1. **Paper (A4 and A3 for in-house printing)**
   紙張（A4及A3內部印刷用紙）
   100% recycled paper 100%再造紙

2. **Multifunction copiers**
   多功能影印機
   “Energy Star” label or other power-saving qualification; built-in duplex function
   「能源之星」或類同能源認證；具備雙面打印功能

3. **Desktop computers**
   桌面電腦
   “Energy Star” label or other power-saving qualification
   「能源之星」或類同能源認證

4. **Laser printers**
   雷射打印機
   “Energy Star” label or other power-saving qualification; built-in duplex function
   「能源之星」或類同能源認證；具備雙面打印功能

5. **Lamps**
   燈具
   - Incandescent lamps should not be purchased
     禁止購買鎢絲燈泡
   - Compact Fluorescent Lamps (CFLs) should have obtained Grade 1 Energy Label issued by EMSD
     逐管形熒光燈管應獲得機電處標籤
   - Fluorescent lamp tubes: use T5 tubes (or T4 tubes where applicable), or other more energy-efficient models
     光管必須為T5或T4型（或其他更節能的型號）

6. **Paints**
   油漆
   Should be water-based and contain no or low VOCs
   水性塗料及不含或含少量揮發性有機化合物

7. **Room air conditioners**
   冷氣機
   Refrigerators (with storage capacity not exceeding 500L)
   雪櫃（容量不超過500公升）

8. **Dehumidifiers**
   抽濕機（抽濕量不超過每日35公升）
   Grade 1 Energy Label issued by Electrical and Mechanical Services Department (EMSD)
   機電工程署級別能源標籤

9. **Fluorescent lamp ballasts**
   “Recognition Type” Energy Label issued by EMSD or other power-saving qualification
   機電工程署「認可」級別能源標籤
How to Buy 如何購買

Webpages of Business Office and Information Technology Services Centre (ITSC) feature a number of tender suppliers of products (e.g. A4 and A3 paper, photocopyers, plastic bags, computers, etc.) with mandatory or voluntary specifications. Products that meet the green criteria are labelled with the word "GREEN" for easy identification.

For air conditioners, refrigerators, CFLs, dehumidifiers and washing machines, all models sold in Hong Kong have the EMSD Energy Label.

In the case of purchases to be made by contractors on behalf of the offices (e.g. for renovations, etc.), please refer to the ‘Green Purchasing Guidelines’ and provide detailed specifications of relevant products to them for information.

大學商務組和資訊科技服務處的網頁列出了一些中標供應商，他們提供某些「必須符合環保規格」及「採購時可參考環保規格」類別的產品（例如A4和A3紙、影印機、塑料袋、電腦等），凡符合環保規格的，均以「GREEN」字樣標示，方便採購者辨識。

在本港銷售的冷氣機、雪櫃、焊電機、抽濕機和洗衣機均貼有機電工程署的能源標籤。

辦公室應將《環保採購指引》內產品的詳細環保規格提供予受聘的承辦商，讓他們為辦公室進行採購（如購買裝修物料等）時採納。

Business Office’s Centralized Tenders Webpage
商務組—中央投標網頁
https://www.cuhk.edu.hk/mo/stf/eng/bus_centralized_tenders.html

ITSC’s Computer Equipment Acquisition Webpage
資訊科技服務處—添置電腦器材網頁

3943 3924 / cpso@cuhk.edu.hk
http://www.cuhk.edu.hk/cpspo/
THE CHINESE UNIVERSITY OF HONG KONG

GREEN PURCHASING GUIDELINES

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First issued in 2012
Last updated in July 2018
1. Introduction

1.1 What is green purchasing?

Green purchasing is also known as green procurement, environmentally-responsible purchasing or environmentally-preferable purchasing. Every item we purchase consumes some of the Earth’s resources and generates certain pollution and waste in its resource extraction and transportation, manufacturing, packaging and marketing, use and, finally, disposal. Some products also pollute the indoor environment and have an adverse impact on human health, or cause harm to endangered species. Thus, our consumption behaviour plays a major role in generating all kinds of local and global environmental problems from indoor air pollution to climate change.

While it is best not to purchase items we do not need, where necessary, goods with a reduced negative impact on the environment and human health should be purchased. This is called green purchasing.

1.2 Why should CUHK do green purchasing?

The Chinese University of Hong Kong (CUHK) seeks to develop a sustainable campus with a reduced dependency on the Earth’s natural resources and a reduction in greenhouse gases emissions per capita (Campus Master Plan, 2010). To achieve this long-term goal, it is necessary for the University to incorporate green practices into its daily operation wherever applicable and practical.

By buying products that are more environmentally-friendly, not only will the University contribute to the improvement of the planet’s environment, the CUHK campus environment will also become safer and healthier for students, staff and contractors.

As an institution of higher education, CUHK also has the responsibility to foster an environmentally-conscious culture on campus, to inspire students, and staff as well, to put environmental responsibility into action in their own daily lives.
2. CUHK’s Policy and Guidelines on Green Purchasing

2.1 Green Purchasing Policy

The Green Purchasing Policy, formulated in 2011, was endorsed by the Committee on Campus Environment (CCE) and the Committee on Campus Sustainability (CCS) (CCE merged into CCS in 2014), and approved by the Administrative and Planning Committee (AAPC). The Policy reflects CUHK’s mission to continuously improve the environmental quality of the campus by purchasing and using environmentally-friendly materials and products whenever they meet our cost and performance requirements.

Under this Policy, University departments (including all academic, research, administrative and support units), as well as University-hired contractors and consultants, are encouraged to take into account environmental considerations in procuring and purchasing.

2.2 Green Purchasing Guidelines

The Green Purchasing Policy stipulates that a set of guidelines, together with a list of products suitable for purchase by University departments, contractors and consultants, is to be provided to all staff for guidance.

The purposes of this set of Green Purchasing Guidelines, as endorsed by CCS, include the following:

- Inform all staff members of the University’s green purchasing initiative and introduce the concept and benefits of green purchasing.

- List the mandatory ‘green actions’ to take, including the green specifications to be adopted and the procedures to be followed for tender invitations. A list of mandatory green products, which are commonly used items with widely available green options, is given.

- For other products that are also commonly used by the University, provide a list of recommended green products for departments, contractors and consultants’ reference while making such purchases.

- Share some green purchasing initiatives currently adopted by the major purchasers and tender callers, who are champions of greening the University’s purchases, for departments’ reference when considering ways to ‘green’ their purchases.
3. Role of Directors/Heads of Departments

To make the Green Purchasing Guidelines a useful reference that helps CUHK achieve the goal to develop a sustainable campus, the directors and heads of departments play an important role. They shall:

• **Inform** all staff members of the requirements stipulated in the Green Purchasing Guidelines. **Provide guidance** to the staff responsible for purchasing if necessary and **ensure compliance** with the requirements.

• **Consider ways** the department can support green purchasing on campus, and **explore opportunities** to purchase more environmentally-friendly options of the products that are commonly used by the department, where possible and economical.

• **Submit good practices, new ideas or suggestions** to the Campus Planning and Sustainability Office (CPSO).
4. Mandatory ‘Green Actions’

4.1 Adopt mandatory green specifications for products

Purchasers of individual departments are required to adopt green specifications when purchasing the following items or, if the items are to be purchased on behalf of the University by contractors and consultants, to include the relevant specifications in tender invitations.

The products listed in this section are mandatory green products, which are commonly-used items in the University and the exclusive use of them (instead of other ‘less green’ options) will make an impact in greening the University’s purchases as well as the campus environment. These products are categorized in these Guidelines as mandatory as all of them come with widely-available, economical green options on the market.

For other products that are also commonly used by the University, but may not have as widely-available green options as those included in this section, a list of recommended green products is given in Appendix A for departments, contractors and consultants’ reference when making such purchases.

