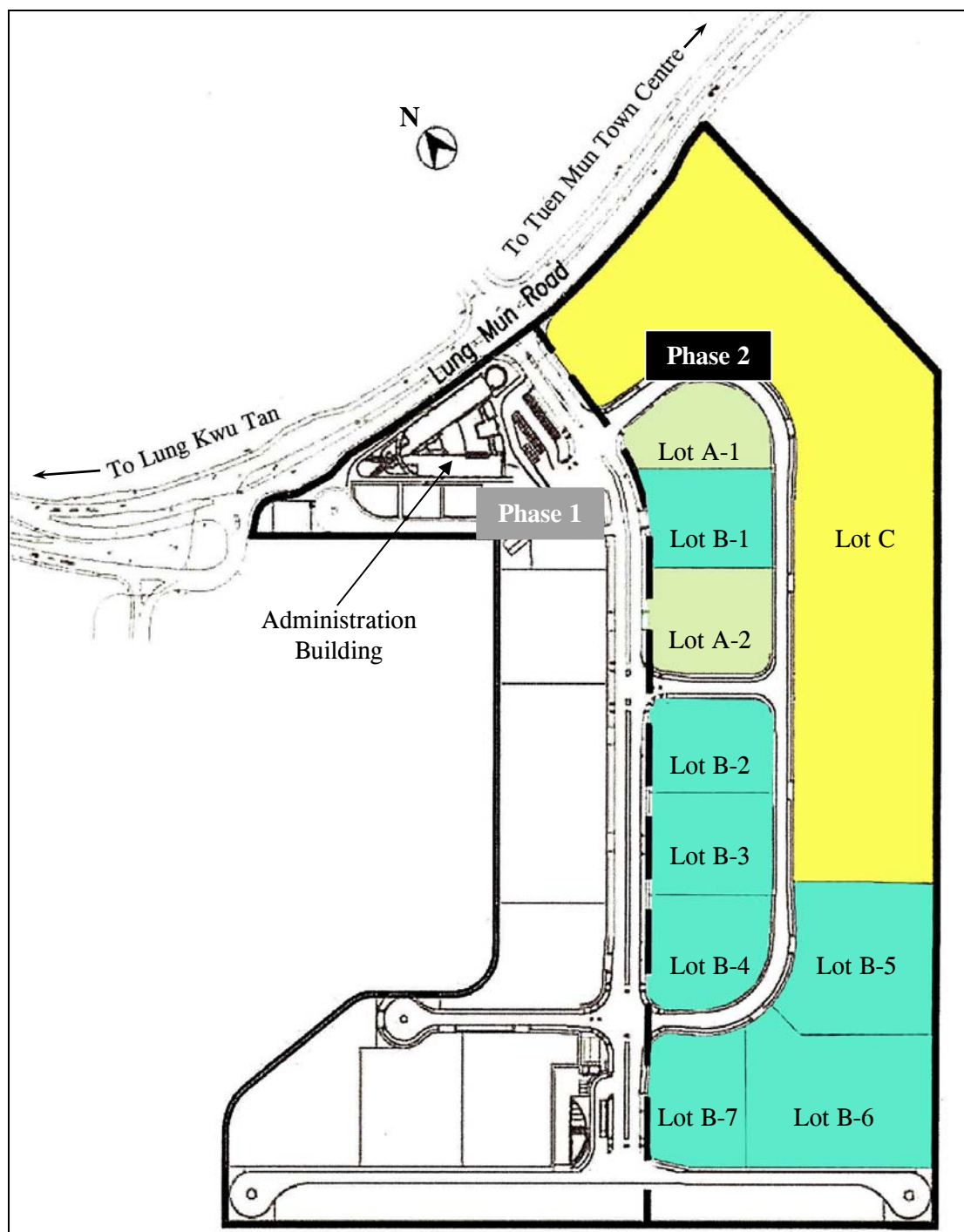
4.2 Phase 2 of EcoPark comprises 12 hectares of land. In December 2008, infrastructure works for Phase 2 commenced. The EPD estimated that the infrastructure works would be completed in the first quarter of 2010.

