

# PENANG GREEN OFFICE PROJECT



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## 1.0 Introduction

Objectives:

We want to support Penang Green Council's [PGC] vision of *Penang as a Green State* by adopting the **Green Office Concept** through *Education and Implementation* of Green initiatives in the office.

## 2.0 How to initiate Green Office Program

### A. Understanding your office

The preliminary step towards greening your office is to firstly understand your office by referring to the Checklist (Appendix A).

The checklist is to know your basis, such as scope area, number of people and current office management practices where you are going to implement your environmental policies and targets. This checklist is also to help you list your current environmental practices. This list can later be used as a basis to check whether the office will meet the environmental policy and targets hence determine what action plans to adopt.

### B. Set Environmental Policy, Commitment and Target

The first step for any office wanting to improve their environmental standing is to establish a written policy and commitment. This will help to set targets, develop programmes, goals and monitor progress. All offices should have an environmental policy that is adopted, authorised and committed to by the top management. It will be difficult to maintain enthusiasm and channel the appropriate time and resources to greening the office without any support.

### C. Put Someone in Charge

It may be beneficial to have someone in the office whose sole job is to set up carpooling or keep track of office recycling and energy use. The money spent on paying somebody to hold this position will be well worth it when you get your utility bill and help save our planet.

### D. Signs

Place switch-off light signs near light switches and doors.

Placing signage reminders and motivate staff to commit to Eco-Office practices.

Place water conservation signs near toilets and pantry.

Place Eco-office poster at notice boards, pantry or canteen.

Place catchy slogan with attention attracting images near personal computers to remind staff to the Eco-office commitment and staff's role.

Office is encouraged to come with other in-house initiative(s).

## 3.0 Tips on how to achieve Green Office certification

### A. Purchasing Office Equipment & Stationery- Green Principles

Key Issues to Consider when Purchasing. Greening your office challenges you to think about whether your organisations' 'needs' can be met in different ways.

- Can we lease, share or swap instead of purchasing?

- Does the product have an environmental, energy rating or water-rating label?
- Does the product have Energy saving features or a 'sleep' mode for when it is not being used?
- Does the supplier have good environmental credentials?
- Is upgrading, reconditioning or extending the useful life of our current model a better option?
- How long will this particular product last?
- Will it be easily repaired or upgraded?
- Are we paying for features we don't need and won't use?
- How much energy or materials will it use?
- Does the product contain recycled materials?
- Can this product be recycled, sold or donated when we've finished with it?
- Does it come with too much packaging?
- It's much better to buy products that are locally made or assembled to reduce transport.

## **B. Waste Reduction and Recycling**

### **Stationery, paper use, faxing and printing:**

- Set up paper reuse trays for the collection of paper that has only been used on one side. Always reuse paper that has been printed on one side for note-taking, printing drafts or message-taking, etc.
- Create a space on your website for publications so that reports and documents can be downloaded and viewed on screen.
- Compile an email listing to distribute e-versions of your reports or seasonal greetings.
- Use the revision / changes marking function available in most word processing software.
- Use notice boards and/or emails for office announcements, updates and meeting minutes.
- Reuse envelopes whenever possible, especially for sending information internally.
- Do not use fax cover sheets when faxing.

### **Mass mail and brochures:**

- When receiving unwanted junk mail from a mailing list or predecessor who has left the company, take a proactive measure to inform the sender to stop sending or remove his/her name from the mailing list.
- Similarly, when sending out reports or brochure, it is advisable to check if the recipient has interest in receiving such material. Use email or mail a postcard first to check if recipients are interested in receiving your reports and materials.

### **For pantry and meal time:**

- Avoid packaging, buy in bulk. Choose products with minimal packaging, including for example, bulk coffee, cream and sugar rather than individually portioned packages.

- When buying back lunch, try not to ask for a plastic bag.
- Avoid using disposable utensils and cups in the office.
- Use reusable containers when buying back meals – bring your own containers or your office may provide these containers.
- Engage the services of a recycling contractor and provide recycling bins.
- Place recycling bins for what your office can recycle in areas where they are normally used and thrown away.
- Remind staff frequently about your office's recycling scheme.

