

**DEVELOPMENT BUREAU TECHNICAL CIRCULAR (WORKS)**  
**No. 2/2011**  
**ENVIRONMENT BUREAU CIRCULAR MEMORANDUM**  
**No. 1/2011**

From: Permanent Secretary for the Environment  
Permanent Secretary for Development (Works)      To: Permanent Secretaries,  
Heads of Departments

Ref.: EP86/03/226 (2010) & DEVB(W) 810/17/02

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**Encouraging the Use of Recycled  
and other Green Materials in Public Works Projects**

**INTRODUCTION**

This Circular sets out a comprehensive framework for the procurement of recycled and other green materials with a view to promoting their use in public works projects. It also streamlines the process for recyclers which manufacture recycled materials to collect construction and demolition (C&D) materials and introduces a recyclers' list for C&D materials.

2. This Circular shall be read in conjunction with Development Bureau (DEVB) Technical Circular (Works) (TC(W)) No. 6/2010 – Trip Ticket System for Disposal of C&D Materials.

**BACKGROUND**

3. The Chief Executive announced after the fifth meeting of the Task Force on Economic Challenges on 22 June 2009 that the Government would take the lead in making Hong Kong a green city through a number of measures including the expansion of green procurement in the Government. In this connection, the Permanent Secretary for the Environment has set up an Inter-departmental Working Group on Green

Government Procurement (Working Group) with membership and terms of reference at **Annex A**. Furthermore, the Works Branch of DEVB has set up under the Working Group a Sub-group (Sub-group (viz. Sub-group 2 under the Working Group)) with membership and terms of reference at **Annex B** to oversee the identification of green materials in public works projects and examine the implications of their use with a view to promoting them in public works projects.

4. DEVB has been promoting the use of green materials in public works projects. As stated in the Environment, Transport and Works TC(W) No. 8/2004 - Tender Evaluation of Works Contracts, the technical proposal of the tender may include the use of environmentally friendly products and processes. In addition, the report on Contractors performance will take into account the Contractor's waste management plan and whether his proposals in the waste management plan are able to meet the target of avoidance, minimization, recycling and reuse of C&D materials with particular reference to the nature of the contract, as well as environmental friendliness in contractor's designs.

5. DEVB has also promulgated technical circulars and specifications and revised the Project Administration Handbook to facilitate the use of green materials in public works projects, including reclaimed asphalt pavement<sup>1</sup>, recycled fill materials<sup>2</sup>, recycled sub-base materials<sup>3</sup>, paving blocks made of recycled aggregates<sup>4</sup>, concrete with recycled coarse aggregates<sup>5</sup>, and energy efficient features and renewable energy technologies<sup>6</sup>.

6. In order to further promote the use of recycled and other green materials in public works projects, it is important to formulate and promulgate a comprehensive framework for the procurement of recycled and other green materials, so that Environmental Protection Department (EPD), DEVB and the Works Departments can collaborate to promote their

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<sup>1</sup> General Specification for Civil Engineering Works, Section 9, Clauses 9.09 and 9.10

<sup>2</sup> General Specification for Civil Engineering Works, Section 6, Clause 6.09

<sup>3</sup> General Specification for Civil Engineering Works, Section 9, Clauses 9.03, 9.13, 9.32 and 9.47

<sup>4</sup> ETWB TC(W) No. 24/2004 – Specification Facilitating the Use of Concrete Paving Units Made of Recycled Aggregates.

<sup>5</sup> Project Administration Handbook, Chapter 5, Paragraph 9.37

<sup>6</sup> ETWB TC(W) No. 16/2005 – Adoption of Energy Efficient Features and Renewable Energy Technologies in Government Projects and Installations.

wider application in public works projects.

7. In addition, to encourage the recycling of inert C&D materials into recycled materials for use in public works projects, EPD has developed a mechanism that provides a list of recognized recyclers to whom the public work contractors can deliver such inert C&D materials instead of disposing of such materials at public fill reception facilities. DEVB TC(W) No. 6/2010 has specified among others that where the alternative disposal ground is a private recycling facility, it shall be on the list of recyclers for C&D materials as recognised by EPD. The updated list of the recognized recyclers can be found at the EPD waste reduction website -

[http://www.wastereduction.gov.hk/en/workplace/index\\_lookforlistedrecyclers.htm](http://www.wastereduction.gov.hk/en/workplace/index_lookforlistedrecyclers.htm)

## **FRAMEWORK FOR PROCUREMENT OF NEW RECYCLED AND OTHER GREEN MATERIALS IN PUBLIC WORKS PROJECTS**

8. The Sub-group referred to in paragraph 3 above has been monitoring the trial use of new green materials with the assistance of Works Departments in order to identify their potential for wider use in public works projects. When the technical performance of a new green material is proved satisfactory via site trials in meeting requirements on strength, serviceability, durability, environmental performance, etc, the Sub-group may propose wider application of the new green material in public works projects.

