

**FURTHER DEVELOPMENT OF  
ENVIRONMENTALLY RESPONSIBLE  
PRODUCT SPECIFICATIONS  
AND  
REVIEW ON MARKET AVAILABILITY**

**Executive Summary**

**(Final)**

(Project No. 01021677)

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*By*

**HONG KONG PRODUCTIVITY COUNCIL**

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## INTRODUCTION

The Government of the Hong Kong Special Administrative Region (HKSAR) has formulated and launched the *Waste Reduction Framework Plan* (WRFP) in November 1998 which aims at reducing waste generation in Hong Kong. The Plan sets out dynamic and environmentally responsible programmes to help, *inter alia*, conserve the earth's non-renewable resources and to increase the waste recycling rate. Environmentally responsible purchasing (ERP) is one of the major measures stipulated in the WRFP, which involves the introduction of practices that discourage unnecessary purchases and encourage the purchase of products with improved recyclability, reduced packaging, greater durability and where economically rational, with high recycled content.

The Waste Reduction Task Force (WRTF) for the Government was set up in June 1999 to promote waste reduction and recycling within government to demonstrate its commitment in implementing the WRFP. One of the tasks of the WRTF is to pursue ERP. The Environmental Protection Department (EPD) of the Government of the HKSAR, on behalf of the WRTF, commissioned the Hong Kong Productivity Council (HKPC) to undertake a consultancy study on *Environmentally Responsible Product Specifications for Government Procurement Items* (hereafter referred as the Previous Study) in 2000 for implementation by the Government Logistics Department (GLD) (previously the Government Supplies Department). Thirty-one (31) types of products were selected in the Previous Study based on the general stock/bulk contract items under Government.

In view of the rapid market development of environmentally responsible products, the WRTF recognised the need for regular market research to keep abreast of the development of the latest product specifications, market availability and product costs for interested parties' reference. The EPD therefore commissioned HKPC to conduct the study on *Further Development of Environmentally Responsible Product Specifications and Review on Market Availability* (hereafter referred as this Study).

The overall objectives of this Study are:

- To conduct a market research to update those previously drawn up green specifications, the market availability of environmentally responsible products, and their comparative costs
- To establish practical and cost-effective marking schemes for individual products with a view to encouraging supply of greener products
- To share green procurement information amongst manufacturers, suppliers and users from the public and private sectors to demonstrate affirmative direction of adopting green products. It is anticipated that stakeholders would be encouraged to consider developing and adopting relevant environmentally responsible specifications when such reference is readily available

## ERP PRINCIPLES

In this Study, the ERP guiding principles suggested in the Previous Study were revised. We recommend the following seven ERP guiding principles to the HKSAR Government. These seven guiding principles have been adopted in this project in devising environmental specifications and marking schemes for respective procurements items under study. These revised ERP guiding principles, as listed below, can also be used by the general public as their guidance during procurement process.

### **Guiding Principle 1: Creating Culture that Supports Waste Reduction and ERP Procurement Practice in All Aspects of Operations**

All private and government organizations should encourage, promote and expect officers to operate in a manner that exemplifies waste reduction and ERP procurement practices.

### **Guiding Principle 2: Striking a Balance among Environment, Cost & Performance**

The manufacture, use and disposal of a particular product may have adverse environmental impacts. These impacts may impose substantial clean-up, liability and/or ever-increasing disposal costs. To avoid or reduce such unnecessary environmental costs incurred from a particular product, the purchasing practice should incorporate life cycle considerations (i.e. from manufacturing, transportation, consumption to disposal) in addition to traditional factors such as product quality, technical performance, cost, and availability.

### **Guiding Principle 3: Pollution Prevention with Focus on Waste Minimisation**

Environmental considerations should begin early in the procurement process with focus on the waste minimisation initiatives as laid out in the WRF. Under this guiding principle, pollution prevention should be the primary motivation and strategy for implementation of green procurement. Procurement officers should fully comprehend the concept of waste minimisation and take waste minimisation into account during their procurement process. One of the best ways to implement waste minimisation concepts is to develop waste reduction targets.

