

Government Green Procurement (GGP) Guidelines for Government Procurers

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ABBREVIATIONS

AP	Treasury Instructions/Arahan Perbendaharaan
EE	Energy Efficiency
EPP	Entry Point Projects
EPU	Economic Planning Unit
ETP	Economic Transformation Programme
CIDB	Construction Industry Development Board
CSDS	Chemical Safety Data Sheet
GDP	Gross Domestic Product
GGP	Government Green Procurement
GNI	Gross National Income
JKR	Public Works Department/Jabatan Kerja Raya Malaysia
KETTHA	Ministry of Energy, Green Technology and Water/Kementerian Tenaga, Teknologi Hijau dan Air
LCC	Life Cycle Costing
LTAP	Long-term Action Plan
MAMPU	Malaysian Administrative Modernisation & Management Planning Unit
MGTC	Malaysia Green Technology Corporation
MOF	Ministry of Finance
NEM	New Economic Model
NGTP	National Green Technology Policy
NREPAP	National Renewable Energy Policy and Action Plan
PI	Pilot Implementer
PP	Treasury Circular/Pekeliling Perbendaharaan
PPE	Personal Protective Equipment
SAP	Treasury Instructions Letter/Surat Arahan Perbendaharaan
STAP	Short-term Action Plan
SC	Steering Committee
SCP	Sustainable Consumption and Production
SIRIM	SIRIM Berhad
SME	Small and Medium Enterprise
SMEMP	Small and Medium Enterprises Master Plan
SPP	Treasury Circular Letter/Surat Pekeliling Perbendaharaan
WC	Working Committee

1 INTRODUCTION

1.1 Definition

Government Green Procurement (GGP) refers to the acquisition of products, services and work in the public sector that takes into account environmental criteria to conserve natural environment and resources, and minimises and reduces negative impacts of human activities.

GGP is smart procurement – it means improving the efficiency of government procurement and at the same time using public market power to transform the Malaysian economy into a Green Economy.

1.2 Benefits of GGP

Government procurement plays a crucial role as a catalyst for socioeconomic development as it represents about 12-15% of Gross Domestic Product (GDP). The Government has realized the importance of Government procurement especially in creating innovation opportunities and enhancing competitiveness of local companies. In addition, Government procurement has been identified as one of the potential fields to encourage investments and instil business confidence in Malaysia.

But, government can also use its huge purchasing power to stimulate green growth. As a progressive, forward-thinking market player it can spur the use of environmentally friendly products and services. By doing so, government becomes a role model for business and private households.

There are numerous benefits which can be achieved through GGP:

- Local innovation and support to the local economy
- Increased company competitiveness
- New and larger markets for innovative sustainable solutions
- Improved environmental performance of businesses
- Achievement of national environmental goals
- Long-term savings
- Higher quality products
- Healthier working conditions
- Improved public image
- Policy coherence

These benefits provide the rationale why GGP is now applied worldwide in a growing number of countries.

1.3 Specific Potentials

The Government is aiming at accelerating the national economy and achieving sustainable development - to transform the country into a high-income and developed nation that is inclusive and sustainable by 2020. The National Green Technology Policy (NGTP) has been adopted and GGP will be used as an instrument to achieve this aspiration. It would help Malaysia to achieve the CO₂ emissions reduction targets by up to 40% of the intensity of GDP by 2020 as compared to its levels in 2005, subject to technical and financial assistance from the developed countries. Moreover, the use of environmentally friendly products and services is expected to increase the potential of energy efficiency by 40% by the year 2020 which would result in cost savings of RM295 billion, generate RM7.2 billion in incremental Gross National Income (GNI) and create over 47,000 jobs in the green industries (PEMANDU 2010).

1.4 The policy background

Government has acknowledged the importance of GGP and initial steps have been taken towards its implementation. These commitments have been outlined in the 10th Malaysia Plan (10MP), the New Economic Model (NEM), the Economic Transformation Programme (ETP), the NGTP, the National Renewable Energy Policy and Action Plan (NREPAP), the Small and Medium Enterprises Master Plan (SMEMP) and the Federal Annual Government Budget in 2010. Under the ETP, the Government has made GGP as one of its Entry Point Projects (EPP).

There are several Treasury instructions (AP - Arahan Perbendaharaan) and Treasury Circular Letters (Surat Pekeliling Perbendaharaan; SPP) that support GGP principles. For example, prudent practices in government procurement are emphasised in various treasury circulars and directives, such as Treasury Instructions Letter (Surat Arahan Perbendaharaan; SAP), dated 17th September 2009; SAP dated 15 July 2009; Treasury Circular (Pekeliling Perbendaharaan; PP) No 2, 2009; Treasury Circular Letter (Surat Pekeliling Perbendaharaan; SPP) No 1, 2008; PP No 7, 2008; PP No 9, 2008 and SAP dated 24th April 2008. These circulars and directives have emphasised that the objective of government procurement is not simply to select the offer with the lowest price, but to obtain the best value for money. Another circular was issued this year urging all government agencies to take proactive action to reduce 5% energy and water savings in all government buildings (MOF's circular PP2/2014).