(i) Paper (A4 and A3)

<table>
<thead>
<tr>
<th>Applies to:</th>
<th>A4 and A3 printing or photocopying paper (white) of 75gsm and 80gsm for in-house copying/printing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specifications:</td>
<td>100% recycled, non-chlorine bleached paper¹</td>
</tr>
<tr>
<td>Effective from:</td>
<td>2012</td>
</tr>
<tr>
<td>How to purchase:</td>
<td>- Recycled A3 and A4 (white) paper of 80gsm that meets the green specifications can be purchased from the supplier(s) in the Business Office’s centralized tender.</td>
</tr>
<tr>
<td></td>
<td>- If 75gsm recycled paper is not available, use 80gsm recycled paper in place of 75gsm and 80gsm conventional white paper.</td>
</tr>
<tr>
<td></td>
<td>- Green options now available in the tender have been labelled with the text ‘GREEN!’</td>
</tr>
<tr>
<td>Certifications:</td>
<td><img src="image" alt="Recycled product logo" /> Recycled product logo (usually found on the package)</td>
</tr>
</tbody>
</table>

¹ An old way of bleaching paper with chlorine creates dioxins, a cancer-causing chemical. Dioxin can be absorbed into human bodies when people come in contact with paper products, or when people consume water or produce contaminated by dioxins discharged into rivers by paper mills. It is therefore important to ask for paper bleached using new chlorine-free technologies.
DO YOU KNOW…

Apart from saving trees, recycling waste paper uses only half of the energy it takes to produce paper from wood. The production process requires far less water and generates less air pollution as well.

If all the 75 and 80 gsm A3 and A4 (white) paper CUHK used in 2014/15 term were replaced with recycled paper, it would²:

- save approximately 2924 trees
- save around 68800 KWh of electricity
- save water equivalent to the volume used by 114 full-time students and staff on campus for a year, and
- prevent 4600 kg of pollutants from entering the atmosphere

Cost Implications

Although recycled paper costs more than conventional paper, the amount of money spent on paper is usually miniscule compared to the total budget of departments—even academic departments, the major paper users. Take for example an academic department at CUHK that uses 50 reams (or packets) of 80gsm paper (the type of paper most often used on campus) a week:

- Assume that each ream of recycled A4 80gsm paper costs approximately $3 more than conventional paper.
- Therefore, the extra cost of using recycled paper is approximately $7,821 a year.
- The one-line budget of this academic department is $20 million. The extra cost of using recycled A4 paper for a year will be about 0.03% of the budget.
- On the whole, the department will spend 0.27% of its budget on purchasing recycled A4 paper for the year.

(ii) Multifunction photocopiers

| Applies to: | Multifunction photocopiers in the centralized tender |
| Specifications: | Energy Star label, recognition-type energy label (by EMSD)³, or other power-saving qualification; built-in duplex function⁴ |
| Effective from: | 2012 |
| How to purchase: | All the photocopiers in the Business Office’s centralized tender meet the aforesaid green specifications. |

² According to Recycling Revolution, using 1 ton of recycled paper in place virgin paper conserves 7,000 gallons of water, 17 trees, 400 KWh of electricity and prevents 60 pounds of air pollutants from entering the atmosphere.

³ For more information on energy labels/environmental labels, please refer to Labels and Certificates – Photo Guide (Appendix D).

⁴ Duplex function enables users to print double-sided and thus save paper.
Green models in the tender have been labelled with the text ‘GREEN!’.

Certifications:

<table>
<thead>
<tr>
<th>Energy Star label</th>
<th>Recognition-type energy label</th>
</tr>
</thead>
</table>

(iii) Laser printers

**Applies to:** Laser printers in ITSC’s tender

**Specifications:** Energy Star label, recognition-type energy label (by EMSD)3, or other power-saving qualification; built-in duplex function4

**Effective from:** 2012

**How to purchase:** Green models in the tender have been labelled with the text ‘GREEN!’.

Certifications:

<table>
<thead>
<tr>
<th>Energy Star label</th>
<th>Recognition-type energy label</th>
</tr>
</thead>
</table>

(iv) Desktop computers

**Applies to:** Desktop computers in ITSC’s tender

**Specifications:** Energy Star label, or other power-saving qualification like TCO; EPEAT® registration preferred3

**Effective from:** 2012

**How to purchase:** All desktop computers in ITSC’s tender meet the aforesaid green specifications. Green models in the tender have been labelled with the text ‘GREEN!’.

Certifications:

<table>
<thead>
<tr>
<th>Energy Star label</th>
<th>EPEAT logo</th>
</tr>
</thead>
</table>

(v) LCD monitors

**Applies to:** LCD monitors in ITSC’s tender

**Specifications:** Energy Star label, or other power-saving qualification like TCO; EPEAT registration preferred3

**Effective from:** 2013

**How to purchase:** All LCD monitors in ITSC’s tender meet the aforesaid green specifications after the setting of the new tender. Green models have been labelled with the text ‘GREEN!’.
(vi) Notebook computers

Certifications: Energy Star label, EPEAT logo

Applies to: Notebook computers in ITSC’s tender
Specifications: Energy Star label, or other power-saving qualification like TCO; EPEAT registration preferred
Effective from: 2012
How to purchase: All notebook computers in ITSC’s new 2012 tender will meet the aforesaid green specifications.
Green models have been labelled with the text ‘GREEN’.

Certifications: Energy Star label, EPEAT logo

(vii) Room air conditioners

Certifications: Grade 1 air conditioner mandatory energy label

Applies to: All room air conditioners
Specifications: Grade 1 of mandatory energy label (by EMSD)
Effective from: 2012
How to purchase: All room air conditioners in Hong Kong with cooling capacity not exceeding 7.5 kW have the mandatory energy label.

DO YOU KNOW…

**Air conditioning** accounted for 30% of Hong Kong’s electricity consumption in 2013 and was the second largest end-use. Air conditioners that have obtained Grade 1 of EMSD’s mandatory energy label use less energy than other air conditioners; Grade 1 air conditioners typically use 11% less energy than Grade 3 air conditioners.

---

5 With cooling capacity not exceeding 7.5 kW and covered in the Mandatory Energy Efficiency Labelling Scheme.
(viii) Refrigerators

Applies to: All refrigerators with a total rated storage volume of 500L or below
Specifications: Grade 1 of mandatory energy label (by EMSD)
Effective from: Immediately (for all new purchases)
How to purchase: All refrigerators with a total rated storage volume of 500L or below have the mandatory energy label.

Certifications:

DO YOU KNOW…

Refrigerators that have obtained Grade 1 of EMSD’s mandatory energy label use less energy than other refrigerators; Grade 1 refrigerators typically use 41% less energy than Grade 3 refrigerators.8

(ix) Dehumidifiers

Applies to: All dehumidifiers with dehumidifying capacity not exceeding 35 litres per day
Specifications: Grade 1 of mandatory energy label (by EMSD)
Effective from: Immediately (2016)
How to purchase: All dehumidifiers in Hong Kong with dehumidifying capacity not exceeding 35L/day have the mandatory energy label.

Certifications:

DO YOU KNOW…

**Dehumidifiers** that have obtained Grade 1 of EMSD’s mandatory energy label typically use 24% less energy than Grade 3 dehumidifiers⁹.

### Washing machines

**Applies to:** All washing machines with rated capacity not exceeding 7kg

**Specifications:**
- Grade 1 or 2 of mandatory energy label (by EMSD), with preference on Grade 1.
- Grade 1 or 2 of Grading Type Water Efficiency Label (by Water Supplies Department), with preference on Grade 1, or similar water-saving qualification.

**Effective from:** Immediately (2016)

**How to purchase:**
- All washing machines in Hong Kong with rated capacity not exceeding 7kg have the mandatory energy label.
- The Grading Type Water Efficiency Label is common on washing machines sold in Hong Kong. Other water-saving labels are also accepted.