4.3 In February 2009, in response to the demand for short-term use of land by logistics trades in Tuen Mun and the slowing down of the recycling industries due to the economic downturn, the EPD divided Phase 2 into three zones, namely Zones A to C (see Figure 2) for different uses, as follows:

- (a) ***Zone A (for government funded projects).*** Zone A comprises two lots (Lots A-1 and A-2) with a total area of 1 hectare. The EPD planned to set up some waste recycling centres at the lots to be operated by NGOs. This would address the slowing down in collection and recycling of plastic waste due to the decline in values of such materials, and to facilitate the treatment of WEEE to pave the way for the future PRS for these products. The construction cost would be borne by the Government. The EPD considered that these centres would help facilitate local recycling of wastes, promote community support for waste reduction and recycling, and create job opportunities;
- (b) ***Zone B (for recycling-related environmental industries).*** Zone B comprises seven lots (Lots B-1 to B-7) with a total area of 4.2 hectares. The EPD planned to include recycling-related environmental industries at the lots in addition to the primary recycling industries; and
- (c) ***Zone C (for other short-term uses).*** Zone C comprises one lot (Lot C) with an area of 4.9 hectares. The EPD was aware of the demand for land by logistics trades on a short-term basis, and considered that this lot could be used by other government departments on a temporary basis for this and other related purposes, including the storage of empty containers.

Figure 2 shows the locations of the lots and zones under Phase 2 of EcoPark.

Figure 2
EcoPark Phase 2



Legend:

	Zone A
	Zone B
	Zone C

Source: EPD records

Waste processing centres operated by NGOs in Zone A

4.4 The EPD planned to use Zone A for setting up some government funded waste recycling centres to be operated by NGOs. In October 2009, the EPD set aside two lots (each of 0.5 hectare in size) for setting up a plastic waste processing centre and a WEEE processing centre under a three-year pilot scheme.

4.5 The EPD selected plastic waste and WEEE for the pilot scheme because:

- (a) the collection and recycling of plastic waste fluctuated sharply according to the market situation. Additional measures were required to tide over the downturn due to the financial tsunami of late 2008. This would maintain the local recovery of plastic waste so that the source-separation of waste programme could be sustained; and
- (b) the collection and local recycling of WEEE were unlikely to be commercially viable without a corresponding mandatory PRS (see Note 9 to para. 3.2(c) — the PRS for WEEE was still at the public consultation stage). The EPD needed to expand the current WEEE programme (Note 13) pending the implementation of such a WEEE mandatory scheme.

4.6 The NGOs were responsible for collecting waste materials and providing labour for the recycling operation. The EPD would provide plant and equipment, furniture, associated facilities including power and water supply facilities (at a cost of \$40.6 million) for the two waste processing centres. The Environment and Conservation Fund (ECF — Note 14) would also provide funding support of not more than \$10 million (over three years) to each of the NGOs to facilitate the operation. According to the EPD, the plastic waste processing centre and the WEEE processing centre would be commissioned in the first and second quarters of 2010 respectively.

Note 13: *In 2005, the EPD engaged an NGO to operate a WEEE recycling workshop in Kowloon Bay (the Kowloon Bay WEEE processing centre). Owing to site constraints, processing capacity of the workshop could not be further expanded.*

Note 14: *The ECF was established in 1994 under the Environment and Conservation Fund Ordinance (Cap. 450). The Fund provides funding support for educational, research, technology demonstration and other projects and activities in relation to environmental and conservation matters, as well as community waste recovery projects. The Secretary for the Environment has been appointed as the trustee of the Fund and the EPD acts as its administrative arm.*

Recycling and environmental industries in Zone B

4.7 Zone B was reserved for recycling and environmental industries. The EPD planned to invite interested traders to bid for lots for a wider scope of land uses, including manufacturing green products and conducting researches for waste-management technologies. To attract long-term investment, the EPD intended to provide some flexibility in the tenancy agreements, including a longer tenancy period and other appropriate adjustments in the tenancy terms. The EPD planned to invite bids for the lots in mid-2010.

4.8 In February 2010, the EPD informed Audit that it would consider providing the following facilities, if necessary, to enable Phase 2 tenants to commence their operations as soon as possible after the award of tenancy:

- (a) common utilities such as high-voltage power and water tanks;
- (b) concrete slab paving in the lots; and
- (c) standard infrastructure including offices and working sheds suitable for use by most recycling traders.

Temporary land allocation for open storage of empty containers in Zone C

4.9 The financial downturn in late 2008 resulted in a significant drop in import/export trade and a massive return of empty containers to Hong Kong. There was an acute shortage of temporary sites for open storage of empty containers. In March 2009, in response to the request of the Development Bureau, the EPD agreed to set aside Lot C under Phase 2 of EcoPark (with an area of 4.9 hectares) for the storage of empty containers. In October 2009, after tendering, the Lands D let out a one-year short-term tenancy (renewable monthly thereafter) to a container operator for the open storage of containers in Lot C at a monthly rental of \$0.27 million. Photograph 6 shows the site of Lot C and Photograph 7 shows the containers stored on the site.