1.5 Purpose of Pilot Implementation

The pilot implementation is the first step at providing experience, know-how and lessons learned towards wider GGP implementation.

1.6 Purpose of the Guideline

The Government's intentions in implementing GGP was announced in the Federal Government's 2010 Budget. The budget states that priority will be given to environmentally-friendly products and services that comply with green technology standards. However, preference to environmentally-friendly products and services in the public sector could not be implemented due to absence of clear guidelines on its implementation.

This guideline supports the GGP pilot implementers. It provides the necessary information on how to apply GGP for six important pilot product groups/services. The guideline also provides further insight into GGP implementation to all other interested agencies and stakeholders.

Furthermore, the guideline constitutes the legal basis for carrying out the GGP pilot implementation.

2 GGP ACTION IN THE FUTURE

GGP implementation requires proper planning and a shift in existing government procurement practices. Hence, GGP needs to be introduced in a step-by-step, systematic and efficient manner. In order to achieve this, a GGP Short-term Action Plan (STAP) has been prepared as an initial step towards GGP implementation in Malaysia. The action plan has been endorsed on the 11th of July 2013 by the GGP Steering Committee (SC) chaired by the Ministry of Finance (MOF) and the Ministry of Energy, Green Technology and Water (KeTTHA). The STAP outlines the pilot implementation of GGP within a period of 18 months (1½ years), from July 2013 until December 2014. The Guideline on GGP is part of the implementation of the STAP.

Subsequent to the expiry of the pilot phase, the introduction of GGP in Malaysia will be guided by a Long-term Action Plan (LTAP), covering a period from 2015 to 2025. The LTAP is part of the Sustainable Consumption Production (SCP) effort which will be launched as the SCP blueprint for Malaysia. The plan will describe the expansion of GGP towards all Government ministries and agencies and will include other levels of Government (regional and local governments). The LTAP will also describe the extension of GGP to incorporate more product and service categories.

In an effort to secure a smooth transition from the pilot phase, the roll-out of the LTAP will be conceptualised in parallel with the pilot activities. The LTAP will be based on the experiences gathered during the pilot phase. These experiences will include not only those directly related to procurement activities but also the supporting initiatives (training, communication, monitoring, etc.).

3 PILOT IMPLEMENTERS

Based on pre-existing experiences, know-how, active interest, and practical considerations (especially sufficient demand for the selected product groups), five agencies have been selected as pilot implementers:

- the Ministry of Energy, Green Technology and Water (KeTTHA)
- the Ministry of Education (MOE)
- the Ministry of Home Affairs (KDN)
- the Ministry of Health (MOH)
- the Economic Planning Unit (EPU)

Additionally, the Malaysian Green Technology Corporation (MGTC) will support the process by introducing green procurement for its purchasing activities. The list of pilot implementers is not only limited to the above-mentioned agencies and can be extended to other agencies as well.

The commitment of the pilot implementers is crucial for the successful implementation of the STAP and the effective introduction of GGP in Malaysia. The role of the pilot implementers is to:

- prove the feasibility of GGP in the Malaysian context
- support the development of simple and smooth procedures on the application of GGP
- identify any obstacles during the implementation of the test cases
- provide experiences and practical know-how for the elaboration of the LTAP
- provide a role model for subsequent GGP implementers

Therefore, the role of the pilot implementers goes far beyond running some test cases. Their engagement will be essential for the long-term introduction of GGP for the whole of Malaysia.

4 SELECTION OF PRODUCTS/ SERVICES

The selection of products and services has been based on the following criteria:

- a) Availability of standards: For the products or services, criteria or standards are available under the MyHIJAU Mark, which can be used for tendering processes. Apart from that, the MyHIJAU Mark on the products and services can be easily recognised by government procurers.
- b) Readiness of local suppliers: GGP for the relevant product group or service category helps local manufacturers especially Small and Medium Enterprises (SME) to become more competitive in international markets.
- c) Environmental impact: New green products or services can significantly reduce the carbon footprint, water and energy consumption or the emission of toxic substances.
- d) Budgetary considerations: The products and services are frequently used in the government sector and the amount spent is significant.

Based on the above-mentioned criteria, six product groups and services have been selected:

- Cleaning services,
- ICT equipment,
- Energy efficiency (EE) Indoor Lighting,
- Paper,
- Paints/Coating, and
- Fibre Cement.

5 IMPLEMENTING GGP

5.1 Integrating GGP into Existing Policies

The introduction of GGP is meant to enhance existing procurement policies. GGP can serve to achieve long-term savings and reduce the burden on the public budget, stimulate green growth, and increase competitiveness of local industries – all goals of current government procurement policies. Similarly, no conflicts should arise between the existing procurement rules and the introduction of GGP. Observing the existing procurement principles will be essential for the proper application of GGP.