**Certifications:**

![Energy Label](image)

Source: Energy Labels under Mandatory Energy Efficiency Labelling Scheme MEELS

**DO YOU KNOW…**

Washing machines that have obtained Grade 1 of EMSD’s mandatory energy label and Grade 1 grading type water efficiency label typically use 23% less energy⁹ and at least 15% less water (per kg/cycle)¹¹ than models that have obtained the Grade 3 energy label and Grade 3 water label.

---


(xi) Lamps

Applies to:
(a) Incandescent lamps: Incandescent lamp bulbs that are 25 watt (W) or above, including GLS lamps (standard light bulbs), candle shape, fancy round and other decorative lamps, as well as tungsten halogen lamps (quartz lamps)
(b) Integrated compact fluorescent lamps (CFLs)12
(c) Fluorescent lamp tubes

Specifications:
(a) For incandescent lamps, cease purchasing new incandescent lamps; when replacements are necessary, choose Light Emitting Diodes (LEDs), CFLs or other energy-efficient lamps.
(b) For CFLs, choose those that have obtained Grade 1 of mandatory energy label (by EMSD)3.
(c) For fluorescent lamp tubes, use T5 tubes (or T4 tubes where applicable).

Effective from: 2012
How to purchase: All integrated CFLs in Hong Kong carry EMSD’s mandatory energy label.

DO YOU KNOW…

**Incandescent lamps** are very energy inefficient and generate a lot of heat, which increases the amount of air conditioning needed to cool a room. In 2013, lighting accounted for 13% of Hong Kong’s electricity consumption and was the third largest end-use.6

**Compact Fluorescent Lamps (CFLs),** which typically use 75% less energy than incandescent lamps, cost more initially (the price is 3-10 times that of an incandescent lamp), but last 6-15 times longer and are less expensive in the long run. However, CFLs must be recycled as they contain mercury, a toxic heavy metal.

12 With a rated wattage up to 60W.
Light Emitting Diodes (LEDs) use 80% less energy than incandescent lamps and last around 35 times longer. LEDs are more energy-efficient than Compact Fluorescent Lamps and contain no mercury.

T5 lamps are fluorescent lamps that are 5/8 of an inch in diameter. In comparison, older and less efficient T8 lamps and T12 lamps are 1” and 1.5” in diameter respectively. Even newer and more efficient are the T4 tubes, which are 0.5” in diameter.

(xii) Fluorescent lamp ballasts

Applies to: Ballasts for florescent lamp tubes
Specifications: Electronic ballasts with the recognition-type energy label (by EMSD)3 or other power-saving qualification
Effective from: 2012
How to purchase: The recognition label might be found on the product package. Models registered under the labelling scheme can also be found here:

Certifications: Recognition-type energy label

(xiii) Paints

Applies to: Architectural paints and coatings for walls and ceilings
Specifications: Only water-based paints should be used, which should contain no or low VOCs\(^\text{13}\), i.e. VOC content for paints applied indoors and paints applied outdoors should not exceed 50g per litre (g/L) and 150g per litre (g/L) respectively, or meet standards specified by one of the following: the Hong Kong Green Labelling Scheme3, China Environmental Labelling Scheme, Greenguard, Green Seal or SCS Indoor Advantage.
Effective from: 2012
How to purchase: Specify requirements when inviting tender.

\(^{13}\) Volatile Organic Compounds (VOCs) are chemicals that readily evaporate and contribute to the formation of air pollutants when released into the air indoors or outdoors. Many VOCs are classified as toxic and carcinogenic.
Certifications:

Hong Kong Green Label
(This label is provided courtesy of Green Council)

(xiv) Carpets

<table>
<thead>
<tr>
<th>Applies to:</th>
<th>Carpets to be installed in new buildings or for retrofitting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specifications:</td>
<td>Carpets used should</td>
</tr>
<tr>
<td></td>
<td>- contain low or no VOCs(^{13}), i.e. emissions of Total Volatile Organic Compounds (TVOCs) should not exceed 0.5mg/m(^2) per hour, or</td>
</tr>
<tr>
<td></td>
<td>- meet standards specified by the Carpet and Rug Institute (CRI), Floorscore, Danish Indoor Climate Labelling (Denmark) or European association for environmentally friendly carpets (GUT), and</td>
</tr>
<tr>
<td></td>
<td>- preferably sold as individual tiles and either contain recycled materials or are recyclable.</td>
</tr>
<tr>
<td>Effective from:</td>
<td>2012</td>
</tr>
<tr>
<td>How to purchase:</td>
<td>Specify requirements when inviting tender.</td>
</tr>
</tbody>
</table>

(xv) Sustainability-conscious food consumption

<table>
<thead>
<tr>
<th>Applies to:</th>
<th>All activities that are either organized or paid for by CUHK; all CUHK purchases, as well as meals served in club houses, canteens or restaurants operated by the University and the Colleges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specifications:</td>
<td>Shark’s fins, bluefin tuna（藍鰭吞拿魚）, black moss (‘fat choy’ 頭菜), humphead wrasse(^{14})（蘇眉）, Hong Kong grouper(^{15})（紅斑） and sturgeon caviar(^{16})（鰟魚魚子醬）shall not be purchased, served, consumed or promoted.</td>
</tr>
<tr>
<td>Effective from:</td>
<td>2012 (shark’s fin); 2013 (bluefin tuna and black moss); 2017 (humphead wrasse, Hong Kong grouper and sturgeon caviar)</td>
</tr>
</tbody>
</table>

4.2 Get contractors and consultants involved

To enable contractors and consultants to choose green products when purchasing on behalf of the University, in particular those made mandatory in Section 4 above, the relevant green specifications must be included in the invitation of tenders from contractors or consultants.

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\(^{14}\) Species: Cheilinus undulatus

\(^{15}\) Species: Epinephelus akaara

\(^{16}\) Sturgeon is the common name for the 27 species of fish belonging to the family Acipenseridae.
5. **Compliance, Initiatives and Support**

### 5.1 Compliance

All mandatory green products in Section 4.1 are either easily available from the University at below-market prices and have been used by many offices without difficulties, or are widely available in the market at prices similar to conventional products.

While no formal audit will be conducted to ensure compliance, directors and heads of departments have the responsibility to make sure their staff members responsible for purchasing are aware of, and are able to comply with, the stipulated requirements.

For the implementation of (xv) Sustainability-conscious food consumption, the Finance Office will list these prohibited species in its ‘Reimbursement / Payment for Entertainment Expenditure Form’ used by all offices.

### 5.2 Initiatives of major purchasers and tender callers

Some major purchasers and tender callers have already taken leadership in green purchasing at the University and are committed to identifying and purchasing environmentally-preferable items with good value for money. They are:

- Business Office (BO)
- Campus Development Office (CDO)
- Estates Management Office (EMO)
- Information Technology and Services Centre (ITSC)
- Transport Unit

Staff members responsible for purchasing on behalf of the University are welcome to refer to these pioneer initiatives (*Appendix B*) when considering ways their departments can join the movement to make CUHK’s purchases more environmentally-friendly.

### 5.3 Support from the University

The University will provide additional support to the promotion of green purchasing in the following ways:

- Major tender callers will continue to explore the availability, quality and prices of green options for products commonly used in the University, so that more green options will be available at reasonable prices. Furthermore, the University will engage suppliers of goods and services on campus (e.g. bookstores) to make it easier for staff and students to obtain green products.

- Green options available in the tenders are labelled for purchasers’ easy identification and selection.
• CPSO will liaise with major purchasers and tender callers to hear about the findings and progress regarding green purchasing, and to determine what incentives or funding the University may be able to provide to support green purchasing initiatives. CPSO will also liaise with more major purchasers and pioneers of green purchasing on campus and seek their support in ‘greening’ the University’s purchases further.