### **Guiding Principle 4: Acquiring Green Product Criteria**

Environmentally responsible products and services should be procured using established criteria or other widely recognised mechanisms. Where criteria are not available, the following generic criteria could be followed:

- Minimisation of virgin material use in product or service life cycle
- Replacement of disposables with reusables or recyclables
- Minimisation of environmental cost of entire product or service life cycle
- Minimisation of packaging/ elimination of packaging
- Reduction of energy / water consumption
- Toxicity reduction or elimination
- Durability and maintenance requirements
- Waste disposal requirements

### **Guiding Principle 5: Comparison of Environmental Impacts**

Determining environmental preferability may involve comparing environmental impacts. In this process, the procurement officers may require to compare the various environmental impacts among competing products, to evaluate the trade-offs in terms of environmental performance, and to make the “greenest” decision. Where possible, the procurement officers should:

- Comply with all environmental legislative and regulatory requirements in the procurement of products and services
- Encourage suppliers and contractors to offer environmentally responsible products and services at competitive prices
- Encourage suppliers and contractors to provide collection/recycling of used products
- Encourage providers of services to consider environmental impacts of service delivery

### **Guiding Principle 6: Environmental Performance Information**

Comprehensive, accurate, and meaningful information about the environmental performance of products is essential to determine environmental preferability. To this end, the procurement officers are encouraged to seek life cycle-based information about the environmental performance of products and services to facilitate subsequent product evaluation and assessment.

### **Guiding Principle 7: Market Availability**

Market availability of green alternatives in lieu of their counterparts is a critical success factor of the entire green procurement practice. The procurement officers should therefore identify local and overseas suppliers and gather as much as possible information on the products to be procured. Throughout the information collection and tendering processes, the procurement officers should also inform the suppliers regarding the government green procurement policy, and encourage and/or influence the suppliers to provide more green alternatives.

## REVIEW OF GREEN SPECIFICATIONS AND MARKET SURVEY

To devise a practical and cost-effective marking scheme for this Study, the following tasks were carried out.

Formulation of the Long-listed Green Specification for each targeted product – this included updating green specifications collected in the Previous Study as well as literature research on the local and overseas green specifications, either described in ecolabels or in regulations. Prevailing green specifications were then extracted from the findings to form the Long-listed Green Specifications.

Implementation of market surveys – the market surveys were conducted to local and overseas vendors and were divided into two tiers. The first tier identified suppliers/manufacturers who supply/produce green alternatives within the targeted government procurement items. The second tier extracted product information on green alternatives provided by the respondents through the compliance checking of common criteria extracted from the Long-listed Green Specifications. Information was collected from Australia, Canada, China, Denmark, France, Germany, Hong Kong, India, Indonesia, Japan, Korea, Philippines, Singapore, Switzerland, Sweden, Taiwan, United Kingdom and United States to complete the market surveys.

Formulation of the Recommended Green Specifications – the Recommended Green Specifications were formulated from five main considerations: existing GLD's Green Specifications, common criteria in the Long-listed Green Specifications, compliance level in the market survey, compliance with mandatory local/overseas requirements as well as green specifications that are easy to achieve and do not cause any physical alteration in product productions. The marking schemes were then formulated using the Recommended Green Specifications.

Formulation of Product Scenario Criteria - based on the suitability and practicability for subsequent implementation of the Recommended Green Specifications, product scenario criteria for individual products were determined. The followings are the three main scenarios:

- **Scenario 1** Additional or modified green specifications can be readily implemented by GLD at this stage
- **Scenario 2** Further monitoring and study are required before implementation of additional green specifications
- **Scenario 3** Implementation of additional green specifications is not recommended in the near future

## MARKING SCHEME FORMULATION

Marking schemes were developed in this Study in order to give preference to products with more environmentally friendly features. For ease of application, the marking schemes were developed with reference to GLD's existing marking schemes on photocopying recycled paper and automotive lubricating oil/grease. Marking schemes for comparison of environmental friendliness of each product were formulated based on the Recommended Green Specifications. As these marking schemes include only green specifications, other considerations on performance, quality and safety are not included in this Study and should be studied further.