Government Procurement Policies

- To stimulate the growth of local industries through the maximum utilisation of local materials and resources;
- To encourage and support the evolvement of Bumiputra (indigenous) entrepreneurs in line with the nation's aspirations to create Bumiputra Commercial and Industrial Community;
- To increase and enhance the capabilities of local institutions and industries via transfer of technology and expertise;
- To stimulate and promote service oriented local industries such as freight and insurance; and
- To accelerate economic growth whereby Government procurement is used as a tool to achieve socio-economic and development objectives.

Government Procurement Principles

- **Public Accountability** - Procurement should obviously reflect public accountability entrusted with the Government.
- **Transparency** - All procurement regulations, conditions, procedures and processes need to be clear and transparent to facilitate better understanding among suppliers and contractors.
- **Value For Money** - Government procurement should yield the best returns for every Malaysian Ringgit spent in terms of quality, quantity, timeliness, price and source.
- **Open And Fair Competition** - Processes involving Government procurement should offer fair and equitable opportunities to all those participating or competing in any procurement.
- **Fair Dealing** - All acceptable bids will be processed fairly based on current rules, policies and procedures

5.2 Demand Management

A precise assessment of procurement needs is already a first step towards GGP. Procurement of unnecessary products and services causes negative impacts on the environment and unwise spending. An effective demand management can result in less products procured, a reduced size or other types of goods requested, a reduced frequency or other types of services bought, or in the substitution of goods by specific services.

Close contacts with the end-users of the products and services are necessary to come up with intelligent, environmentally-friendly and cost-efficient solutions. The willingness to critically review long-standing practices is also necessary.

5.3 Integrating Environmental Criteria

Environmental criteria can be applied at almost every stage of the procurement process, from the identification of needs, the preparation of technical specifications, evaluation of the offers, the supplier selection to the contract management. In the tender documents, environmental criteria can be introduced i.e.via:

5.3.1 The subject matter of the procurement

The procurers should clearly mention the type of green products and services to be procured to show their intention to procure them. For example, the procurers can state that the subject matter is 'to supply environmentally-friendly ICT equipment' or 'to provide green cleaning services'. In this way, the procurers already send a signal to the market and state unmistakably the shift towards GGP.

In some cases the specification of the subject matter will already exclude certain types of environmentally-unfriendly products. If the subject matter already asks for energy efficient lighting, conventional light bulbs are excluded.

However, the subject matter must not be discriminatory. The exact environmental criteria will be defined in the tender document in the form of the technical specifications or the award criteria.

5.3.2 The technical specifications of products, services and works

For GGP, the technical specifications need to integrate environmental criteria. The criteria can be in the form of core criteria or comprehensive criteria. Core criteria are mandatory minimum requirements and guarantee for a minimum environmental performance of the goods/services. They are designed to be used with minimal additional verification efforts. Comprehensive criteria are more challenging: they are not mandatory, but goods and services fulfilling these criteria will obtain additional credits in the awarding process (see below). Comprehensive criteria allow to see if suppliers can provide products or services with an even improved environmental performance and at the same or only slightly higher costs. The annexes in the

guideline contain proposals for core and comprehensive criteria for the pilot product groups.

Preparing a technical specification is not easy. For a start, this guideline proposes a number of criteria in **Annex 1** to **Annex 6** that should be used where applicable in preparing the technical specifications.

5.3.3 Award Criteria

Award criteria need to be determined and published prior to the tender evaluation. This includes also the weightage for each award criteria. For example Life Cycle Cost (LCC), price, quality, training, etc.

5.4 Verification methods

Offers by bidders in the technical specifications need to be verified to ensure they fulfil the stipulated environmental requirements. **Annex 1** to **Annex 5** of the guideline indicate which kind of certification can be used for the verification.

5.5 Integration of Life Cycle Costing Criteria

JKR refers to LCC as total estimated cost of an asset throughout its entire life cycle phase which includes the cost of acquisition and ownership (JKR 2012). LCC can be used to assess different products and services in terms of their financial impact. Beyond the acquisition costs, LCC also takes into account operational costs (such as energy costs), maintenance costs, and end-of life/disposal costs. A tool has been developed to assist procurers in calculating LCC, so that the LCC results can be used for procurement decision-making.

6 SETTING TARGETS FOR PILOT GGP IMPLEMENTATION

At the end of the pilot implementation period the following targets have been achieved:

- All pilot implementers have included green criteria according to the annex (or similar) in one or several of their calls for procurement.
- At least three bidders complied with the green criteria for each call for procurement.
- The introduction of the green criteria did not cause substantial cost increases.
- The contractors have successfully delivered the goods or provided the services according to the technical specifications/the contract.