• CPSO will on approval of CCS regularly update the list of green products and the list of green purchasing initiatives major purchasers are taking, in order to reflect changes in the types and specifications of green products procured by the University, and to acknowledge new major purchasers/tender callers for their efforts in promoting and supporting green purchasing at CUHK.

Enquiries and Suggestions

Enquiries and suggestions are welcome. Please contact CPSO by:

Email: cpso@cuhk.edu.hk
Telephone: 3943 3925
Recommended ‘Green Products’ and their ‘Green Specifications’

In addition to the products listed in Section 4 Mandatory ‘Green Actions’ above, green varieties of many other products are recommended for purchase. The following list of recommended ‘green products’ and their specifications is established based on the ‘green specifications’ recommended by the Environmental Protection Department (EPD) of the Hong Kong SAR Government as well as those commonly used by other tertiary institutions. The list also captures the key green aspects of many commonly used items. It is not exhaustive and more products may be added depending on market availability, stakeholders’ readiness and new environmental standards.

Purchasers are strongly recommended to take the following green specifications into consideration in procuring and purchasing. Green options currently available from suppliers listed on Business Office’s or ITSC’s web pages are labelled with the text ‘GREEN!’ for easy identification by purchasers.

Purchasers should always ask the suppliers whether the items meet the green specifications.

If suppliers request more details or when comparison of two products in terms of their ‘greenness’ is needed, please refer to the green specifications recommended by the EPD: http://www.epd.gov.hk/epd/english/how_help/green_procure/green_procure1.html

More information on environmental labels and certificates is given in Labels and Certification – Photo Guide (Appendix D).

<table>
<thead>
<tr>
<th>Products</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Stationery</td>
<td></td>
</tr>
</tbody>
</table>
| 1 Pens and pencils | Whenever possible, purchase refillable pens and mechanical pencils. Replenish with refills instead of buying new pens and pencils when they run out of writing materials

**Tips for purchasers:**
Refillable pens, mechanical pencils and refills are available in most stationery shops. Green options are available from the stationery supplier(s) listed in the Business Office’s centralized tender.

| 2 Correction fluid and thinner or | Contains no ozone-depleting chemicals (usually labelled ozone-friendly or ozone-safe) |

---

17 Using refillable pens saves the resources required to manufacture new pens, and reduces waste generated by pen disposal. Traditional pencils have a wood barrel made of virgin hardwood; using refills in mechanical pencils reduces the number of trees that must be cut down to produce barrels.

18 Some correction fluid contains 1,1,1-trichloroethane, a chemical that depletes the Earth’s ozone layer and may cause respiratory irritation. Newer types of correction fluid that contains water instead of 1,1,1-trichloroethane, though taking marginally longer to dry, are widely available and
## Products

<table>
<thead>
<tr>
<th></th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>correction pens</strong></td>
<td><strong>Tips for purchasers:</strong> Most stationery shops carry the green option. Just check the product label to make sure that it is ozone-friendly or ozone-safe. Green options are available from the stationery supplier(s) listed in the Business Office’s centralized tender.</td>
</tr>
<tr>
<td><strong>Notebooks and notepads</strong></td>
<td>Made of recycled paper&lt;sup&gt;19&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Paper file jackets</strong></td>
<td>Made of recycled paper&lt;sup&gt;19&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Plastic file jackets</strong></td>
<td>Containing recycled plastic</td>
</tr>
<tr>
<td><strong>File boxes with lock spring</strong></td>
<td>Made of recycled paper&lt;sup&gt;19&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Cartons and wrapping paper</strong></td>
<td>Made of recycled paper&lt;sup&gt;19&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Plastic packaging</strong></td>
<td>Avoid packaging that contains chlorinated or halogenated plastics&lt;sup&gt;20&lt;/sup&gt;. Used packaging should be able to be recycled by local recycling systems</td>
</tr>
<tr>
<td><strong>Plastic films and sheets</strong></td>
<td>Contains recycled materials</td>
</tr>
</tbody>
</table>

### Contains no intentionally added heavy metals of lead, mercury, cadmium and hexavalent chromium, excepting those added as result of using recycled content, the sum of which shall not exceed 100 ppm by weight.

### B. Office equipment and electrical appliances

<table>
<thead>
<tr>
<th></th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Servers</strong></td>
<td>Energy Star label or other power-saving qualification&lt;sup&gt;3&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

#### **Tips for purchasers:**

Most servers in ITSC’s tender are Energy Star-labelled.

| **Multifunction printers** | Energy Star label, recognition-type energy label (by EMSD), or other power-saving qualification<sup>3</sup>. Models registered under EMSD’s labelling scheme can be found here: [http://www.emsd.gov.hk/emsd/eng/pee/eels_reg_1.shtml](http://www.emsd.gov.hk/emsd/eng/pee/eels_reg_1.shtml) |

| **Vending machines** | Energy Star power-saving qualification (or equivalent)<sup>3</sup>; or install external ‘vending miser’ devices or similar power-saving devices |

---

<sup>19</sup> Apart from saving trees, recycling waste paper uses only half of the energy it takes to produce paper from wood. The production process requires far less water and generates less air pollution as well.

<sup>20</sup> Examples of chlorinated / halogenated plastics: Chlorinated Polyethylene (CPE), Chlorinated Polyvinyl Chloride (CPC), Chlorinated Polyvinyl Chloride (CR), Chlorosulfonated Polyethylene (CSPE/CSM), Polyvinylchloride (PVC)
<table>
<thead>
<tr>
<th></th>
<th>Products</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>Electrical storage water heaters</td>
<td>Grade 1 (or Grade 2 where Grade 1 is not widely available) of grading-type energy label (by EMSD), or other power-saving qualification&lt;sup&gt;3&lt;/sup&gt; (NB. Applies only to electrical water heaters with storage capacity not exceeding 300 litres).</td>
</tr>
<tr>
<td>14</td>
<td>Television</td>
<td>Energy Star label, Grade 1 or 2 Energy Label under the Energy Efficiency Labelling Scheme (by EMSD), or other power-saving qualification&lt;sup&gt;3&lt;/sup&gt;</td>
</tr>
<tr>
<td>15</td>
<td>Shredder</td>
<td>Comply with RoHS&lt;sup&gt;21&lt;/sup&gt;; plastic parts should be manufactured without chlorinated paraffins flame retardants; component parts should not contain halogenated substances</td>
</tr>
<tr>
<td>16</td>
<td>Dryer</td>
<td>Grade 1 of voluntary grading-type energy label (by EMSD)&lt;sup&gt;3&lt;/sup&gt;</td>
</tr>
<tr>
<td>17</td>
<td>Electric fan</td>
<td>With a power factor of 0.8 or more, or with Energy Star label; comply with RoHS</td>
</tr>
</tbody>
</table>

### C. Printed matters

|   | Printed matters (envelopes, certificates, letterheads, etc.) | Printed on 100% recycled paper<sup>19</sup>  
**Tips for purchasers:** Many printing companies can print stationery using recycled paper. The Business Office provides tender prices for selected printed matters on recycled paper. |
|---|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 19| Printing ink                                                | Containing soy oil or vegetable oils<sup>22</sup>  
**Tips for purchasers:** To select printing companies that use soy ink, you can ask for certificates like the SoySeal authorized by the American Soybean Association. |  
| 20| Name card printing                                          | Printed on 100% recycled paper with inks containing soy oil or vegetable oils                                                                                                                                   |

---

<sup>21</sup> The Restriction of Hazardous Substances Directive (RoHS) was adopted in February 2003 by the EU. It restricts the use of six hazardous materials - Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent chromium (Hex-Cr), Polybrominated biphenyls (PBB) and Polybrominated diphenyl ethers (PBDE) - in the manufacture of various types of electronic and electrical equipment. For more information on energy labels/environmental labels, please refer to [Labels and Certificates – Photo Guide (Appendix D)](#).