**Paper and boxes:**

- Place recycling bins around the office. To make recycling easier, provide staff with personal boxes and place larger boxes in areas where there is higher paper waste like near printers and photocopiers.
- To increase the recycling efficiency, office could eliminate personal waste bins and only maintain centralised bins for general waste as well as recycle bins.
- Always load paper printed only on one side into printers and photocopiers trays.
- Designate an area of your office which can be used to store over-sized boxes for collection by your recycling contractor.
- Even confidential paper waste can be recycled. Ask your contractor if they provide shredding services or invest in a paper shredder for your office.

**Others:**

- Recycle aluminium cans, glass, plastic
- Use rechargeable batteries.
- Keep cloth towels next to the sink instead of paper towels.
- Before deciding whether you need to purchase new office furniture, see if your existing office furniture can be refurbished. It's less expensive than buying new and better for the environment.
- Donate equipment or furniture that your office no longer needs to staff, charity or second-hand buyers.

**C. Energy Conservation**

- Switch off all lights, computers, copiers and other non-essential equipment when not in use including after office hours at night and during weekends. e.g. Photocopiers left on standby mode throughout the night use energy equivalent to printing 5,000 copies.
- This action plan can reduce energy use by 25%
- Encourage staff to save energy by placing signs and/or display tabulated past energy consumption records in notice boards or mass email.
- Consider green labelled and energy-saving products.
- Get an energy audit conducted of your office. Audits cover all aspects of office energy including insulation, cooling, lighting and equipment use, and tell you where your greatest energy losses are and where you could make the greatest savings.

**Lighting**

- Reduce lighting especially if office has windows and able to use the sun light.
- Install light sensor which adjust the office light intensity depending on the level of natural lights presence.
- Install motion sensors that turn off lights when no one is in the room.
- Replace lights electronic ballast every few years.
- Replace normal filament light bulbs with energy efficient alternative. Fluorescent lights give off a lot more light and are more cost and energy efficient compared to incandescent ones. They are other energy saving bulbs also last 10 times longer.

**Computers**

- Enable energy-saving features on all computers and copiers.
- Put computer monitors to sleep rather than use screen savers.
- Turn off monitors when not using for periods of more than 30 minutes.
- Turn off personal computers if not in use for 2 hours or more. Don't worry, this will not harm your machine.
- Choose a low voltage computer with low energy hard drive and good power management features. Also consider a low-resolution, monochrome or crystal liquid display monitor.
- Printers spend a lot of their time "idling" and this consumes energy, so compare energy consumption of different makes.
- Inkjet or dot-matrix printers minimise energy consumption. These use up to 95% less and 75% less energy, respectively, than laser printers.

**Air conditioning and cooling the building**

- You want to be comfortable when working, not cold. Adjust your air conditioning temperature settings to 25°C or warmer every time you're feeling cold. If your building has a centralised system, appoint someone responsible for contacting building management and have them adjust your office's temperature settings accordingly.
- Make sure external doors and windows are closed and do not allow the cool air to escape from your office.
- Lights and machines give off heat, so turn them off when not needed to reduce your building's cooling requirements.
- Regular maintenance and annual servicing of your air conditioning system can ensure maximum energy efficiency and performance.

Energy Saving Tips from TNB (<http://www.tnb.com.my/residential/energy-savings-at-home.html>)

**D. Water Conservation**

- Obtain the Aqua Save Certificate from PBA
- Install water saving devices in toilets and pantry faucets. e.g. flow restrictor on taps and dual flush system – half and full flush option on toilets.

- Report any leaks to the appropriate personnel. If you share a common toilet with other offices, the best person would be building management staff.
- Encourage staff to save water in toilets and pantry by placing signs and/or display tabulated past water consumption records in notice boards or mass email.
- Insist that environmentally-friendly products are used for cleaning.

Water Saving Tips from PBA (<http://www.pba.com.my/save-water.html>)

## **E. Paper Usage**

### **Paper inventory:**

- Aim to reduce the amount of paper waste generated by offices. Actively record paper purchase, inventory and/or regulate distribution of paper to staff.
- Encourage staff to reduce paper usage by performing inter-staff monthly paper usage reduction report or competition.

### **Printing Documents:**

- If printing is necessary, format documents to minimise wasting space, e.g. reducing font size, line spacing of not more than 1.5, smaller margins, etc.
- Print documents on both sides of the paper if your office printers have a double-sided facility. Make it part of your standard format for all reports and materials printed by your office.
- Use the back of letterheads as well when sending letters.
- Read and alter documents on the screen to avoid printing out numerous draft copies of a report or other documents that may be unnecessary.
- Print addresses directly onto envelopes instead of using sticker labels.