Photograph 6

**Location of Lot C at EcoPark site
(October 2009)**



Source: EPD records

Photograph 7

Storage of containers in Lot C (January 2010)



Source: EPD records

Audit observations and recommendations

Need to expedite action in developing EcoPark Phase 2

4.10 At an EA Panel meeting of December 2005, the Administration said that EcoPark Phase 2 would be available for leasing by the end of 2009. As at February 2010, infrastructure works for Phase 2 were still in progress. Audit noted that, apart from the lots designated for setting up waste processing centres, tenders for other Phase 2 lots had not yet been invited. In January 2010, the EPD informed Audit that:

- (a) in the light of the experience gained from the Phase 1 development, the EPD was critically reviewing the modus operandi and potential measures to render the Phase 2 lots more attractive to the trade, and facilitate future tenants to start up their operation as soon as possible after the award of tenancy; and

- (b) the EPD would consult the FSTB and relevant bureaux/departments on the proposals before implementing adjustments to the selection of tenants and tenancies.

Audit considers that the EPD needs to keep in view the progress of Phase 2 and step up efforts in expediting its development.

Need to keep in view land use of EcoPark Phase 2

4.11 Of the 12 hectares of land formed under Phase 2, only 5.2 hectares (including the 1 hectare of land designated for the two waste processing centres) would be available for allocation to recycling traders (see Table 5). Together with Phase 1 (3.6 hectares already allocated), of the 20 hectares of land formed, about 8.8 hectares would be available for the recycling industries by mid-2010.

Table 5

**Land use of EcoPark Phase 2
(January 2010)**

Zone	Land use	Area (hectare)
A	Plastic waste and WEEE processing centres	1.0
B	Recycling and environmental industries	4.2
C	Open storage of empty containers	4.9
Others	Marine frontage, roads and landscape	1.9
Total		12.0

Source: EPD records

4.12 Audit notes that:

- (a) there is constant demand by the recycling industries for more land for recycling and more job opportunities for local workers; and
- (b) **the area used for storage of containers (4.9 hectares or 41% of Phase 2 land) is substantial. Such use is not compatible with the planning intention of EcoPark for operating recycling activities (Note 15).**

4.13 In February 2010, the EPD informed Audit that, after the expiry of the one-year short-term tenancy in October 2010 for container storage, the land would be available for letting to the trade and the total area available would be 13.7 hectares. **Audit considers that the EPD needs to closely monitor the use of EcoPark lots with a view to ensuring that sufficient land is made available for use by the recycling industries. The EPD also needs to liaise with the Development Bureau and the Lands D regarding the time-frame for handing back the Phase 2 lot temporarily allocated for container storage.**

Need to evaluate the operation of two pilot waste processing centres

4.14 The NGOs are engaged as operators for running the processing centres for plastic waste and WEEE. The capital cost of \$40.6 million was met by the CWRF and the recurrent operating cost of not more than \$20 million over three years would be met by the ECF (see para. 4.6).

4.15 In May 2009, the FSTB and the EPD discussed the arrangement of engaging an NGO in recycling plastic waste with ECF funding support. Their views are summarised as follows:

FSTB's views

- (a) it was for the ENB/EPD to ensure that the use of ECF funding should be in accordance with the provisions of the Environment and Conservation Fund Ordinance, and that such funding support was within the ambit of the funding approved by the FC;

Note 15: *The current land use zoning of the EcoPark site is designated as "Other Specified Uses (Resource Recovery Park)".*

- (b) the Government should not use public money to subsidise commercial or profit-making business when it was commercially viable to run the business by the private sector;
- (c) the Government should not be seen to be providing funding to enhance the profit of private business, or compete with the private sector;

EPD's views

- (d) the NGO would be engaged as the EPD's agent to operate the plastic waste processing centre under the ECF funding support. Hence, no rental charge would be involved; and
- (e) the proposed lot was small (involving 0.5 hectare) and the rental revenue forgone was only about \$2.4 million for three years.