<sup>22</sup> During paper recycling, soy and vegetable inks can be removed more easily than regular ink from paper, which saves treatment costs during recycling. Inks that contain certain types of vegetable oils (e.g. soy oil) also emit less harmful VOCs during printing.
Products | Specifications |
--- | --- |
**Tips for purchasers:** Many printing companies can print name cards using recycled paper and eco-friendly ink. The Business Office provides reference prices from printing companies that use recycled paper and eco-friendly ink.

D. Plastic bags and containers

| 21 | Garbage bags | Biodegradable\(^{23}\) or made of plastic/other materials with recycled content |
| **Tips for purchasers:** Biodegradable garbage bags are available in most supermarkets. For bulk orders, the supplier(s) in the Business Office’s centralized tender offers biodegradable bags at tender prices. |

| 22 | Umbrella bags | Biodegradable\(^{23}\) or made of plastic/other materials with recycled content |
| **Tips for purchasers:** The supplier(s) of biodegradable garbage bags listed in the Business Office’s centralized tender may have biodegradable umbrella bags for sale. |

| 23 | Food and drink containers | Biodegradable\(^{24}\) or made of plastic/other materials with recycled content |
| **Tips for purchasers:** Use reusable food and drink containers and avoid using disposables whenever possible. |

| 24 | Plastic shopping bags (for souvenirs) | Look for at least one product declaration below:  
- Contain recycled plastic content  
- Biodegradable |

E. Toiletries and cleaning products

| 25 | Toilet paper | Made of 100% recycled\(^{19}\), non-chlorine bleached\(^{1}\) paper |
| **Tips for purchasers:** Unbleached, recycled toilet paper (regular rolls) is available from the supplier(s) listed in the Business Office’s centralized tender at tender price. |

---

\(^{23}\) Traditional plastic bags take hundreds of years to decompose and create huge waste treatment problems in the landfill. Biodegradable bags should take only a few months to decompose in landfill conditions and turn into non-toxic carbon dioxide, water and biomass.

\(^{24}\) Biodegradable food and drink containers can be made of materials like bagasse (sugar cane pulp) or corn. However these usually do not decompose in a landfill’s anaerobic environment. They do, however, decompose in a compost pile.
<table>
<thead>
<tr>
<th>Products</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
<td>Biodegradable\textsuperscript{25}, preferably phosphate-free\textsuperscript{26} and non-toxic; all-purpose cleaner with Hong Kong Green Label preferred. Cleaning agents with labels like Ecologo, Green Seal or U.S.EPA Design for the Environment are also preferred.</td>
</tr>
<tr>
<td>27</td>
<td>Biodegradable\textsuperscript{25}, preferably phosphate-free\textsuperscript{26} and non-toxic Cleaning agents with labels like Ecologo, Green Seal or U.S.EPA Design for the Environment are also preferred.</td>
</tr>
<tr>
<td>28</td>
<td>Biodegradable, preferably phosphate-free and non-toxic Cleaning agents with labels like the China Environmental Label, Ecologo, Green Seal or U.S.EPA Design for the Environment are also preferred.</td>
</tr>
</tbody>
</table>

**Tips for purchasers:**
Available at large supermarkets. Other desirable specifications to look for include ‘with neutral pH’, ‘does not contain chlorine’ and ‘plant-derived’.

<table>
<thead>
<tr>
<th>F. Furnishing and construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
</tr>
<tr>
<td>30</td>
</tr>
<tr>
<td>31</td>
</tr>
<tr>
<td>32</td>
</tr>
<tr>
<td>33</td>
</tr>
</tbody>
</table>

\textsuperscript{25} Biodegradable cleaning agents cause less water pollution as they are less toxic and can be broken down by bacteria relatively quickly.

\textsuperscript{26} Conventional dishwashing formulas contain phosphate, which becomes a nutrient for certain kinds of algae when it enters the water and promotes excessive algal growth. The algae then die and decompose in the water. The massive amount of decomposing plant matter consumes all the oxygen in the water, killing aquatic life and causing water quality to decline.

\textsuperscript{27} Permeable paving materials allow water to percolate into the soil. This helps prevent flooding during heavy rains and nourishes soil organisms and tree roots.
<table>
<thead>
<tr>
<th>Products</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Products</td>
<td>Contains none of the substances regulated in the Montreal Protocol on Substances that Deplete the Ozone Layer(^{28})</td>
</tr>
<tr>
<td></td>
<td>Contains no more than 0.01% by wet weight of formaldehyde</td>
</tr>
<tr>
<td></td>
<td>Contains no more than 0.5% by wet weight of the sum total of aromatic compounds, which include benzene, toluene, xylenes, and ethylbenzene</td>
</tr>
<tr>
<td>34 Partition screen, workstation panel</td>
<td>All wood panels shall be of Class E1 under EN13986 in respect of formaldehyde emission, and the requirements are as follows:</td>
</tr>
<tr>
<td></td>
<td>• MDF (Medium-density fibreboard) board : release ≤ 8mg/100g (by test method EN120)</td>
</tr>
<tr>
<td></td>
<td>• Plywood/solid wood/other panels : release ≤ 0.124mg/ m(^3) air (by test method EN 717-1)</td>
</tr>
<tr>
<td></td>
<td>Contain recycled or waste wood</td>
</tr>
<tr>
<td>35 Timber doors</td>
<td>All wood panels shall be of Class E1 under EN13986 in respect of formaldehyde emission</td>
</tr>
<tr>
<td></td>
<td>Contains none of the following heavy metals or their compounds: arsenic, cadmium, copper, lead, mercury</td>
</tr>
<tr>
<td></td>
<td>Manufactured without the use of the following additives: elemental chlorine, fluorine, PCP (pentachlorophenol) and tar oils containing benzo(a)pyrene</td>
</tr>
<tr>
<td></td>
<td>Contains none of the following flame retardant formulated components: biphenyl (PBB), polybrominated diphenyl ether (PBDE) or short-chain chlorinated paraffin</td>
</tr>
<tr>
<td>36 Windows</td>
<td>Thermal insulation capacity of the glass should be equal to or less than the heat transfer coefficient (U-value) of 1.4W/m(^2)K</td>
</tr>
<tr>
<td></td>
<td>Components not formulated with the following substances or their compounds: arsenic, cadmium, hexavalent chromium, lead, mercury, organic tin, phthalates</td>
</tr>
<tr>
<td>37 Wood panels</td>
<td>Content of free formaldehyde in adhesives used in the product shall not exceed 0.5 % by weight of the adhesive</td>
</tr>
<tr>
<td></td>
<td>All wood panels shall be of Class E1 under EN13986 in respect of formaldehyde emission</td>
</tr>
<tr>
<td></td>
<td>Contains none of the following heavy metals or their compound</td>
</tr>
</tbody>
</table>