7 MONITORING AND EVALUATION

Monitoring and evaluation will serve several purposes: firstly, monitoring has to make sure that the pilot action plan is implemented correctly. Any problems encountered when setting up the planned procedures and any problems in obtaining the desired results need to be remedied immediately. Secondly, monitoring and evaluation must provide essential information for the development of the LTAP. All problems must be documented and analysed and the results of the various activities will be reported to the steering committee. Thirdly, any GGP needs to be monitored and evaluated in order to ensure its effectiveness. Implementing monitoring and evaluation by the pilot implementers will serve as a starting point for establishing the long-term monitoring system. The system will need to be aligned to the already existing monitoring and evaluation procedures. Also, the new system should be resource-efficient as well as reliable.

7.1 Monitoring

The monitoring process will focus on the prioritized product groups, i.e. cleaning services, ICT equipment, EE indoor lighting, paper, paints/coating and fibre cement. Other product groups during the pilot implementation stage will not be affected by the monitoring. Where appropriate the contract management will be included in the monitoring process.

7.2 Evaluation

A systematic evaluation of the GGP efforts is needed not only to gauge the impact of the GGP system and to better communicate its success, but also to identify problems and improve the scheme. The evaluation will take place at the end of the STAP. The Working Committee (WC) of the STAP and pilot implementers are responsible for the evaluation. A survey will be carried out and interviews will be held, evaluating the experiences of the procurement officers and the other staff involved in the scheme. The evaluation will identify existing problems and provide the required information; namely, alternate ways to further optimize the implementation process.

8 ANNEX

ANNEX 1

SPECIFIC CRITERIA FOR CLEANING SERVICES

1. ENVIRONMENTAL IMPACT AND GGP APPROACH

The key environmental impacts of cleanings services are:

- Human health
- Ecotoxicity
- Eutrophication
- Water consumption
- Waste generation

The GGP approach should cover therefore:

- Avoid certain hazardous substances in the cleaning products
- Avoid phosphorus and limit biocides in the cleaning products
- Provide information on recommended dosages
- Decrease the use of cleaning products through reviewing cleaning plans and techniques
- Improve the training of cleaning staff
- Decrease the quantity of packaging used and increase recyclability

2. SCOPE

To provide general cleaning services including janitorial, house-keeping, window cleaning for government offices, schools, hospitals and public amenities. This includes contract cleaning procedures (monthly or yearly basis) and periodic cleaning services.

3. MATERIALS AND EQUIPMENT USE

Restricted cleaning products

The portfolio of cleaning products may not include:

- Chlorine-based sanitary cleaners and strongly acidic toilet and bathroom cleaners with inorganic acids
- Chemical air fresheners (natural/organic fragrance, e.g. screw-pines leaf, lemon grass, jasmine flower, etc. shall be used instead)
- Chemical drain cleaner

- Disposable wipes
- Sprays containing propellants
- Herbicides and fungicides

Further product restrictions

- The cleaning service providers must only use paper towels, toilet tissues and garbage bags with recyclable content.
- The cleaning service providers shall use reusable mop head.

4. PROCESSES

- The cleaning service providers shall use appropriate dosage of cleaning agents. In order to ensure correct dosage. All personnel must have access to dosage devices or measuring beakers in the areas where cleaning is performed.
- The cleaning service providers shall segregate or sort waste accordingly to improve the recovery or recycling of waste (paper, plastic, glass, aluminium cans) before channelling to the public waste collectors.

5. PERSONNEL

- The cleaning service providers shall provide easily understandable written instructions on dosage, dilution, use and disposal for all cleaning agents, including where necessary diagrams or illustrations (e.g. dosage devices, dispensing units, measuring cups etc.) in order to avoid excessive use of cleaning agents.
- The cleaning service providers shall also provide work instructions for the identification and proper handling of materials/equipment, proper procedures for the storage of materials/equipment, and waste separation and disposal.
- The cleaning service providers shall provide suitable personal protective equipment (PPE) to their workers to protect them from risks that are likely to cause injury or jeopardize health while at work.
- Training of workers on cleaning procedures shall be provided by cleaning service providers to improve know-how on water and energy consumption, efficient use of cleaning agents, appropriate cleaning techniques for different kinds of surfaces, and green cleaning practices (including recycling programmes, effective waste management, etc.).

6. AWARD CRITERIA

Extra points shall be given to service providers who fulfil the following additional criteria:

- 10 and more percent of all cleaning agents used to have a MyHIJAU Mark or fulfil the requirements of the MyHIJAU Mark
- All toilet tissue paper and plastic bags are made of 100% recycled material

Environmental criteria shall count for 10-20% of the total awarding points.

7. EVIDENCE AND VERIFICATION

- Service suppliers shall provide evidence that they meet these specifications. In particular, the cleaning service providers must supply a list of the products intended to be used. This list should include the brand name, product name and intended use of the product. Also, a list of all ingredients constituting greater than 0.1% of the product for each of the cleaning products must be supplied.
- The submitted evidence shall also cover documents that describe the properties and uses of the cleaning agents including information on the identity, chemical and physical properties, health hazard and precautions for use and safe handling. Documentation can include safety data sheets such as Chemical Safety Data Sheet (CSDS), technical data sheets, biodegradation and eco-toxicity test reports, third party lab test reports, etc.
- The service providers must provide clear evidence of staff training for specific areas.