4.16 In response to Audit's enquiry on the Phase 2 development, in January and February 2010, the EPD said that:

- (a) the recycling of plastic waste was hard hit by economic depression and the price had declined significantly. Plastic waste was bulky and unattractive for recycling traders. Under such circumstances, unfair competition with the existing recyclable traders would not exist;
- (b) since the occurrence of the financial tsunami in late 2008 with a plunge in both the demand for and the price of plastic waste, there had been a strong need to develop a secured local outlet for plastic waste. There was also a need to support the recovery and local recycling of more WEEE to tie in with the introduction of a mandatory PRS for WEEE;
- (c) through the engagement of NGOs, it was hoped that recovery activities would be stimulated in the territory which would in turn benefit related market stakeholders; and
- (d) the two waste processing centres involved processes more than collection and sorting. These included, for example, production of high-value plastic flakes, chips and pellets (which could be sold as raw materials), repairs of WEEE and donation of WEEE to the needy.

4.17 **Audit considers that the EPD needs to review the operation of the two pilot waste processing centres, in particular their effectiveness in enhancing waste recycling, having regard to the objectives of EcoPark in establishing value-added and higher-end activities.**

Funding arrangements of waste processing centres

4.18 The funding arrangements for setting up the plastic waste and WEEE processing centres operated by the NGOs were different, as follows:

- (a) ***Plastic waste processing centre.*** The capital cost of the infrastructure works and associated facilities (\$21.6 million) would be charged to **the EcoPark project vote under the CWRP**; and
- (b) ***WEEE processing centre.*** The capital cost of the associated facilities (\$19 million) would be charged to **a block allocation under the CWRP (Note 16).**

4.19 The plastic waste and the WEEE processing centres were both located in EcoPark. In response to Audit's enquiry as to why the funding arrangements for the two processing centres were different, in January and February 2010, the EPD said that:

- (a) different financial arrangements had been adopted to reflect the different purposes of the two projects. The plastic waste processing centre was an integral part of EcoPark and the WEEE processing centre was an extension (Note 17) of the Kowloon Bay WEEE processing centre (which was funded under a separate item of the block allocation in 2005);

Note 16: *According to the Project Administration Handbook for Civil Engineering Works, block allocations are generally used for public works or related expenditure, which are of an on-going nature and for which it is not possible to adhere to a fixed scope.*

Note 17: *The WEEE processing centres in Kowloon Bay and in EcoPark (Tuen Mun) were situated in different locations and funded under two different Category D items (one created in 2005 and the other in 2009) under the block allocation. According to Financial Circular No. 8/2001, the use of block allocation for a particular purpose should be examined on a case-by-case basis.*

- (b) the plastic waste processing centre was developed as a short-term measure to address the poor market situation of plastic waste since the financial tsunami in 2008. Upon the revival of the plastic waste recycling market, the centre's infrastructure works and ancillary facilities could be released for other short-term waste recycling operations. The EPD considered that the infrastructure of the plastic waste processing centre was an integral part of the EcoPark project in the longer term; and
- (c) given the success of the Kowloon Bay WEEE processing centre and the physical constraints there for capacity expansion, the WEEE processing centre at EcoPark was developed to provide additional space to process WEEE collected by NGOs. The WEEE processing centre at EcoPark was under a dedicated WEEE management programme and, therefore, should be funded separately under the block allocation.

4.20 As stated in the PWSC paper of February 2006 (see para. 1.6), the ambit of the EcoPark project comprised the construction of common infrastructure including site formation, buildings and ancillary facilities for management and recycling operations. **Audit noted that the infrastructure works of the two centres, which included the site formation, provision of storage and working sheds, offices, fire services, electricity and other utility installation, were general and common in nature, and were within the scope of the EcoPark project.**

4.21 According to Financial Circular No. 8/2001 of August 2001 on Delegated Authorities of CWRP block allocations, which is currently in force, departments should not use block allocations to cover increased expenditure on a project or part of a project that is already funded under the CWRP. **Given the availability of a project vote approved for the infrastructure works of EcoPark, Audit considers it appropriate for the EPD to charge the EcoPark WEEE processing centre capital cost to the EcoPark project vote.**

4.22 While the EPD consulted the FSTB about charging the capital cost of the plastic waste processing centre to the EcoPark project vote, it had not consulted the FSTB about the charging of the WEEE processing centre capital cost to the block allocation. **Audit considers that the EPD should consult the FSTB about the funding arrangement for the WEEE processing centre at EcoPark.**

Audit recommendations

4.23 **Audit has recommended that, in administering the development of EcoPark in future, the Director of Environmental Protection should:**