\(^{28}\) Particularly CFCs, HCFCs, 1,1,1-trichloroethane and carbon tetrachloride.
<table>
<thead>
<tr>
<th>Products</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>compounds: arsenic, cadmium, copper, lead, mercury</td>
</tr>
<tr>
<td></td>
<td>Manufactured without the use of the following additives: elemental chlorine, fluorine, PCP (pentachlorophenol) and tar oils containing benzo(a)pyrene</td>
</tr>
<tr>
<td></td>
<td>Contains none of the following flame retardant formulated components: biphenyl (PBB), polybrominated diphenyl ether (PBDE) or short-chain chlorinated paraffin</td>
</tr>
<tr>
<td>38 Ceramic tiles</td>
<td>Content of elements used in the glazes shall not exceed the following specific limits:</td>
</tr>
<tr>
<td></td>
<td>• Antimony: 0.25% in weight of the glazes</td>
</tr>
<tr>
<td></td>
<td>• Cadmium: 0.1% in weight of the glazes</td>
</tr>
<tr>
<td></td>
<td>• Lead: 0.5% in weight of the glazes</td>
</tr>
<tr>
<td>39 Varnish and wax polish</td>
<td>Comply with the VOC content limits on regulated adhesives stipulated in the Air Pollution Control (VOC) Regulation of Hong Kong</td>
</tr>
<tr>
<td></td>
<td>Contains none of the substances regulated in the Montreal Protocol on Substances that Deplete the Ozone Layer</td>
</tr>
<tr>
<td></td>
<td>Contains no more than 0.01% by wet weight of formaldehyde</td>
</tr>
<tr>
<td></td>
<td>Contains no more than 0.5% by wet weight of the sum total of aromatic compounds, which include benzene, toluene, xylenes, and ethylbenzene</td>
</tr>
<tr>
<td>40 Chair</td>
<td>Wood material used should contain at least 40% recycled/waste wood, or has obtained sustainable forest management certification such as FSC, PEFC or equivalent</td>
</tr>
<tr>
<td></td>
<td>All wood panels shall be of Class E1 under EN13986 in respect of formaldehyde emission, and the requirements are as follows:</td>
</tr>
<tr>
<td></td>
<td>• MDF board: release $\leq$ 8mg/100g (by test method EN120)</td>
</tr>
<tr>
<td></td>
<td>• Plywood/solid wood/other panels: release $\leq$ 0.124mg/ m$^3$ air (by test method EN 717-1)</td>
</tr>
<tr>
<td></td>
<td>Plastic components contains none of the following heavy metals and hazardous substances: lead, chromium, cadmium, mercury, phthalates, halogenated organic substances</td>
</tr>
<tr>
<td></td>
<td>The formaldehyde emission of foam synthetic resin used in cushioning materials should be 30mg/kg (30ppm) or less</td>
</tr>
<tr>
<td></td>
<td>The sum of lead, cadmium, mercury, and hexavalent chromium</td>
</tr>
<tr>
<td>Products</td>
<td>Specifications</td>
</tr>
<tr>
<td>----------</td>
<td>----------------</td>
</tr>
</tbody>
</table>
| Steel filing cabinet | Colour coating should not contain:  
• Formaldehyde or halogenated solvent  
• Any heavy metallic substances such as mercury, lead, cadmium, chromium or their oxide  
• Aromatic hydrocarbon including solvents of thinner toluene or xylene  
• Volatile organic compounds (VOCs) over 250g/litre  
The compound of 1, 1, 1-trichloroethane should not be used for the surface preparing process |
| Metal furniture | Colour coating should not contain:  
• Formaldehyde or halogenated solvent  
• Any heavy metallic substances such as mercury, lead, cadmium, chromium or their compounds  
Plastic components contain none of the following heavy metals and hazardous substances: lead, chromium, cadmium, mercury, phthalates, halogenated organic substances  
It should be possible to separate the metals (except metals used in surface treatments) from other materials in the product without the use of special tools |
| Wooden furniture (for indoor use) | Wood material used should contain recycled/waste wood, or has obtained sustainable forest management certification such as FSC, PEFC or equivalent  
All wood panels should be of Class E1 under EN13986 in respect of formaldehyde emission, and the requirements are as follows:  
• MDF (Medium-density fibreboard) board: ≤8mg/100g of free formaldehyde content (by test method EN120) or release ≤0.124mg/ m³ air (by test method EN 717-1)  
• Plywood/solid wood/other panels: ≤ 4mg/100g of free formaldehyde content (by test method EN120) or release ≤ 0.124mg/ m³ air (by test method EN 717-1) |
| Sofa | Wood material used should contain recycled/waste wood, or has obtained sustainable forest management certification such as FSC, PEFC or equivalent  
Requirements of cushioning and filling materials:  
• Halogenated flame retardants should not be added |
### Products

<table>
<thead>
<tr>
<th>45</th>
<th>Mattress</th>
<th>The latex foam used should meet the following requirements:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>• Heavy metals: copper &lt; 2ppm, chromium, nickel &lt; 1ppm,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>arsenic, lead, antimony and cobalt &lt; 0.5ppm, cadmium &lt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.1ppm, mercury &lt; 0.02ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Extractable formaldehyde: &lt; 30ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• VOC: &lt; 0.5mg/m^3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Metal complex dyes based on copper, lead, chromium or</td>
</tr>
<tr>
<td></td>
<td></td>
<td>nickel should not be used</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Chlorophenols (salts and esters): &lt; 0.1ppm; mono,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>di-chlorinated phenols (salts and esters) &lt; 0.1ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Butadiene: &lt; 1ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nitrosamines: &lt; 0.001mg/m^3</td>
</tr>
</tbody>
</table>

The following requirements should be met for Polyurethane (PUR) foam:

- Heavy metals: copper < 2ppm, chromium and nickel < 1ppm, arsenic, lead, antimony and cobalt < 0.5ppmm, cadmium < 0.1ppm, mercury < 0.02ppm
- Extractable formaldehyde: < 30ppm
- VOC: < 0.5mg/m^3
- Metal complex dyes based on copper, lead, chromium or nickel should not be used
- CFCs, HCFCs, HFCs, methylene chloride should not be used as blowing agents
- Tin in organic form (tin bonded to a carbon atom) should not be used

Glues used should not contain benzene and chlorobenzenes

Cushioning material should not contain formaldehyde, aromatic hydrocarbons, phthalates, organic tins, cadmium, lead, hexavalent chromium, mercury and their compounds

### G. Lighting systems

<table>
<thead>
<tr>
<th>46</th>
<th>Light Emitting Diodes (LEDs)</th>
<th>When incandescent lamps and compact fluorescent lamps (CFLs) need to be replaced, choose Light Emitting Diodes (LEDs) whenever applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Products</td>
<td>Specifications</td>
<td></td>
</tr>
<tr>
<td>----------------------------------</td>
<td>----------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>47 Solar-powered lighting systems</td>
<td>Use solar-powered lighting systems whenever applicable</td>
<td></td>
</tr>
</tbody>
</table>

H. Batteries

| Batteries                       | Use rechargeable batteries whenever possible⁹; if alkaline batteries are to be used, look for those containing no mercury and no cadmium⁰ |

**Tips for purchasers:**
Available at most supermarkets. Check the information on the package to see the product composition (‘no mercury’, ‘no cadmium’).

I. Water fixtures

| Water taps                       | Have water-saving performance equivalent to Grade 1 under the Water Efficiency Labelling Scheme (WELS)³, or have aerators installed |
| Showerheads                      | Have water-saving performance equivalent to Grade 1 under the Water Efficiency Labelling Scheme (WELS)³ |
| Toilets                          | Have water-saving features such as waterless flushing or dual flush |

J. Transportation

| Diesel fuel                      | Use diesel with a biodiesel content of at least 5% |
| Vehicles                         | Use hybrid or electrical vehicles |
| Rubber and retreaded tyres       | Contain recycled rubber |
| Lubricating oil                  | Contains recycled content |

K. Landscaping

| Landscaping plants               | Species help feed, sustain, and shelter birds and beneficial insects, and/or are drought-tolerant and require little or no watering and application of fertilizers and pesticides |
| Fertilizer and soil improver     | Maximize use of compost made with landscaping/food waste |
| Pesticides                       | Non-toxic, non-flammable, biodegradable and odorless |
| Irrigation systems               | Have water-saving features |
| Garden Machinery                 | The declared sound intensity level should not exceed the limit |

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⁹ Rechargeable batteries are costlier to use initially (due to higher cost for each cell and cost of the charger), but with technological improvements, rechargeable batteries like Rechargeable Alkaline Manganese (RAM) and low self-discharge NiMH can retain their charge for one year or more, and can be recharged for up to 1500 times, making them a more economical and resource-saving choice in the long run. Rechargeable batteries can also be recycled at the end of their useful lives.