9. Under the Sub-group's coordination, Works Departments are encouraged to try out new green materials for use in public works projects. The framework for their procurement is set out in the ensuing paragraphs.

10. Each Works Department is required to form its own committees or units led by directorate officers to oversee and promote the wider use of green materials. In this connection, Works Departments have been studying new green materials and carrying out site trials to verify their technical performances.

11. As in other procurement cases, value for money is a key consideration. Since the application of the green materials during the trial stage is usually very limited, the existence of at least **one supplier** will

suffice to ensure the feasibility of putting the materials into trial use. However, before recommending wider use of the new green materials in public works projects as an early phase of implementation, the Works Departments should be satisfied that, to cope with the anticipated increase in market demand, there are at least **two suppliers** in the market. To this end, EPD together with the Works Departments would make concerted efforts to identify such suppliers in the market.

12. In addition, reference check should also be made by the Works Departments in respect of whether the price of the new green material is acceptable with reference to that of the conventional material. In this regard, it should be noted that even if a green material is more expensive than the conventional material initially, the difference could be lowered as demand increases thus enabling the suppliers to achieve greater economy of scale, or when more suppliers join the market. Furthermore, Works Departments should assess and ascertain that the increase in cost due to the procurement of new green materials will not constitute a significant percentage of the cost for the public works project, and the Works Departments which place the procurement are required to absorb the additional costs should such costs be chargeable to the respective departmental votes.

13. Other aspects, such as compliance certification on the contents of green materials by an independent assessment body and an inscribed mark for identification purpose, should also be considered.

14. Subject to paragraphs 11 to 13 above, the Sub-group will make recommendation to the Working Group for early phase of implementation<sup>7</sup>. The Sub-group will monitor the supply. If there are at least **three suppliers** in the market to meet the anticipated demand and the technical performance is re-confirmed, the Sub-group will make recommendation to the Working Group for full implementation of priority use in all public works projects. The Working Group, of which the Treasury Branch is a member, will consider whether the cost implication of the proposed wider use (in the form of early phases of implementation or in the form of full implementation) of the new materials is acceptable or not.

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<sup>7</sup> A recent example is the early phases of use of paving blocks with recycled glass at the areas originally planned for using concrete paving blocks by Highways Department in road maintenance contracts, and by Housing Department in selected projects since October 2010.

15. A flow chart showing the 3-tier framework viz trial use, early phase of implementation and full implementation of priority use is at **Annex C**.

## **INTRODUCTION OF A RECYCLERS' LIST TO FACILITATE RECYCLING OF C&D MATERIALS**

16. According to DEVB TCW No. 6/2010 – Trip Ticket System for Disposal of C&D Materials, public works projects which generate inert C&D materials are generally required to dispose of the materials at designated public fill reception facilities. Furthermore, public works contractors are encouraged to use their best endeavours to identify other recycling facilities or construction sites, where such materials can be used subject to the approval of the subject Architects/Engineers/Supervising Officers/Maintenance Surveyors (hereinafter “subject officers”). However, subject officers are sometimes hesitant to exercise their authority to approve the delivery of these materials to private recycling facilities because contractors generally have difficulties to produce sufficient supporting information on the status of the recycling facilities. To alleviate the subject officers’ concern, DEVB TCW No. 6/2010 has specified among others that where the alternative disposal ground is a private recycling facility, it shall be on the list of recyclers for C&D materials as recognised by EPD.

17. For inclusion in the list of recognised recyclers, a recycler has to satisfy the following requirements –

- The recycler's plant has to be set up in conformity with the statutory plans, lease conditions as well as environmental requirements stipulated under the relevant legislation. The purpose of this requirement is to ensure that the operation of the plant is legal and would not be in breach of the planning, lands as well as environmental conditions;
- The recycler is able to provide a certificate issued by a credible independent checker (e.g. Hong Kong Quality Assurance Agency) that the operation of the plant is capable of producing the proposed recycling products (e.g. recycled aggregates) generated from local

C&D materials; and all sorted wastes will be disposed of at designated waste disposal facilities specified under the Waste Disposal Ordinance (Cap 354). The purpose of this requirement is to ensure that the recycler is a bona fide recycler; and

- All entrances and exits of the recycler's plant should be monitored by a Closed Circuit Television (CCTV), and the records captured should be kept by the plant operator for at least 3 months. The purpose of this requirement is to facilitate the tracing of C&D materials should such need arise.

18. Upon receiving the applications, EPD, together with the relevant departments including the Lands Department, the Planning Department and the Mines Division of CEDD (for applications involving site crushers), will vet these applications and conduct visits to the applicant's plant as deemed necessary before determining whether to approve the applications.

19. The list of recognised recyclers, together with the location of their plants, will be published in the EPD's waste reduction website<sup>8</sup> for public reference. To ensure that the list is up-to-date, recyclers on the list are required to submit updated information to EPD on an annual basis for verification.