- (a) **keep in view the progress of Phase 2 and step up efforts in expediting its development (see para. 4.10);**
- (b) **closely monitor the use of EcoPark lots with a view to ensuring that sufficient land is made available for use by the recycling industries (see para. 4.13);**
- (c) **liaise with the Secretary for Development and the Director of Lands regarding the time-frame for handing back the Phase 2 lot temporarily allocated for container storage (see para. 4.13);**
- (d) **review the operation of the two pilot waste processing centres, in particular their effectiveness in enhancing waste recycling, having regard to the objectives of EcoPark in establishing value-added and higher-end activities (see para. 4.17); and**
- (e) **consult the FSTB about the funding arrangement for the WEEE processing centre at EcoPark (see para. 4.22).**

Response from the Administration

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

- (a) taking into account the Phase 1 experience, the EPD is critically reviewing the modus operandi and potential measures to render the Phase 2 lots more attractive to the trade and facilitate future tenants to start up their operation as soon as possible. The EPD will work closely with the FSTB and other relevant bureaux/departments on any proposed variations to the existing procurement mode;
- (b) the EPD will continue to monitor the latest market situation and maintain effective dialogue with local and regional recycling stakeholders through various channels, including the EAC, recycling trade associations and major recyclers in the region;

- (c) the EPD will liaise with the Secretary for Development and the Director of Lands on taking back the Phase 2 lot temporarily allocated for container storage;
- (d) the operation of the two pilot waste processing centres has been designed to meet the objectives of value-added and higher-end activities. The effectiveness of the two pilot waste processing centres will be monitored;
- (e) in March 2010, the EPD consulted the FSTB. The FSTB had no objection to charging the WEEE processing centre capital cost to the block allocation (see para. 4.26(d)); and
- (f) the issue on whether the capital works of the two waste processing centres are within the scope of the EcoPark project should be based on the purposes of the centres rather than the nature of infrastructure works.

4.25 The **Secretary for Development** agrees with the audit recommendation in paragraph 4.23(c). She has said that:

- (a) the Development Bureau will liaise with the Transport and Housing Bureau, which is responsible for the policy related to the logistics industry, so that the latter could liaise with the container trade for the Development Bureau and the Lands D to make appropriate arrangement to hand the site back to the ENB in a timely manner;
- (b) although the logistics industry is outside of its policy purview, the Development Bureau had a role to respond to the urgent request from the container trade for more space to store temporarily their empty containers to tide them over the difficult time. As such sites have to be accessible by container trucks, the choices were limited. It was good of the ENB to make available temporarily part of the site at Phase 2 for this urgent purpose; and
- (c) the temporary use of the site for purposes other than the current land use zoning (see para. 4.12(b)) was allowed under the Outline Zoning Plan and did not require planning permission from the Town Planning Board for such use of five years or less. This arrangement would help ensure that the site would not be lying idle pending the materialisation of its long-term use.

4.26 **The Secretary for Financial Services and the Treasury** has said that:

- (a) he agrees with Audit's view that the capital costs of the WEEE processing centre could be met from the project vote for the development of EcoPark (see paras. 4.20 and 4.21);
- (b) as at March 2010, the unspent balance of \$21.67 million under the EcoPark project vote was sufficient to cover the capital costs of the WEEE processing centre at \$19 million;
- (c) the EPD decided to fund the capital cost of the EcoPark centre out of the block allocation because the WEEE processing centre was considered to be an extension of the Kowloon Bay WEEE processing centre (see para. 4.19(c)); and
- (d) in view of (c) above and the fact that the capital works for the EcoPark centre were also within the ambit of the block allocation, he had no objection for the EPD to charge the WEEE processing centre capital cost to the block allocation.

PART 5: ADMINISTRATION OF MANAGEMENT CONTRACT

5.1 This PART examines the EPD's administration of the management contract for operating EcoPark with a view to identifying areas for improvement.

Management contract for EcoPark

5.2 In November 2006, the EPD awarded a seven-year contract, commencing in May 2007, to the Operator to provide management and maintenance services (management contract) at an estimated sum of \$98.5 million (comprising scheduled payments of \$92 million and additional payments of \$6.5 million for services to be ordered by the EPD). The scheduled payments of setting-up fees (for the preparation work) and operation fees (for the management and maintenance work) during the contract period are shown in Table 6.

Table 6

Scheduled payments under the management contract

Year (Note)	Setting-up fees (\$ million)	Operation fees (\$ million)	Total (\$ million)
1 (May 2007 – April 2008)	1.5	8.8	10.3
2 (May 2008 – April 2009)	—	12.4	12.4
3 (May 2009 – April 2010)	—	13.1	13.1
4 (May 2010 – April 2011)	0.2	13.9	14.1
5 (May 2011 – April 2012)	0.1	14.0	14.1
6 (May 2012 – April 2013)	—	14.0	14.0
7 (May 2013 – April 2014)	—	14.0	14.0
Total	1.8	90.2	92.0

Source: EPD records

Note: The contract period was from May 2007 to April 2014. Year 1 was counted from May 2007 to April 2008, and Year 2 from May 2008 to April 2009, etc.