### **Communication:**

- Use electronic methods of communication or notice board where possible rather than sending letters or internal memos. Also, avoid printing out emails unless necessary.
- Use computer-linked faxes (modem fax) instead of paper faxes. These allow documents to be sent directly from a computer without requiring a printed hard copy.

### **Reference Material**

- Have documents for reference stored electronically where staff can easily access them.
- If hard copies are necessary, limit your office to one that can be circulated amongst staff or kept in a centralised reference centre.
- Cancel all unwanted and redundant publications and receive them via email if possible.
- Office is encouraged to come with other in-house initiative(s).

## **F. Printer, Photocopier, Fax & Cartridges**

- Give preference to equipment capable of using unbleached paper with up to 100% post consumer recycled content.
- Purchase photocopiers and printers that have double-siding functions, energy saving mode, and recyclable cartridge. If the current photocopiers and printers are not able to perform double sided printing, load paper which has been used on one side.
- Use one multipurpose machine for photocopying, printing and faxing, this will decrease their idle time, reduce standby energy and provide for more cost effective use of the equipment.

**Printers:**

- Default printer setting to automatically print double sided if your office printers have the facility.
- Set printer to energy saving mode to enable automatic energy saving when the printer is idle for a 10-15 minutes.

**Photocopiers:**

- Use the reduction capability of photocopier machines. E.g. A3 reduction to A4 halves the paper required.
- Ensure all staff familiarise themselves with the functions of the photocopier. Simple guidelines on how to use the double-siding and reduction facility should be provided so that they can operate the photocopier correctly and avoid mistakes that waste paper.

**Fax:**

- Purchase plain paper fax machines than the coated paper fax machines.

**Cartridges:**

- Purchase recycled cartridges and recycles the empty ones.
- Some economic rewards of up to 50% have been reported for buying recycled cartridges.
- Record the amount of cartridges purchased and recycled.

**G. Air Quality**

- Buy products that have low or no formaldehyde, trichloroethylene or benzene in them.
- Put air cleaning plants in your office some of the recommended indoor varieties are: Peace Lilly, Dracina, mother-in-law's tongue, English ivy, Chinese fern, parlour palms. If you have more light then choose spider plants or flowering plants (e.g. chrysanthemums or azaleas)
- Ensure sufficient air exchange through good ventilation. No matter how hard you try there will always be indoor air pollutants. It is important that they can escape from the building. (Contact BRANZ for information on Building code regulations)
- Use cleaning agents that are low in volatile organic content (check out the product label for VOC content)
- For those concerned about electromagnetic fields, (these are created by any electricity – copiers, computers etc.), consider the following:



- Smart wiring using low voltage electronic signals from switches to a centrally controlled computer.
- If there are windows in your office, open windows and/or doors for 10-15 minutes each day to allow ventilation and air circulation.

#### **H. Employee & Community Engagement**

- All employees must understand and adopt the mission statement
- Influence community & supply chain to adopt Green Office concept

### **4.0 Appendices**

## Appendix A

Table: Baseline checklist

Item to check	Guides and check list
Office size in m <sup>2</sup>	<p>What is the floor areas considered as office (m<sup>2</sup>)?</p> <p>Please obtain office plans or layout diagrams where actual area of the office can be determined.</p> <p>Include all the areas used for office purposes (i.e. includes toilets, meeting rooms, pantry).</p>
Number of staff	<p>What is the total number of the staff?</p> <p>( Count only staff who regularly work in the office and exclude staff who do not routinely work in the office. e.g. contractor)</p>
Identify the office people in charge for	<p>Who are the persons for the mentioned tasks?</p> <p>Appoint a person for Green Leader. Green Leader may be a person or committee responsible for implementing environmental initiatives. Ensure that your appointed Green Leader has adequate time and resources.</p> <p>Each department may want to have 1 Green Leader.</p> <p>Have you appointed a Green Leader?</p>
(1) Management,	
(2) Green Leader,	
(3) Purchasing,	
(4) Waste Management,	
(5) Staff training,	
(6) Welfare, and	
(7) Energy Conservation	
Management of utility bills, toilets and air conditions temperature	<p>Does your office manage its own utility bills, toilets, and air conditioning temperature setting?</p> <p>If office privately manages any of the items mentioned above, ensure office keep a track record, because these documents play a fundamental role for performance assessment, monitoring and target setting at a latter part.</p> <p>Have you gathered the utility bill records?</p>
Environmental policy and targets	<p>Does office has relevant environmental policy and well defined targets?</p>
Others	<p>How many live plants are in your office?</p> <p>Does your office have signs or posters indicating:</p> <p>Switch off lights and electrical equipment, conserve energy and water, reduce paper use, recycling boxes, etc.</p>