Relative importance weighting of each Recommended Green Specification was determined based on the 1) relative significance in environmental impact or the 'commonness' of any particular Recommended Green Specification listed in the Long-listed Green Specifications, 2) compliance level of the particular Recommended Green Specification, and 3) applicability in local situation. Higher weighting is given to specifications fulfilling all three criteria.

Relative importance weighting and scoring systems were developed for each of the Recommended Green Specifications of all the targeted government procurement items. The relative importance weighting is indicated using percentage. Scores can be assigned according to the compliance level of each Recommended Green Specification.

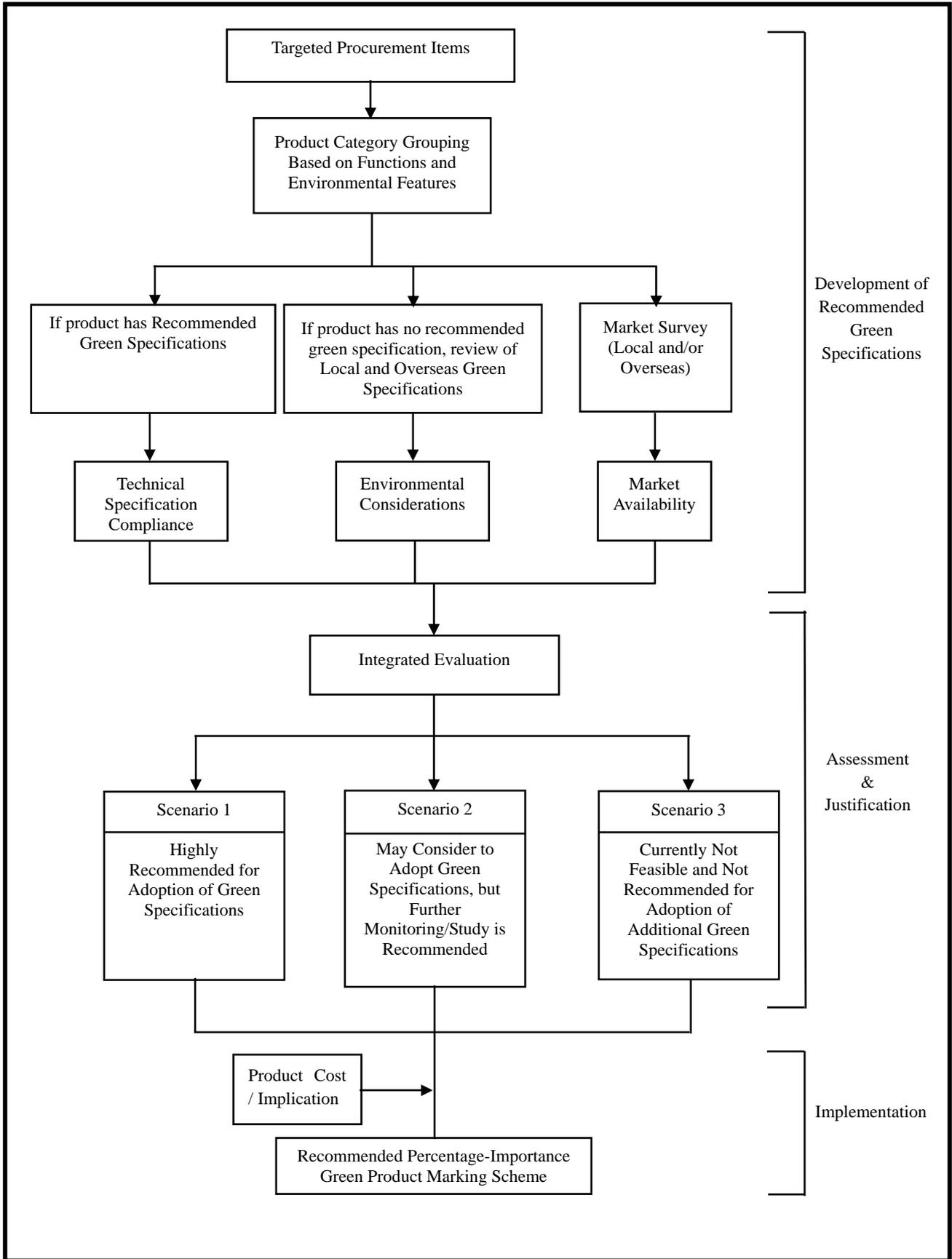
Marking schemes were set up to provide guidance to GLD to evaluate environment-friendliness of green alternatives during tender evaluation process for items under their purview. The suggested marking schemes provide the most ideal green specifications for the target government procurement products with due consideration of market availability. Nevertheless, it is *not* necessary for products to possess *all* the green specifications recommended. Where necessary, mandatory green specification(s) is also recommended in the marking scheme to indicate essential features of green alternatives. The mandatory green specification(s) is indicated by the phrase '(passing mark)' quoted next to the minimum required score.