5.3 According to the contract, the Operator is required to provide service for the marketing of EcoPark, in addition to the provision of management and maintenance services. Apart from the scheduled fees for management and maintenance work, the Operator would be paid in accordance with the scheduled rates included in the contract for carrying out additional work (e.g. marketing activities).

Low activity level of EcoPark

5.4 In early 2008, as a result of the low activity level on site and delayed handover of major electrical and mechanical equipment (Note 18) at EcoPark, the management and maintenance services required of the Operator were substantially reduced. In June 2008, at an EA Panel meeting to discuss the progress, the EPD said that the Operator had hired more than 20 staff for the provision of maintenance, cleansing, security control and marketing work (Note 19). Some concerns were raised at the meeting, as follows:

- (a) it was questionable why there was still a need for the Operator to hire more than 20 staff to maintain the site when the recycling operations had yet to commence; and
- (b) whether experts in the field had been engaged in the management of EcoPark.

5.5 In mid-2008, the EPD started negotiations with the Operator on a proposal for reducing the monthly operation fees in the light of the actual level of activities. The EPD's proposal was not accepted by the Operator.

Note 18: *The electrical and mechanical works were substantially completed by the works contractor in November 2007, subject to the rectification of a number of defective items. Upon rectification of the defective items, in October 2009, the electrical and mechanical equipment was handed over to the Operator for maintenance.*

Note 19: *Under the management contract, the EPD was paying the Operator a monthly operation fee of about \$1 million irrespective of the actual resources deployed in the management of EcoPark.*

Audit observations and recommendations

Need to match payment with management service requirement

5.6 The management and maintenance services required of the Operator had been substantially reduced as a result of the low activity level on site and the delayed possession of some lots. From May 2007 to December 2009, the EPD paid \$32 million to the Operator. However, there was no adjustment clause in the contract to allow for the reduction of operation fees to take account of a lower activity level.

5.7 According to the EPD, the scheduled payments for operation fees were planned to increase with the commissioning of different phases of site handover and the number of lots ready for occupation. However, Audit noted that:

- (a) the operation fees with the commissioning of both Phase 1 (8 hectares) and Phase 2 (12 hectares) were \$14 million a year. This was only \$0.9 million higher than that for Phase 1 alone in operation. The operation fees for Phase 1 seemed to be disproportionately high (see Table 7); and
- (b) notwithstanding the fact that Phase 1 had not yet commenced operation, up to December 2009, the EPD paid the Operator operation fees of \$32 million.

Table 7

Operation fees of EcoPark

Phase	Annual operation fee (\$ million)	Area involved (hectare)
Phase 1	13.1	8
Phase 1 and Phase 2 (Note)	14.0	20

Source: EPD records

Note: As at December 2009, Phase 2 had not yet been commissioned.

5.8 In response to Audit's enquiry, in January and March 2010, the EPD said that:

- (a) a payment schedule to tie in with the occupancy of the lots at EcoPark was intended to be included in the management contract. Having regard to this payment schedule, the Operator had submitted in the tender the adoption of a nearly full management fee for managing the Phase 1 site, and only a 7% increase in management fee for managing the whole Phase 1 and Phase 2 site (see Table 7 in para. 5.7);
- (b) despite such a front-loaded pricing strategy, the total fee of the tender submitted by the Operator was the second lowest, with the highest combined score (Note 20) among the conforming tenders; and
- (c) since the commencement of the management contract, the Operator had been providing assistance to tenants in identifying sources of recyclable materials and in submission of building plans, apart from managing the common parts of EcoPark. Since late 2009, the Operator had deployed extra resources to cope with the activities in Phase 2 of EcoPark, including the infrastructure works of the two waste processing centres to be operated by NGOs and the temporary storage of containers.