Item to check	Guides and check list	Example
Inclusion of environmental issue in training and meetings	<p><i>Are staffs informed of any changes in office environmental policies, target or issues?</i></p> <p><i>Does office discuss environmental issues in meetings? Proactively take positive actions to address the issues?</i></p>	<p><i>Office meetings are held every Monday. On the first Monday of each month, environmental issues are discussed; this ranges from the programmes that the organisation could implement to simple reminders about existing programmes.</i></p> <p><i>Environmental issues and office environmental practice is incorporated in new staff induction training.</i></p>
Paper use	<p><i>How much paper did your office purchase yearly?</i></p> <p><i>How much recycled contents?</i></p> <p><i>Identify and describe the state of the major paper use.</i></p> <p><i>What is the percentage of paper used on both sides?</i></p> <p><i>How many kilograms of paper are recycled from your office each year?</i></p>	<p><b><i>This sample form serves as an example only. Company is free to adopt it at will. At all time, company is also encouraged to modify, enhance or produce their own inventory form/monitoring scheme to better suit the office.</i></b></p>
Energy use	<p><i>How much electricity does your office use in 1 year?</i></p> <p><i>Identify and describe the state of the major energy use</i></p> <p><i>What are the office energy conservation schemes at this moment?</i></p>	<p><i>60000kWh/year</i></p> <p><i>Major energy uses are computers and office equipment.</i></p> <p><i>Description: None of the office equipment has energy saving feature enabled.</i></p> <p><i>Current energy conservation scheme is to turn off lights when room is not in use, has sufficient natural lighting and after office hour.</i></p>
Water use	<p><i>How much water your office use in 1 year?</i></p> <p><i>Any water saving device fitted within your office?</i></p>	<p><i>600 cubic meter/year.</i></p>
Recycling	<p><i>Does your office engage recycling waste collector?</i></p> <p><i>Does office have recycle bin?</i></p> <p><i>Does your office recycle paper, cartridges, computers, furniture, plastics, glass or cans?</i></p> <p><i>What is the amount recycled per year?</i></p> <p><i>Does your office use disposable cups and cutleries?</i></p> <p><i>Do you record the amount of wastes collected by waste collector?</i></p> <p><i>It is a good practice to keep a record on waste collected by waste collector.</i></p>	<p><i>Office has recycling bins and general waste bins. Recycling bins includes glass bin, paper bin, and plastic bin. All office wastes are collected by recycle waste collector - SULO. Amount of waste collected each month has shown a constant slight decline if not constant at 50 kg paper/month.</i></p> <p><i>Office also practices cartridges recycling. Cartridge stock is controlled by one person and new cartridges will only be issued if it is exchanged with the old cartridge. 10 cartridges were recycled last year.</i></p>

Waste reduction	<p><i>What is the percentage of paper used on both sides?</i></p> <p><i>Does office effectively use soft copies as compared to hard copies for memos, documents and brochures?</i></p>	<p><b>Table: Practices checklist</b></p> <p><i>Staff poll was conducted annually. 90% of staff members are satisfied with the office indoor air quality. From the poll, the only complaint was food odour during lunchtime.</i></p>
Air quality	<p><i>Were there any complaints from staff about air quality?</i></p> <p><i>What percentage of staff members are satisfied with office indoor air quality?</i></p> <p><i>Was there any record whereby staff got sick due to office air quality?</i></p> <p><i>Has office conduct air quality monitoring?</i></p>	
Others	<p><i>When choosing furnishings, does your office opt for less toxic alternatives?</i></p> <p><i>Are staff members encouraged to carpool, use public transport?</i></p> <p><i>What are your office environmental programmes?</i></p>	

## Appendix B



Grren Office Gantt  
Chart.xlsx