In terms of adopting the marking schemes into overall product evaluation, apart from the product-specific Green Specifications, generic green specifications such as ISO 14001 certification is also added in some of the products to encourage manufacturers/suppliers to adopt environmental management systems. Nevertheless, GLD can consider including ISO 14001 certification as a generic green procurement specification. In addition, extra marks can be given to products which are certified by recognised ecolabels so as to encourage manufacturers/suppliers who are zealous in green product development. It is important, however, to note that these marking schemes may need to change over time depending on green procurement development locally and overseas and they need to be reviewed over time.

## **RECOMMENDED GENERIC GREEN PROCUREMENT FRAMEWORK FOR GENERAL PUBLIC**

A suggested framework of assessment steps in the evaluation/justification process (for establishing a marking scheme for green alternatives) based on this Study is provided in *Figure 1*. In all acquisitions, the procurement officers should use their professional judgement and common sense on environmental protection to assess the environmental performance, cost implication and market availability for a particular product. Under some circumstances, they should also use reasonable discretion about the level of analysis required to determine environmental preferability.

Figure 1 Framework of Assessment Steps in the Evaluation/Justification Process



## **ENVIRONMENTALLY RESPONSIBLE PURCHASING WEBSITE**

An internet ERP Website will be developed to promulgate green procurement and to demonstrate affirmative direction of adopting green products. This ERP Website will essentially contain the following information:

- Introduction
  - What is ERP
  - Use of the ERP Website
- Green Procurement Information
  - Guiding Principles
  - Framework of Assessment Steps in the Evaluation/Justification Process
  - Generic Green Procurement Checklist
  - Links

The users, especially procurement officers, could refer to this ERP Website to understand the objectives and considerations in ERP. The guiding principles and checklist in the Website could facilitate users' adoption of ERP.

## **RECOMMENDATIONS**

The HKSAR Government is committed to sustainable development in Hong Kong. One of the main issues in protecting the environment is waste management. To this end, we recommend the HKSAR Government and the public to implement environmentally responsible purchasing which involves the introduction of practices that discourage unnecessary purchases and encourage the purchase of products with improved recyclability, reduced packaging, greater durability, and, where economically rational, with high recycled content.

In consideration of the local legal and administrative traditions as well as the local priority needs, we recommend seven ERP guiding principles for implementation of ERP in Hong Kong. These guiding principles can be used by the general public as their guidance during procurement process.

It is suggested that GLD should consider incorporating the Recommended Green Specifications and marking schemes into their procurement specifications and product evaluation system so as to provide opportunities to improve the environment in the long term.