5.9 **Audit considers that, in administering management contracts in future, the EPD needs to take measures to ensure that payments made are commensurate with the services provided. These may include examining the feasibility of incorporating a contract condition which allows for the adjustment of payments if there is a substantial reduction in the service level.**

Need to strengthen the Operator's marketing role

5.10 Under the contract, the Operator should prepare and submit a marketing plan within 56 days of the contract award. After considering the marketing plan, the EPD might instruct the Operator to provide individual marketing services, including:

Note 20: *In accordance with the Stores and Procurement Regulations, tenderers of the management contract were assessed based upon a combined score of their quality in technical aspects and their tender price. The proportion of quality score to price score was 50%:50% in this tender assessment. The tenderer assessed with the highest combined score was awarded the contract.*

- (a) developing a marketing strategy and a promotional programme;
- (b) publicising EcoPark to potential overseas tenants and organising visits to EcoPark;
- (c) investigating and reporting priority waste recycling industries for inclusion in EcoPark; and
- (d) developing a website that provides up-to-date information on EcoPark.

Except for the preparation of the marketing plan, the provision of other individual marketing services was subject to written instructions from the EPD and would be paid separately according to the scheduled rates of the contract. The Operator submitted the marketing plan to the EPD in January 2007.

5.11 Audit found that:

- (a) according to the service performance requirements under the management contract, the Operator had to ensure that a mix of industries was established and operated at EcoPark and to minimise the number of vacant lots. However, from November 2006 to November 2009, the EPD had not instructed the Operator to provide any marketing services for promoting EcoPark. There were also little marketing activities during the same period; and
- (b) no formal discussions on the marketing plan had been held between the EPD and the Operator for taking forward the marketing of EcoPark. No actions were taken on the marketing measures proposed in the marketing plan.

5.12 In response to Audit's enquiry, in January 2010, the EPD said that:

- (a) the Operator had been providing some standard marketing services, such as introducing EcoPark to local and overseas key stakeholders (including business and professional organisations), meeting with potential tenants, developing a dedicated website, and preparing promotional flyers and leaflets; and
- (b) the marketing plan was discussed internally within the EPD in January 2007. It was considered at the time that the marketing service was adequate in view of the satisfactory response to the expression-of-interest exercise conducted in 2006 and the first batch of tenders received in 2007.

5.13 According to the EPD, the management contract was not just a simple service contract as the Operator was also expected to provide marketing services for promoting EcoPark. **Audit considers that the EPD needs to consider making better use of the Operator's expertise in marketing activities for promoting EcoPark to the recycling traders.**

Monitoring the Operator's performance

5.14 The management contract for EcoPark specifies a number of service performance requirements for the Operator. According to the contract, the Operator is required to assist in commissioning the support facilities of the Administration Building of EcoPark, including the Visitor Centre (597 square metres) and the Product Gallery (127 square metres). Audit noted that:

- (a) notwithstanding the fact that the Administration Building was completed in November 2007, up to February 2010, the Visitor Centre and the Product Gallery had not been put into use;
- (b) some building defects (including water leakage, air ventilation and uneven flooring problems) of the Visitor Centre and the Product Gallery were found when the Administration Building was handed over to the Operator in January 2008. In January 2010, the remedial works were substantially completed. In February 2010, fitting-out works of \$10 million for the provision of multi-media display and exhibition facilities in the Visitor Centre and the Product Gallery commenced. Photograph 8 shows the fitting-out works for the Visitor Centre and the Product Gallery; and
- (c) the EPD had not compiled assessment reports on the Operator's performance.

Photograph 8

**Fitting-out works for Visitor Centre and Product Gallery
(February 2010)**



Source: EPD records

5.15 In response to Audit's enquiry, in January and February 2010, the EPD said that:

- (a) it had adjusted the commissioning of the Visitor Centre to tie in with the estimated time of commencement of operation of the tenants;
- (b) the design and fitting-out works for the Visitor Centre and the Product Gallery commenced in September 2009, and were expected to be completed for opening to the public in April 2010 to tie in with the commencement of recycling activities; and
- (c) it had monitored the Operator's performance with reference to the contract requirement. In addition to regular meetings, the EPD conducted at least two surprise checks on the Operator's performance monthly. Inspection records would be used to determine whether management fees should be deducted for non-compliance with contract requirement.