8. REFERENCES

European Union. 2012. EU GPP Criteria for Cleaning Products & Services.

Nordic Ecolabelling. 2012. Nordic Ecolabelling of Cleaning Services (Version 2.3); (2009 – 2016).

SIRIM. 2004. SIRIM Eco-labelling Criteria for Biodegradable Cleaning Agents.

SIRIM. 2013. SIRIM Eco-labelling Criteria for Commercial Contract Cleaning Services.

ICLEI. 2007. The Procura+ 2nd Edition Manual – A guide to cost effective Sustainable Public Procurement.

UNEP. 2008. Sustainable Procurement Guidelines. Cleaning Products and Services. Product Sheet.

SPECIFIC CRITERIA FOR ICT EQUIPMENT

1. ENVIRONMENTAL IMPACT AND GGP APPROACH

The key environmental impacts of ICT equipment are:

- Energy consumption
- Resource consumption
- Harmful emissions related to the production of IT products (raw material acquiring, manufacture of components)
- Generation of waste material

The GGP approach should cover therefore:

- Purchase energy efficient models
- Purchase products with a restricted amount of hazardous constituents
- Design for recycling, longer life and promote take back options
- Safe disposal (recycling, re-using) of final products

2. SCOPE

To supply environmentally-friendly ICT equipment including desktop PCs and laptops (notebooks)

3. PRODUCT SPECIFICATIONS

- The suppliers shall supply ICT equipment which fulfils at least Energy Star 5.2 criteria.
- The suppliers shall supply ICT equipment which fulfils EPEAT criteria (at least silver).

4. AWARD CRITERIA

Extra points shall be given to products which fulfil the following additional criteria:

- Hazardous Materials
 - Hazardous Materials Separation
Incompatible and hazardous materials shall be easily found and removable.

- Plastics
 - (a). Cadmium/Lead
Cadmium or lead may not be intentionally added to plastic parts (over 25 g)
 - (b). Flame Retardants
PBB, PBDE, chlorinated paraffins shall not be contained in plastics (over 25g).
 - (c). Halogens
Any single plastic part of the housing or chassis over 25 g must not contain halogen except maximum 0.5 % fluoroorganic additives.

- Batteries/Accumulators

The contents of certain heavy metals in batteries and accumulators may not exceed the following limits:

Substance	Limit
Mercury	max 1 ppm
Cadmium	max 10 ppm
Lead	max 100 ppm

- Display

Cadmium or mercury must not be contained in displays. Mercury is allowed in the illumination lamps of LCD display only.

- Take-back and Recycling

- Take-back

The supplier has to have a take-back system for used products or must be connected to an official take-back system or an equivalent.

- Recycling

The supplier has to arrange a recycling system for the used products.

Environmental criteria shall count for 10-20% of the total awarding points.

5. EVIDENCE AND VERIFICATION

- The supplier must provide evidence that these specifications are met. Documents proving Energy Star and EPEAT registration or documents proving that equivalent standards are maintained will be accepted.
- For the verification of the award criteria on hazardous substances, the supplier shall provide specified documents. The supplier shall provide a statement from the manufacturer certifying that it does not contain the specified flame-retardants in the plastics. The supplier shall provide a statement from the battery/accumulator manufacturer that proves the compliance and identifies the types of batteries/accumulators used. If the display manufacturer is not identical with the supplier, the supplier shall present a statement from a display manufacturer.
- The supplier shall declare the compliance with the requirements on take back and recycling.

6. REFERENCES

European Union. 2012. EU GPP Criteria for Office IT Equipment.

MAMPU. 2010. Garis Panduan Penggunaan ICT ke arah ICT Hijau dalam Perkhidmatan Awam

ICLEI. 2007. The Procura+ 2nd Edition Manual – A guide to cost effective Sustainable Public Procurement.

Computers: <http://www.energystar.gov/certified-products/detail/computers>

Displays: <http://www.energystar.gov/certified-products/detail/displays>

Imaging equipment: http://www.energystar.gov/certified-products/detail/imaging_equipment

Small network equipment: http://www.energystar.gov/certified-products/detail/small_network_equipment

Uninterruptable power supplies: http://www.energystar.gov/certified-products/detail/uninterruptible_power_supplies

SPECIFIC CRITERIA FOR PAINT

1. ENVIRONMENTAL IMPACT AND GGP APPROACH

The key environmental impacts of paint are:

- Human health
- Ecotoxicity
- Water pollution and consumption
- Waste generation
- Resource consumption

The GGP approach should cover therefore:

- Minimise the negative environmental impact of paint production
- Purchase paint products with less hazardous substances
- Limit wastage

2. SCOPE

To supply environmentally-friendly paint for government offices, schools, hospitals and public amenities.

3. PRODUCT SPECIFICATIONS

- The suppliers shall supply paint that does not contain heavy metals such as mercury, lead, cadmium, hexavalent chromium, arsenic, antimony, triphenyl tins (TPT) and tributyl tins (TBT). Ingredients may however contain impurities or traces deriving from raw materials. The sum of mercury, lead, cadmium and hexavalent chromium shall not exceed 0.1% (1,000 ppm) by weight.
- Product's VOC must be in compliance with the following criteria:
 - Emulsion paints: VOC shall not exceed 50 g/l
 - Other water-based varnishes: VOC shall not exceed 100 g/l
 - Solvent-based paints and varnishes: VOC shall not exceed 300 g/l
- Product's aromatic hydrocarbons must be in compliance with the following criteria:
 - Emulsion paints: Contamination shall not exceed 0.1% by weight

- Other water-based varnishes: Contamination shall not exceed 0.1% by weight
- Solvent-based paints and varnishes: Contamination shall not exceed 0.1% by weight
- Halogenated Hydrocarbons shall not be used.
- Formaldehyde shall not be used and if used the content shall not exceed 10 mg/kg.
- Packaging material: Lead shall not be contained in metal containers.

4. EVIDENCE AND VERIFICATION

- Products carrying the MyHIJAU Mark will be deemed as compliant.
- Products not carrying the MyHIJAU Mark have to provide evidence that they meet the specifications. Documentation can include third party lab test reports, etc.

5. REFERENCES

SIRIM. 2009. SIRIM Eco-labelling Criteria for Paints.

ICLEI. 2007. The Procura+ 2nd Edition Manual – A guide to cost effective Sustainable Public Procurement.

SPECIFIC CRITERIA FOR FIBER CEMENT

1. ENVIRONMENTAL IMPACT AND GGP APPROACH

The key environmental impacts of fibre cement are:

- Human health
- Ecotoxicity
- Resource consumption

The GGP approach should cover therefore:

- Purchase fibre cement products with less hazardous substances
- Avoid wastage of natural resources

2. SCOPE

To supply environmentally-friendly fibre cement products, intended for use as building material to cover the exterior or interior of a building for government offices, schools, hospitals and public amenities. The products shall be either subject or not subject to the direct action of sun, rain or any other climatic conditions during their application and supplied either coated or uncoated.

3. PRODUCT SPECIFICATIONS

- The organic fibre used in the production of fibre cement products shall be from sustainable and renewable or recycled resources.
- The inorganic fibres used shall be free from asbestos, asbestos contained minerals and glass fibre.
- The fibre cement products shall consist of at least 15% by weight of the recycled content.
- The content of pesticides compound inside the cellulose fibre shall not exceed the limits as stated in the following table:

Maximum Concentration of Pesticides Components

Pesticide Compound	Maximum Concentration (mg/kg)
Aldrin	1.4
Chlordane	2.5
DDT, DDE, DDD	1
Dieldrin	8
Endrin	0.2
Heptachlor	4.7
Kepone	21
Lindane	4
Methoxychlor	100
Mirex	21

- The content of heavy metal inside the finished products shall not exceed the limits as stated in the following table:

Maximum Concentration of Heavy Metal Composition

Heavy Metal Elements	Maximum Concentration (mg/kg)
Antimony	500
Arsenic	500
Barium	10000
Beryllium	75
Cadmium	100
Chromium	2500
Chromium VI	500
Cobalt	8000
Copper	2500
Lead	1000
Mercury	20
Molybdenum	3500
Nickel	2000
Selenium	2000
Silver	500
Thallium	700
Vanadium	2400
Zinc	5000

- The concentration of heavy metals from Toxicity Characteristics Leaching Procedure (TCLP) extract shall not exceed the limits as stated in the following table:

Maximum Concentration of Heavy Metal Composition in TCLP extract

Heavy Metal Elements	Maximum Concentration (mg/L)
Arsenic	5
Barium	100
Cadmium	1
Chromium	5
Lead	5
Mercury	0.2
Selenium	1
Silver	5

4. EVIDENCE AND VERIFICATION

- Products carrying the MyHIJAU Mark will be deemed as compliant.
- Products not carrying the MyHIJAU Mark have to provide evidence that they meet the specifications. Documentation can include safety data sheets such as CSDS, technical data sheets, third party lab test reports, third party verified lab reports, etc.

5. REFERENCES

SIRIM. 2010. SIRIM Eco-labelling Criteria for Fibre Cement Products.

SPECIFIC CRITERIA FOR ENERGY EFFICIENT INDOOR LIGHTING

1. ENVIRONMENTAL IMPACT AND GGP APPROACH

The key environmental impacts of indoor lighting are:

- Energy consumption
- Resource consumption
- Harmful emissions, especially during the production phase
- Generation of waste

The GGP approach should cover therefore:

- Purchase energy efficient lighting
- Purchase products with a restricted amount of hazardous constituents
- Generate less packaging waste and use of sustainable packaging material
- Safe disposal (recycling, re-using) of final products

2. SCOPE

To supply energy efficiency indoor lighting for government offices, schools, hospitals and public amenities.

3. PRODUCT SPECIFICATIONS

• Luminaires

- Luminaires shall have a Luminaire Maintenance Factor (LMF) that meets the requirements for the various light sources.
- Mercury, lead, cadmium, chromium VI, polybrominated biphenyl (PBB) and polybrominateddiphenyl ether (PBDE) shall not be used as constituent parts of the luminaire, in accordance with MS 2237:2009 or its equivalent on the restriction of the use of certain hazardous substances in electrical and electronic equipment.
- The power factor of the complete luminaire shall be more than 0.90.
- The total power consumption of aLED luminaire shall not exceed the declared maximum power consumption by the manufacturer.

- Luminaire efficacy shall be more than 60 lm/W. Correction for luminaires with high colour temperature and high colour rendering (high Colour Rendering Index: Ra) is according to below:

Lamp Parameter	Deduction from luminous efficacy at 25°C
Tc > 5000 K	- 10 %
95 > Ra > 90	- 20 %
Ra > 95	- 30 %

- Packaging of luminaires for the transporting and distribution purposes shall be of corrugated paper materials containing recycled content.
 - The suppliers shall provide printed or online information related to maintenance instructions to ensure that the luminaire maintains, as far as possible, its original quality throughout its lifetime and disassembly instructions.
- **Fluorescent Lamps**

- The supplier shall provide documentation that shows the Lamp lifetime; Lumen depreciation at end of life; Light colour temperature (K); Light Colour Rendering Index (CRI); Luminous flux (lumens) provided by the lamp; Lamp circuit power; Dimensions of the lamp; Mercury content of the lamp; Procedure for safe disposal of the lamp at end of life.
- For linear, circular and compact fluorescent lamps must meet power rating (W) and efficacy (lm/W) according to category as below:

Single-Capped with Integrated Ballast (Compact Fluorescent Lamps)
or Self Ballasted Lamp

Lamp Efficacy	Power Rating (W)	Efficacy (lm/W)
	< 9	80
	9-15	80
	16-24	80
	>24	80
Lamp Survival Factor at 2000 hr	≥ 98 %	
Lumen Maintenance Factor at 2000 hr	≥ 92.5 %	
Mercury content	≤ 5.0 mg	
Number of switching cycles before failure	≥ 10,000	
Colour Rendering Index	≥ 80	

Single-Capped with Non-Integrated Ballast

Lamp Efficacy	Power Rating (W)	Efficacy (lm/W)
	< 10	80
	11-50	80
	> 51	80
Lamp Survival Factor at 2000 hr	≥ 98 %	
Lumen Maintenance Factor at 2000 hr	≥ 95 %	
Mercury content	≤ 5.0 mg	
Number of switching cycles before failure	≥ 10,000	
Colour Rendering Index	≥ 80	

Double-Capped Fluorescent Lamp

Lamp Efficacy	≥ 90 lm/W
Lamp Survival Factor at 2000 hr	≥ 98%
Lumen Maintenance Factor at 2000 hr	≥ 92.5%
Mercury content	≤5.0 mg
Number of switching cycles before failure	≥ 10,000
Colour Rendering Index	≥ 80

- Correction for fluorescent with high colour temperature and high colour rendering is according to below:

Lamp Parameter	Deduction from luminous efficacy requirement at 25°C
T _c > 5000 K	- 10 %
95 > Ra > 90	- 15%
Ra > 95	- 20 %

- **LED Lamps (SSL)**

- The supplier shall provide documentation with the lamp that shows the lifetime of the lamp (determined in accordance with IES LM-80, Approved Method for Measuring Lumen Depreciation of LED Light Sources); Light colour temperature (K); Light Colour Rendering Index (CRI); Luminous flux (lumens) (determined in accordance with IES LM-79 Approved Method for the Electrical and Photometric Testing of Solid-State Lighting Devices); Lamp circuit power; Dimensions of the lamp; Procedure for safe disposal of the lamp at end of life.
- The LED lamps shall be subjected to a Temperature Cycling Shock Test.
- The switching endurance of LED lamps shall be ≥ 50,000 times based on a cyclic requirements (switch on and off for 30 s)

- LED lamps shall be supplied with test certificates from approved independent laboratories that show standard electrical safety and electromagnetic compatibility (EMC) requirements have been met.
- The efficacy and lifetime of the LED lamp as determined by LM80 shall be not less than as tabled below:

Power Rating (W)	Efficacy (lm/W)	Lifetime (hours)
<5	70	10,000
5-10	80	15,000
10-15	80	25,000
>15	80	35,000

- The colour rendering index shall be > 80.
- If the LED lamp is not in the form of a replaceable lamp, then the replacement and reassembly of LED modules and main components shall be easily executed with regular tools (e.g. screwdriver).
- Correction for LED with high colour temperature and high colour rendering is according to below:

Lamp Parameter	Deduction from luminous efficacy requirement at 25°C
Tc > 5000 K	- 10 %
95 > Ra > 90	- 15%
Ra > 95	- 20 %

- **HID Lamps (including induction lamps)**

- The supplier shall provide documentation with the lamp that shows the Lamp lifetime; Lumen depreciation at end of life; Light colour temperature (K); Light Colour Rendering Index (CRI); Luminous flux (lumens) provided the lamp; Lamp circuit power; Dimensions of the lamp; Mercury content of the lamp; Procedure for safe disposal of the lamp at end of life.
- The efficacy and lifetime of the HID lamp shall be not less than as tabled below:

Power Rating (W)	Efficacy (lm/W)	Lifetime (hours)
< 100	70	10,000
>100	80	15,000

- The colour rendering index shall be ≥80.
- Correction for HID with high colour temperature and high colour rendering is according to below:

Lamp Parameter	Deduction from luminous efficacy requirement at 25°C
T _c > 5000 K	- 10 %
95 > Ra > 90	- 15%
Ra > 95	- 20 %

4. EVIDENCE AND VERIFICATION

- Products carrying the MyHIJAU Mark will be deemed as compliant.
- Products not carrying the MyHIJAU Mark have to provide evidence that they meet the specifications. Documentation can include safety data sheets such as CSDS, technical data sheets, third party lab test reports, third party verified lab reports, etc. Verification might include on-site monitoring.

5. REFERENCES

SIRIM. 2011. SIRIM Eco-labelling Criteria for Luminaires and Light Source for Interior Lightings.

SIRIM. 2011. SIRIM Eco-labelling Criteria for Fluorescent Lamps.

ICLEI. 2007. The Procura+ 2nd Edition Manual – A guide to cost effective Sustainable Public Procurement.

SPECIFIC CRITERIA FOR PAPER

1. ENVIRONMENTAL IMPACT AND GGP APPROACH

The key environmental impacts of paper products are:

- Forest destruction and potential loss of biodiversity
- Emissions to air and water during pulp and paper production
- Energy and water consumption during production
- Chemical consumption during production
- Waste generation during production

The GGP approach should cover therefore:

- Purchase of paper based on post-consumer recovered paper fibres (recycled paper) or paper based on legally and/or sustainably harvested virgin fibre
- Purchase of paper produced through processes characterized by low energy consumption and emissions
- Avoidance of certain substances in paper production and bleaching

2. SCOPE

To supply environmentally-friendly paper products, intended for use in government offices, schools, hospitals and public amenities. The product criteria apply in particular to paper for writing, printing and copying purposes – up to 170g/m². Finished paper products, such as: writing pads, drawing books, folders, files, etc. can be included as well.

3. PRODUCT SPECIFICATIONS

- The paper must be at least Elementary Chlorine Free (ECF). Totally chlorine free (TCF) will also be accepted.

4. AWARD CRITERIA

Extra points shall be given to products which fulfil the following additional criteria:

- The fibers source must meet one of the following criteria:
 - At least 50% recycled fibers, including 20% post-consumer content; or

- For virgin wood fibers, it shall originate from sustainable source

Post-consumer recycled fibres may come from consumers, offices, printing houses, bookbinders or similar. Fibres from paper mill broke shall not be considered recycled fibres. Recycled paper fibres include both post-consumer recycled fibres and pre-consumer recycled fibres from paper mills, also known as broke.

5. EVIDENCE AND VERIFICATION

- The supplier must provide evidence that these specifications are met. Concerning ECF/TCF: All products carrying the European Ecolabel, Blaue Engel (German ecolabel), Nordic Swan, Eco Mark Japan, Chlorine-Free Products Association (CFPA) label or the Green Seal ecolabel, will be deemed to comply. Any other appropriate means of proof demonstrating that the criteria are met will also be accepted, such as a technical dossier from the manufacturer, a test report from a recognised body showing compliance, or a declaration from the manufacturer.
- For the verification of the award criteria: Products carrying the Blaue Engel (German ecolabel), Umweltzeichen (Austrian ecolabel) or the FSC Recycled label will be deemed to comply. Any other appropriate means of proof demonstrating that the criteria are met will also be accepted, such as a technical dossier from the manufacturer, a test report from a recognised body showing compliance, or a declaration from the manufacturer.

6. REFERENCES

European Commission. 2008. Copying and graphic paper. Green public procurement (GPP) product sheet.

Hong Kong Green Label Scheme. Product Environmental Criteria for Printing Paper (GL-005-008)

UNEP. 2010. Sustainable Procurement Guidelines. Stationery. Paper (general office use). Product Sheet.