## ENQUIRIES

20. Enquiries on this circular can be addressed to Assistant Director (Nature Conservation and Infrastructure Planning) of EPD at 2594 6036, or Principal Assistant Secretary (Works)<sup>3</sup> of DEVB at 2848 2704.



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(Ms Anissa Wong)  
Permanent Secretary for the  
Environment



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(C S Wai)  
Permanent Secretary for  
Development (Works)

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<sup>8</sup> [https://www.wastereduction.gov.hk/en/workplace/index\\_lookforlistedrecyclers.htm](https://www.wastereduction.gov.hk/en/workplace/index_lookforlistedrecyclers.htm)

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Directors of Bureaux

D/CEO

AA/CS

AA/FS

AA/SJ

Director of Administration

JA

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**Inter-departmental Working Group  
on Green Government Procurement**

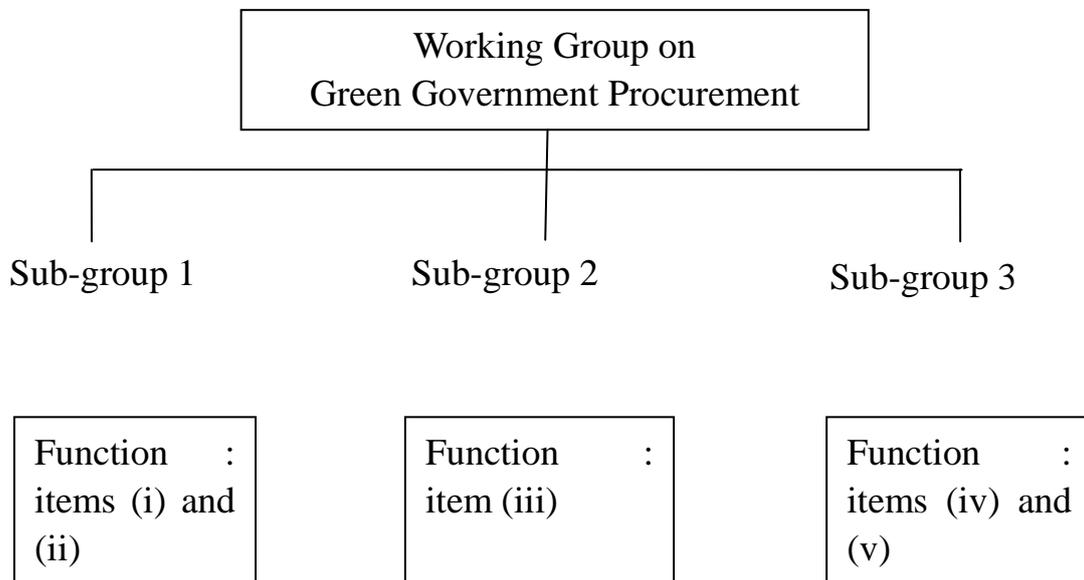
**Membership**

- Permanent Secretary for the Environment *(Convenor)*
- Permanent Secretary for Development (Works)
- Director of Agriculture, Fisheries and Conservation
- Director of Drainage Services
- Director of Electrical and Mechanical Services
- Director of Government Logistics
- Permanent Secretary for Financial Services and the Treasury (Treasury) } *(on a need basis)*
- Deputy Director of Environmental Department (2)
- Assistant Director of Environmental Protection (Nature Conservation and Infrastructure Planning) *(Secretary)*
- } or representative

**Terms of Reference**

- (i) Oversee the adoption of the green specifications that have been developed for government procurement;
- (ii) Oversee a comprehensive review of the common user products and services procured by the GLD with a view to developing more green specifications;
- (iii) Oversee the identification of green materials in public works projects and examine the implications of their use with a view to promoting them in public works projects;
- (iv) As a start, oversee the examination of the departmental purchases of products and services of selected departments with a view to developing guidelines or green specifications as appropriate for adoption and wider application within the Government; and
- (v) Review guidelines for reporting procurement in the Environmental Reports.

In order to carry out these functions, three Sub-groups have been set up under the Working Group as follows:



**Subgroup 2 of Inter-departmental Working Group  
on Green Government Procurement**

**Membership**

Deputy Secretary (Works) 2, DEVB (Chairman)  
Chief Assistant Secretary (Works) 5, DEVB  
Representatives of D1 level or above from ArchSD, CEDD, DSD, EMSD,  
HyD, WSD and HD  
Representative from EPD  
Assistant Secretary (Works Policy) 6, DEVB (Secretary)

**Terms of Reference**

- (a) To identify the use of green materials in public works projects and examine the implications of their use with a view to promoting them in public works projects;
- (b) To formulate guidelines, policies and strategies to promote the use of green materials in the public works projects;
- (c) To monitor the use of green materials in public works projects; and
- (d) To report to the Inter-departmental Working Group on Green Government Procurement in regard to promoting the use of green materials in public works projects;

**Flowchart for Procurement of New Recycled and other Green Materials in Public Works Projects**