⁰ If alkaline batteries must be used, varieties without mercury and cadmium are available on the market, reducing contamination caused during production and after disposal.
<table>
<thead>
<tr>
<th>Products</th>
<th>Specifications</th>
</tr>
</thead>
</table>
| (lawn mowers) | of 100 dB(A) during operation; comply with RoHS  
The metal content in the individual battery cell should be lower than the values shown below: i. Arsenic ≤ 10.0 ppm  ii. Cadmium ≤ 5.0 ppm  iii. Lead ≤ 5.0 ppm  iv. Mercury < ≤ 0.1 ppm |

**L. Food and drink**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>61 Food</td>
<td>Give preference to products/ingredients grown or manufactured in Hong Kong or Guangdong Province[^31^], and/or fair trade products[^32^]; vegetarian options[^33^] be made available in each dining area</td>
</tr>
<tr>
<td>62 Seafood</td>
<td>Seafood in the ‘Recommended’ list of the WWF Seafood Guide[^34^]  Seafood in the ‘Think Twice’ and ‘Avoid’ lists are less sustainably produced and should be avoided</td>
</tr>
</tbody>
</table>

[^31^]: To reduce use of packaging during transport and carbon emissions during transportation.  
[^32^]: Apart from benefitting disadvantaged communities by guaranteeing relatively stable prices for produce, fair trade can usually benefit the environment by preventing local communities from destroying local natural resources for short-term gain.  
[^33^]: A vegetarian diet helps alleviate pressure on the world’s overfished oceans and also reduces carbon emissions. The livestock industry is one of the world’s largest carbon emission sources. Adopting a vegetarian diet every other day can help prevent 2,400 kg of carbon emissions/person/year. In comparison, replacing a 700-900W air conditioner with an electric fan for a year prevents 1,560kg of carbon emissions.  
[^34^]: The WWF Seafood Guide assesses wild-caught seafood species with regard to whether the fishery is sustainably managed, and whether fishing methods destructive to the environment are used; farmed seafood is assessed with regard to the farmed species’ susceptibility to disease (which leads to higher input, lower output and more pollution), pollution generated, the use of medicine and the origin of the species’ juveniles.
There are a number of major purchasers and tender callers in the University who are pioneers of green purchasing. These include:

- Business Office
- Campus Development Office
- Estates Management Office
- Information Technology and Services Centre
- Transport Unit

These offices are committed to green purchasing, and have effectively ‘greened’ a large part of the University’s purchases. They continuously explore green options, and identify green products of high quality for departments to purchase at reasonable prices.

The Campus Planning and Sustainability Office (CPSO) will continue to identify other major purchasers and pioneers of green purchasing on campus, and liaise with them to acknowledge their good work and support their efforts.

Major purchasers and tender callers shall update CPSO on new initiatives taken in support of green purchasing. Their current initiatives include and are not limited to:

<table>
<thead>
<tr>
<th>Office</th>
<th>Initiatives</th>
</tr>
</thead>
</table>
| Business Office (BO)            | Stationery and printing  
|                                |   - Investigate the availability and prices of environmentally-friendly stationery.  
|                                |   - Label the green options currently available in the centralized tender; continue to secure tender prices or obtain reference prices for these items.  
|                                |   - Investigate the applicability of using packaging materials made of recycled paper to package the souvenirs at its souvenir stand.  
|                                |   - Offer green printing options (using recycled paper and soy/vegetable ink) in the centralized printed matters tender.  
|                                | Office equipment  
|                                |   - Invite tenders for environmentally-friendly photocopiers.  
|                                |   - Invite tenders for biodegradable plastic bags and toilet paper made of unbleached recycled paper.  
| Information Technology Services Centre (ITSC) |   - Invite tenders for desktop and laptop computers, LCD monitors and laser printers that meet the required green specifications.  
|                                |   - Give preference to servers that meet the green specifications in future tender invitations.  
| Campus Development Office (CDO) | Electrical appliances  
|                                |   - Install room air conditioners that have attained Grade 1 of the mandatory energy label for new campus buildings.  
|                                | Furnishing and building materials  

<table>
<thead>
<tr>
<th><strong>Office</strong></th>
<th><strong>Initiatives</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Office Initiatives</strong></td>
</tr>
</tbody>
</table>
|                     | • Install low-VOC carpets that meet EPD standards in new buildings.  
• Use water-based paints (which emit less VOCs than solvent-based paints) in building projects.                                                                                   |
<p>| Lighting systems    | • Use Compact Fluorescent Lamps (CFLs), Light Emitting Diodes (LEDs), T5 fluorescent lamps or other energy-efficient lighting systems in place of incandescent lamps in new buildings, whenever possible. |
|                     | • Purchase compact fluorescent lamp ballasts with the EMSD recognition-type label.                                                                                                                              |
|                     | • Install solar-powered lighting systems whenever possible and economical.                                                                                                                                      |
| Water               | • Use water taps and showerheads that meet water-saving green specifications, where applicable.                                                                                                               |
|                     | • Purchase toilets with water-saving dual-flush function for new buildings.                                                                                                                                     |
| Estates Management  | <strong>Electrical appliances</strong>                                                                                                                                                                                        |
| Office (EMO)        | • Install air conditioners that have attained Grade 1 of the mandatory energy label in retrofit works.                                                                                                         |
|                     | • Purchase refrigerators that have obtained Grade 1 of the mandatory energy label (by EMSD) for all staff residences.                                                                                             |
| Plastic bags        | • Use biodegradable garbage bags whenever possible and economical.                                                                                                                                              |
| Furnishing and      | <strong>Lighting systems</strong>                                                                                                                                                                                           |
| building materials  | • Use road pavers and building materials that contain recycled materials whenever possible and economical.                                                                                                |
|                     | • Use water-based paints (which emit less VOCs than solvent-based paints) for walls and ceilings in retrofit works.                                                                                               |
|                     | • Install carpets certified by the Carpet and Rug Institute for low VOC-emissions in retrofit works.                                                                                                                                 |
|                     | • Use Light Emitting Diodes (LEDs), T5 fluorescent tubes or other energy-efficient lighting systems in place of incandescent lamps in retrofit works, whenever possible.                                             |
|                     | • Purchase compact fluorescent lamp ballasts with the EMSD recognition-type label for retrofit works.                                                                                                                                 |
|                     | • Install solar-powered lighting systems whenever possible and economical.                                                                                                                                      |
| Water               | • Use water taps and showerheads that meet water-saving green specifications, where applicable.                                                                                                               |
|                     | • Purchase toilets with water-saving dual-flush function for new buildings and retrofit works.                                                                                                                                 |
| Landscaping         |                                                                                                                                                                                                              |</p>
<table>
<thead>
<tr>
<th>Office</th>
<th>Initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office</td>
<td>• Plant low-maintenance plants or ecologically-beneficial plants whenever appropriate and economical.</td>
</tr>
<tr>
<td></td>
<td>• Use soil improver made with composted landscaping waste and kitchen waste.</td>
</tr>
<tr>
<td>Transportation</td>
<td>• Use electric scooters whenever possible and economical</td>
</tr>
<tr>
<td></td>
<td>• Install renewable energy facilities on campus including solar hot water systems in student hostels, solar bus stops, hydraulic ram pumps and wind turbines.</td>
</tr>
<tr>
<td>Others</td>
<td></td>
</tr>
<tr>
<td>Transport Unit</td>
<td>• Investigate the feasibility of procuring diesel fuel that contains at least 5% biodiesel for campus vehicles in future tenders.</td>
</tr>
<tr>
<td></td>
<td>• Introduce green vehicles into the University’s car fleet.</td>
</tr>
</tbody>
</table>
### Useful Links