5.16 **Audit considers that the EPD needs to closely monitor the Operator's performance with reference to the service requirements included in the management contract, and compile assessment reports on the Operator's performance. The EPD also needs to expedite action to commission the Visitor Centre and the Product Gallery to tie in with the recycling activities at EcoPark.**

Audit recommendations

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

- (a) **in administering management contracts for environmental projects in future, take measures to ensure that payments made are commensurate with the services required. These may include examining the feasibility of incorporating a contract condition which allows for the adjustment of payments in case there is a substantial reduction in the service level (see para. 5.9);**
- (b) **consider making better use of the Operator's private-sector expertise in marketing activities for promoting EcoPark to the recycling traders (see para. 5.13);**
- (c) **closely monitor the Operator's performance with reference to the service requirements included in the management contract, and compile assessment reports on the Operator's performance (see para. 5.16); and**
- (d) **expedite action to commission the Visitor Centre and the Product Gallery to tie in with the recycling activities at EcoPark (see para. 5.16).**

Response from the Administration

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

- (a) **with the commencement of recycling operations in a number of Phase 1 lots, as well as the operation of the two NGO-operated waste processing centres and the temporary container storage in the Phase 2 site, it is envisaged that the Operator would need to deploy a higher level of resources for managing EcoPark. The Operator is also expected to provide support to individual tenants during setting up of their operations on site;**

- (b) the EPD had built into the management contract an occupancy-related payment schedule (Note 21);
- (c) the Operator was appointed through established procurement arrangements in accordance with the Stores and Procurement Regulations via the Central Tender Board;
- (d) the incorporation of a contract condition, which would allow for the adjustment of payments in case there is a substantial reduction in the service level, may potentially increase uncertainties in the provision of services and hence increase risks to tenderers. This may be reflected in the front loading of contract payment, without a positive bearing on the overall contract price;
- (e) since the award of the management contract in 2006, the Operator has been providing marketing services including promotion of EcoPark to local stakeholders, handling referrals from Invest Hong Kong, meeting interested parties, developing a dedicated website for EcoPark, and preparing promotional flyers and leaflets;
- (f) in view of the anticipated availability of the first batch of the Phase 2 lots in mid-2010, the EPD has also instructed the Operator to prepare and initiate appropriate marketing activities to tie in with the coming lot leasing exercise; and
- (g) the EPD will continue to closely monitor the Operator's performance with reference to contract requirements. While it is noted that the compilation of assessment reports on an operator's performance has been adopted by other departments for the management of government facilities (e.g. sports centres and swimming pools), the EPD will consider the benefits of compiling such reports on the Operator's performance.

Note 21: *The adoption of occupancy-related payment schedule was intended to match the payment with the extent of occupation by tenants. Due to front loading (see para. 5.8(b)), the annual operation fee for both Phases 1 and 2 (\$14 million for 20 hectares) was only marginally higher than that for Phase 1 alone (\$13.1 million for 8 hectares).*

Estimated and actual throughputs of materials

Trade	Estimated throughput of materials				Minimum quantity required under tenancy agreement	Actual throughput
	Consultant A's estimate (Oct 2002)			PWSC paper estimate (Feb 2006)		
	Phase 1 (tonnes/year)	Phase 2 (tonnes/year)	Total (tonnes/year)	(tonnes/year)	Phase 1 (tonnes/year)	Phase 1 (tonnes/year)
Glass	400	20,782	21,182	—	—	—
Metals					} 40,000	
– Ferrous metals	103,200	52,071	155,271	—		—
– Non-ferrous metals	23,100	9,657	32,757	—		—
Paper	136,000	170,729	306,729	—	—	—
Plastics	1,650	65,118	66,768	25,000	4,000	—
Tyres	9,600	1,898	11,498	15,000	—	—
Wood	2,000	24,290	26,290	—	2,400	—
Batteries	—	939	939	100	120	—
Electronics/ electrical appliances	—	10,015	10,015	15,000	1,200	—
Organic food waste	—	12,735	12,735	—	6,000	— (Note)
Textiles	—	4,596	4,596	—	—	—
Expanded polystyrene packaging	—	—	—	3,500	—	—
Total	275,950	372,830	648,780	58,600	53,720	—

Source: EPD records

Note: As at February 2010, the tenant had not commenced operation. A throughput of 1,996 tonnes was obtained from trial runs of the recycling operations up to the end of January 2010.

Acronyms and abbreviations

Audit	Audit Commission
BD	Buildings Department
BOT	Build-Operate-Transfer
CWRF	Capital Works Reserve Fund
EAC	EcoPark Advisory Committee
EA Panel	Panel on Environmental Affairs
ECF	Environment and Conservation Fund
ENB	Environment Bureau
EPD	Environmental Protection Department
FC	Finance Committee
FSTB	Financial Services and the Treasury Bureau
Lands D	Lands Department
LegCo	Legislative Council
NGOs	Non-governmental organisations
PRS	Producer Responsibility Scheme
PWSC	Public Works Subcommittee
WEEE	Waste electrical and electronic equipment