

AIR-CONDITIONING

1 degree goes a long way reducing the temperature by 1°C reduce the amount of power usage by up to 10%, saving 200kg of carbon emission.

Green Building Design installing double glazing window and painting roof with reflective paint can reduce heat loss. Example of green building in Malaysia are *Malaysian Green Technology Corporation* and *Suruhanjaya Tenaga Diamond Building*.

Solar Photovoltaic (PV) are made from silicon and convert solar radiation directly into electrical energy. "Thin film" PV can be deposited directly onto glass or metal substrate, which is then used in place of typical window or roof material, providing both electricity and roofing or shading. This building-integrated applications often reduce cost of installation and materials.

Generate
**your own
ENERGY**



BEHAVIORAL CHANGE

Changing behavior is one of the least expensive ways to lower carbon emissions. Employees should be encouraged to reduce, reuse and recycle whenever they can. They should also practice these simple energy saving habits:

- ✓ *Switching off electrical appliances or lights when not in use.*
- ✓ *Activate "sleep" features on computers and office equipment.*
- ✓ *Use fan instead of air-conditioning.*

These habits will be able to save more than 10% of electricity bills.



The future will be green



Department of Environment
Ministry of Natural Resources & Environment
Level 4, Podium 3, Wisma Sumber Asli,
No. 25, Persiaran Perdana, Precint 4,
62574 PUTRAJAYA
Tel: 03-8871 2000
Fax: 03-8888 4151
www.doe.gov.my

CLIMATE CHANGE



**REDUCE
GREENHOUSE GAS
EMISSIONS NOW!**

**A guide for
business owners**

Greenhouse Gases

Gases that trap heat in the atmosphere are called greenhouse gases. These gases differ in their ability to trap heat in the atmosphere, so each gas "Global Warming Potential" (GWP) is used to compare these abilities relative to CO₂. Carbon dioxide has a GWP of exactly 1 as a base line unit to which all other GHGs are compared.

Below are the 6 Kyoto Protocol defined greenhouse gases GWP:

Greenhouse Gas	GWP
Carbon Dioxide (CO ₂)	1
Methane (CH ₄)	21
Nitrous Oxide (N ₂ O)	310
Hydrofluorocarbons (HFCs)	140 - 11, 700
Perfluorocarbons (PFCs)	7, 850
Sulfur Hexafluoride (SF ₆)	23, 900

LIGHTING

Retrofit for Energy-efficient Lighting.



Standard Incandescent Bulb
(60W~1,000 hrs)



Compact Fluorescent light (CSL)
(13W~8,000 hrs)



Light Emitting Diodes (LEDs)
(9W~ 30,000hrs)

Install occupancy sensors

Auto switch off lighting when no one is present.

Effective in place, such as hallways and restrooms.

Carbon Footprinting Your Business

Carbon footprints are necessary first step toward Greenhouse Gas (GHG) emissions reduction efforts and being strategically positioned for future emission reduction legislations. Carbon footprint is a measure of total CO₂ and CH₄ emissions of an organization. For many business owner, carbon footprints help them to spot significant cost saving opportunities, as well as opportunities to significantly reduce the carbon intensity of their products and services. Among benefits in carbon footprinting are:

- ✓ **Increase Sales** - Support customer tender action requirements.
- ✓ **Reduce Cost** - Save energy & other operational costs.
- ✓ **Market differentiation** - Enhances business & brand's sustainability credentials and public relation opportunities.
- ✓ **Stakeholder management** - Helps meet Corporate Social Responsibility (CSR) objectives, enhances staff morale and attracts investors.



There is an increasing demand from the stakeholders for information on carbon footprinting of any organization. Business owner may decide to engage consultants for their carbon footprinting activities or manage their own carbon emissions.

Businesses should also be aware of the current and upcoming policy, nationally and internationally toward a low carbon and climate-friendly economy.

Invest in Low Carbon Technology



The government through Sustainability Achieved via Energy Efficiency (SAVE) program has introduced energy efficiency label for electrical appliances, which include refrigerator, air-conditioner and chiller. Business owner can purchase these energy efficient, lower carbon technology to reduce GHG emissions.

It is important to continuously identify process changes in industries that are able to reduce GHG emission, such as replacing older, less efficient pumps or motors for a newer and more efficient ones.

TRANSPORTATION

Use video-conference

Video-conference is useful for multi-location meetings to reduce cost and carbon footprint.

Multi-task

Consider combining tasks into a trip or combine multi-city itinerary instead of flying a few round trips.

Carpool, Use Hybrid Cars or Convert to NGV



Small Steps Towards Greener Future