A. Local and overseas green purchasing websites for general reference

<table>
<thead>
<tr>
<th>Country/City</th>
<th>Programme</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>International Ecolabelling Network (GEN)</td>
<td><a href="http://www.globalecolabelling.net">www.globalecolabelling.net</a></td>
</tr>
<tr>
<td></td>
<td>International Green Purchasing Network</td>
<td><a href="http://www.igpn.org/">http://www.igpn.org/</a></td>
</tr>
<tr>
<td></td>
<td>China Environmental Labelling Programme</td>
<td><a href="http://kjs.mep.gov.cn/zghjbz/">http://kjs.mep.gov.cn/zghjbz/</a></td>
</tr>
<tr>
<td></td>
<td>EU Flower</td>
<td><a href="http://ec.europa.eu/environment/ecolabel/">http://ec.europa.eu/environment/ecolabel/</a></td>
</tr>
<tr>
<td></td>
<td>Eco Label</td>
<td><a href="http://www.ecolabelindex.com/ecolabel/korean-ecolabel">http://www.ecolabelindex.com/ecolabel/korean-ecolabel</a></td>
</tr>
<tr>
<td></td>
<td>The Swan</td>
<td><a href="http://www.svanen.se/en/">http://www.svanen.se/en/</a></td>
</tr>
<tr>
<td></td>
<td>The Swan</td>
<td><a href="http://www.svanen.se/en/">http://www.svanen.se/en/</a></td>
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</tbody>
</table>

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## Country/City Programme Website

<table>
<thead>
<tr>
<th>Country/City</th>
<th>Programme</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>GreenLabel</td>
<td><a href="https://sgls.sec.org.sg/">https://sgls.sec.org.sg/</a></td>
</tr>
<tr>
<td>Sweden</td>
<td>TCO Label</td>
<td><a href="http://www.tcodevelopment.com/">http://www.tcodevelopment.com/</a></td>
</tr>
<tr>
<td>Taiwan</td>
<td>Green Mark</td>
<td><a href="http://greenliving.epa.gov.tw/GreenLife/eng/E-GreenMark.aspx">http://greenliving.epa.gov.tw/GreenLife/eng/E-GreenMark.aspx</a></td>
</tr>
<tr>
<td>Thailand</td>
<td>Green Label</td>
<td><a href="http://www.tei.or.th/greenlabel">http://www.tei.or.th/greenlabel</a></td>
</tr>
<tr>
<td>United States</td>
<td>Energy Star Programme (Environmental Protection Agency and Department of Energy)</td>
<td><a href="http://www.energystar.gov/index.cfm?c=home.index">http://www.energystar.gov/index.cfm?c=home.index</a></td>
</tr>
<tr>
<td></td>
<td>Green Seal Product Standards and Certification Programme</td>
<td><a href="http://www.greenseal.org">http://www.greenseal.org</a></td>
</tr>
</tbody>
</table>

### B. Other resources available for green procurement

<table>
<thead>
<tr>
<th>Public Procurement Policy of the United Kingdom</th>
<th><a href="https://www.gov.uk/guidance/public-sector-procurement-policy">https://www.gov.uk/guidance/public-sector-procurement-policy</a></th>
</tr>
</thead>
</table>
Labels and Certificates – Photo Guide

Note: Environmentally-preferable products may have labels or certificates other than the ones listed here. For more information on them and their standards, please refer to the following website for a list of labels and certificates used worldwide: www.globalecolabelling.net

Energy Star Label

Energy Star is an international standard for energy efficient consumer products originated in the USA. Devices carrying the Energy Star logo, such as computer products and peripherals, kitchen appliances and buildings, generally use 20%–30% less energy than required by US federal standards. Currently, Energy Star is the most widely-recognized international energy label.

Electronic Product Environmental Assessment Tool (EPEAT)

EPEAT registration requires computers and some electronic products to meet additional standards (on top of obtaining the Energy Star label) concerning use of toxic chemicals/recycled materials and the products’ end-of-life recyclability. EPEAT ratings can be bronze, silver or gold.

EU energy label

The EU Energy Label is displayed on the packaging of most domestic appliances and light bulbs sold in the EU, as required by the energy consumption labelling scheme established by an EU directive. The labelled appliance’s energy efficiency is rated from A to G, with A being the most energy efficient and G being the least efficient.

Voluntary grading-type energy label (by EMSD)

This energy label (under the Voluntary Energy Efficiency Labelling Scheme) provides information on the appliance’s energy consumption and grades the appliance’s energy efficiency on a scale of 1 to 5, with 1 being the most energy efficient and 5 being the least efficient.

The label may be found on electric storage water heaters, televisions and clothes dryers, as well as certain air conditioners, refrigerators and washings machines that are not regulated under the Energy Efficiency (Labelling of Products) Ordinance.

Hong Kong Green Label (by of Green Council)

(This label is provided courtesy of Green Council)

The Hong Kong Green Label Scheme (an independent, non-profit-making and voluntary scheme for the certification of environmentally-preferable products) sets environmental standards and awards the ‘Hong Kong Green Label’ to products with environment performance that meets these standards.

More about Hong Kong Green Label standards and a list of certified products can be found at:
Mandatory energy label (by EMSD)

This energy label (under the Mandatory Energy Efficiency Labelling Scheme/MEELS) provides the appliance’s energy efficiency information and grades the appliance’s energy efficiency on a scale of 1 to 5, with 1 being the most energy efficient and 5 being the least efficient. For example, refrigerators that have obtained Grade 1 energy label typically use 41% less energy than Grade 3 refrigerators.

All air conditioners, refrigerators, CFLs, washing machines and dehumidifiers covered in MEELS are required by law to carry the MEELS energy label.

For details of MEELS, please visit the EMSD website: http://www.energylabel.emsd.gov.hk/welcome.htm

Voluntary recognition-type energy label (by EMSD)

This energy label (under the Voluntary Energy Efficiency Labelling Scheme) is awarded to equipment that meets minimum energy efficiency and performance requirements stipulated by EMSD.

For a list of household appliances that can apply for this label, please visit: http://www.emsd.gov.hk/en/energy_efficiency/voluntary_energy_efficiency_labelling_scheme/scheme_documents/index.html

Universal recycling symbol (many variations exist)

This logo shows that the product can be recycled.

Logo for recycled products (many variations exist)

This logo shows that the product contains recycled materials.

Resin identification codes

These codes marked on plastic items show the types of plastic used to make the items, and allow more efficient separation and recycling of plastic waste.

RoHS-compliant label (EU)

The Restriction of Hazardous Substances Directive (RoHS), which restricts the use of six hazardous materials in the manufacture of various types of electronic and electrical equipment, was adopted in February 2003 by the EU. Any RoHS compliant component is tested for the presence of Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent chromium (Hex-Cr), Polybrominated biphenyls (PBB), and Polybrominated diphenyl ethers (PBDE). RoHS-compliant products must have less than the restricted amount of these six hazardous materials.

The maximum permitted concentrations of the six chemicals are:

http://www.greencouncil.org/eng/greenlabel/cert.asp
http://www.greencouncil.org/eng/greenlabel/HKGLS_List_eng.pdf
1. Lead: 0.1% by weight
2. Mercury: 0.1% by weight
3. Cadmium: 0.01% by weight
4. Hexavalent chromium: 0.1% by weight
5. Polybrominated biphenyls: 0.1% by weight
6. Polybrominated diphenyl ether: 0.1% by weight

RoHS-compliant label (China)

It restricts the use of Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent chromium (Hex-Cr), Polybrominated biphenyls (PBB), and Polybrominated diphenyl ethers (PBDE). The letter ‘e’ inside the green circle indicates that the product does not contain a higher-than-restricted amount of the six chemicals. If the circle is orange with a number inside, e.g. 5, it indicates that the product has restricted substances that are likely to leak out and cause harm to the environment in 5 years.

The maximum permitted concentrations of the six chemicals are the same as those stipulated by the EU RoHS.

Water Efficiency Label

Labelling scheme by the Water Supplies Department that covers common plumbing fixtures and water-consuming appliances like water taps, showerheads and washing machines. Products are graded according to their water efficiency, with grade 1 (with one drop of water) products being the most water-efficient.

A list of water fixtures registered under the scheme can be found at: