

PSA Singapore

GUIDELINES ON GREEN PROCUREMENT

PSA Singapore

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A. PSA's Commitment

PSA Singapore's (PSA) business is closely related to international trade. We have a long-standing commitment to protect our environment, the communities we operate in and our employees' health and safety.

As a major transshipment hub for the movement of containers, we are deeply mindful of :

- a) The effects of global climate change, and
- b) The importance of doing our part for environmental sustainability as a good and responsible global corporate citizen.

B. Scope of PSA's Green Procurement Policy

Globally, a greater consideration of the environmental impact of materials and products consumed and utilized is advocated.

PSA is committed to responsible procurement of high quality resources (products and services) that are environmentally sustainable, from ethical sources and technologically innovative at competitive prices.

Our staffs are encouraged to avoid single-use disposable items (if unavoidable, to choose bio-degradable disposals) and purchase products:

- from responsible and sustainable sources;
- with high recycled content and recyclable;
- with reduced packaging materials (work with suppliers to minimise packaging where possible);
- with greater durability and energy efficiency;
- utilizing clean technology and/or clean fuels; and
- which result in minimum impact on landfill and greenhouse gas emissions upon disposal / incineration.

The scope of this documentation is to set the guidelines which are to be used by all business units with regards to procurement. The guidelines are adapted from relevant

contents from Ministry of Sustainability and the Environment (MSE), National Environment Agency (NEA), Public Sector Sustainability Plan 2017 – 2020 and Singapore Environment Council (SEC).

C. Benefits

It is our firm belief that green procurement will deliver following long term benefits, not just for PSA but Singapore and the global economy:

- Minimise risk in a company's business practices
- Compliance with environmental and social legislations
- Enhance consumer's preference and corporate social responsibility
- Control costs by adopting a wider approach to whole life costing
- Create markets for innovative green products and services
- Reduce waste and improve resource efficiency
- Support circular economy ecosystem and sustainable environment

D. Paper and Printing



Paper for printing, photocopying, letterhead, envelope and fax to carry the Singapore Green Label or any other certification such as from Forest Stewardship Council and Sustainable Forestry Initiative. Such certification ensures that the paper products we procure are from sustainable sources.

In the rest of this section, we will focus on the Singapore Green Labelling Scheme (SGLS).

Launched by SEC in May 1992, SGLS endorses industrial and consumer products (applicable to both local and foreign companies) that have less undesirable effects on our environment. The SGLS is the region's most established eco labelling scheme with over 3,000 unique products certified across 28 countries.

The perennial transboundary haze pollution problem that has plagued Southeast Asia for decades is widely accepted to be caused by unsustainable and environmentally destructive land-clearing practices. We want to ensure that the paper we procure is sourced from suppliers that practise sustainable land and forest management. We hope to do our part to encourage paper and pulp manufacturers to adopt environmentally sustainable practices in their operations and contribute towards our regional vision of achieving a haze-free Association of Southeast Asian Nations (ASEAN).

Use Recycled Paper

Paper is a natural resource that can be recycled five to seven times. This substantially reduces the impact on the environment. By using recycled paper, we can help boost the market for recycled products. This will in turn support the recycling industry and reduce unnecessary use of virgin materials. Today, the quality of paper containing some recycled fibre is comparable with that of virgin paper. Where possible, consider purchasing recycled paper.

Choice of Ink for Printing

We are strongly encouraged to go electronic and reduce our printing. In the event that printing must be done, it would be good to consider the use of vegetable-based inks free from volatile organic compounds (VOCs) instead of petroleum-based inks.

E. Electrical and Electronic Products

To procure electrical appliances, such as refrigerators, televisions, air-conditioners, and lamps certified with at least 3 ticks in the Mandatory Energy Labelling Scheme (MELS).

Mandatory Energy Labelling was introduced for registrable goods since 1 Jan 08. Under the Energy Conservation Act (Cap 92C), all registrable goods must carry energy labels.

The energy label helps consumers better identify the more energy efficient models and encourage suppliers to develop and offer more efficient products / models.

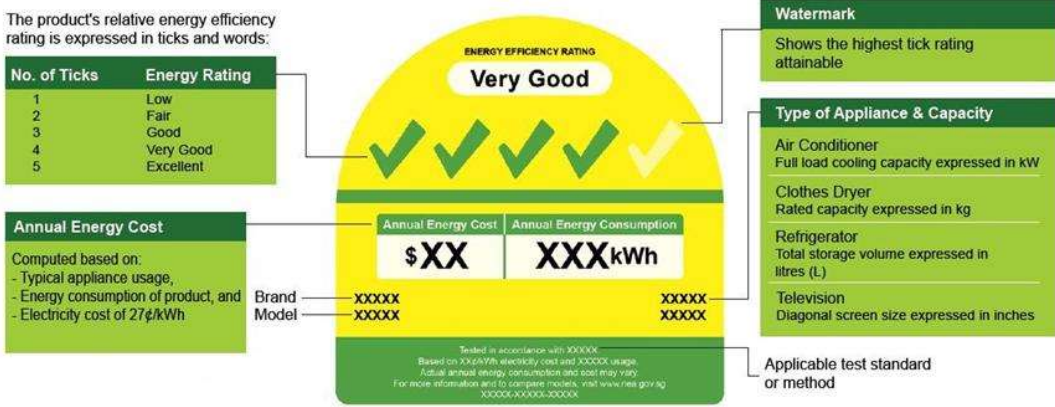
Go Green Committees are to work with the management and staff of the respective line departments and focus on the following areas in identifying opportunities to reduce, reuse and recycle waste. From such opportunities identified, measures and programmes can be implemented to effect the changes required.

More ticks indicate higher energy savings.

Ticks	Energy Efficient Rating
1	Low
2	Fair
3	Good
4	Very Good
5	Excellent

Energy Label for Air-Conditioner, Refrigerator, Clothes Dryer and Television

How To Read The Energy Label



Energy Label for Lamp



F. Comparison of Product Lifecycle Costs for Electrical Appliances

After identifying the appliances that meet the required technical specifications (e.g. dimension, capacity, features etc) and sustainable procurement requirement (e.g. minimum of 3-ticks), where information is available the lifecycle costs of the appliances should then be calculated and compared where possible.

The lifecycle cost of an electrical appliance is computed by:



Where energy cost over lifespan (\$) can be computed by the following simplified method:

$$\text{Energy cost over lifespan (\$)} = \text{appliance lifespan (years)} \times \text{Annual Energy Cost (\$/year)}$$

For appliances under NEA’s MELS, the Annual Energy Cost of an appliance is indicated on the left hand portion of the energy label. The typical appliance lifespan that are used for computation is shown in the following table.

Appliance	Typical Appliance Lifespan Assumptions
Air-conditioner	7 years
Refrigerator	10 years

Appliance	Typical Appliance Lifespan Assumptions
Television	8 years
Lamp	Refer to manufacturers' specifications e.g. 30,000 hours for LED lamps, then derive based on expected usage

The electrical appliance with the lowest lifecycle cost should be selected.

G. Information and Communications Technology (ICT) Equipment



To procure ICT equipment which are ENERGY STAR certified. ENERGY STAR is a U.S. Environmental Protection Agency voluntary program that help businesses and individuals save more and protect our climate through superior energy efficiency.

H. Vehicle and Equipment

For vehicle and equipment powered by fossil fuels such as petroleum and diesel; wherever possible, to consider vehicle and equipment powered by lower emissions alternatives such as electricity, Liquefied Natural Gas (LNG) or hydrogen-based fuel in future procurement.

The above consideration to factor in as an option for suppliers to propose and quote applies to purchase of prime movers (Ops and IGHT PMs), AGV, service vehicle, reach stacker, empty container handler, straddle carrier, forklift, RTG crane etc.

The approach is to opt for cleaner technology with green energy source to achieve lower carbon footprint where viable and practicable.

I. Electric Container Handling Equipment (CHE)

For electric CHE such as quay crane and aRMG, to consider more energy efficient design and crane components (e.g. motor sizing, load handling capacity, energy consumption, overall weight etc) which allow for higher efficiency and productivity of cranes.

Consideration in adding suitable clause in related tender document shall be made during procurement requiring vendor to propose as an alternative option to configure the equipment in manner determined by the original manufacturer to be optimal for energy performance and productivity.

Calculations on computing energy consumption efficiency, equipment productivity and carbon emission shall be submitted by suppliers for comparison and selection, where possible. Cross examination of data submitted for alternative options among different suppliers can be made to verify the data within reasonable bands.

J. Producer and Supplier Responsibility in Recycling

Consider adding a clause in the related terms contract for the provision of goods for the vendor to propose as an alternative option to collect and recycle the goods after its useful life for e.g., safety helmets and safety boots.

K. Provision and Management of Recycling Bins at Offices and Buildings (Paper, Metal Can, Plastic and Glass)

Identify the area where the recycling bins are required. Vendor to collect the deposited items, sort and recycle off-site. Monthly reporting on amount of each material collected per month.

L. Recyclable Engineering Industrial Materials

Identify areas and items of material e.g. used wire ropes, scrapped parts, scrapped equipment/machinery, construction debris/wastes that can be channelled back into

recycle process of the circular economy. Monthly reporting on amount of each material collected per month.

M. Selection of Electricity Supply

Consider suppliers of electricity with lower emission factor and eco-friendly processes which shall be preferred during procurement selection with other considerations being equal.

Calculations to compute the energy production efficiency and carbon emission shall be submitted by suppliers for comparison and selection. Cross examination of data submitted among different suppliers can be made to verify the data within reasonable bands.

N. Consideration of Lease Option

Identify suitable category of assets such as prime mover, forklift etc to explore viability of lease as an option concurrently with purchase. This is to better manage requirement during peaks and troughs to minimise resource and optimise partnerships with service providers. Cost viability can be computed and compared over the total life cycle for lease as an option vs purchase; comparison data to be submitted by vendors and suppliers as alternative for PSA's consideration.

O. Vendors and Suppliers Selection

Potential vendors and suppliers with track records and sustainability policy or awards to demonstrate that they are more environmentally conscious for e.g. minimizing carbon footprint in terms of material selection, manufacture and transport of the product or provision of service and / or with ISO 14001, ISO 50001 or equivalent certifications shall be preferred during selection with other considerations being equal. This can be compared in the same manner as company track records.

P. Amendment Records

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