



What is a Sustainable Campus?

A sustainable campus is a community with a common goal of:

- Improving the effectiveness of energy usage
- Sustaining resources
- Increasing the quality of environment

Why university ?

A university is not only a place to pursue the quest for knowledge; it is also a place to nurture the personality of its graduates. In addition, it is a great place to nurture the sustainable characteristics because eventually the graduates would contribute to the growth of the nation either directly or indirectly.

How do we do it at UniMAP?

At UniMAP the Sustainable Campus is a project carried out by Professors' Council of UniMAP and Office of the Assistant to the Vice Chancellor. The work towards sustainable campus has been planned since 2012. Ten teams have been established on specific teams which are Building, Weather, Energy, Food, Soil, Human, Purchase, Transport, Waste and Water.

Why do we do it?

The implementation of the Sustainable Campus is a worthwhile investment. It can bring benefit to the university in terms of the use of resources as well as ensuring good practices to safeguard a good future for the younger generations so they can enjoy the world as we do.

In addition, the project currently is one of the flagship programme of UniMAP under strategic core 'Conducive Ecosystem'.

What are the current projects?

Among the on-going projects are:

- **Transportation:** Bicycle Project
- **People:** Video Competition, Recycling Website
- **Waste:** Earth hour (23 March 2013), GET (Green Earth Team)

Interested in joining?

We welcome participants from students, staff of UniMAP to join us into realising this project. Just email us at sustainablecampus@unimap.edu.my

Like it or not, in living our daily lives (commuting, sheltering our families, eating) each of us contributes to the greenhouse gas emissions that are causing climate change. A carbon footprint is an estimate of the climate change impact of activity, and as an individual the choices we make at homes, our travel, the food we eat and things we buy and throw all influence our carbon footprint. Therefore, every person has a certain carbon footprint. There is no way that we can live in this world without having an impact on the environment. The difference is in how much of an impact we have, and if our lifestyle is able to offset this carbon footprint.



"The carbon footprint is a measure of the exclusive total amount of carbon dioxide emissions that is directly and indirectly caused by an activity or is accumulated over the life stages of a product"^[1]

Typically, a carbon footprint is calculated by estimating not just the CO₂ emissions, but also any emissions of other greenhouse gases (such as methane and nitrous oxide) and in some cases other types of climate impacts as well, such as vapour trails from aeroplanes. For simplicity, all these impacts are added together and expressed as a single number in terms of carbon dioxide equivalent (CO₂e): the amount of CO₂ that would create the same amount of warming.

What is Carbon Offset?

Carbon offsetting is used to compensate for carbon emissions by funding an equivalent carbon dioxide saving elsewhere. Offsetting provides a mechanism to reduce Green House Gas (GHG) emissions in the most cost-effective and economically-efficient manner. Offsetting plays a vital role in combating climate change, but if done in isolation it is not the solution.

Climate change will only be addressed if all (individuals, businesses and government organisations) takes responsible steps to **REDUCE** our CO₂ emissions as much as possible and then offset the remaining unavoidable emissions.

Lets Become Carbon Neutral

Step 1

Calculate carbon emissions (there are several carbon footprint calculators available online, <http://ecomalaysia.org/> and <http://www.greentechmalaysia.my/>)

Step 2

Start reducing carbon emissions (<http://www.carbonfootprint.com/>)

Here's a list of simple things you can do immediately

- Turn it off when not in use (lights, television, Hi Fi, computer, laptop, A/C unit etc.)
- Fill your washing machine with a full load - this will save you water, electricity, and washing powder
- Fill the kettle with only as much water as you need
- Do your weekly shopping in a single trip

References

- [1] Thomas Wiedmann and Jin Minx, 'A definition of Carbon Footprint', Research Report 07-01
- [2] <http://www.carbonfootprint.com>
- [3] <http://www.greentechmalaysia.my>

Facts & Trivia

1. A tap with a slow drip can waste 18 litres per day.
2. Shorten your shower by a minute or two you'll save up to 150 gallons per month.



Take shorter showers — five minutes or less is best.

Turn off the water while soaping hands and brushing teeth.



Put faucet aerators on sink faucets.



Turn off sink faucet while scrubbing dishes and pots.

Green Product of the Month

NOVEL VOLCANO ASH ARTIFICIAL GEOPOLYMER AGGREGATE

New Technology Approach Using Geopolymerization Process With Low Temperature

PRODUCT DESCRIPTION

Artificial aggregate with volcano ash (produced from freshly volcano mud) was evaluated as an aggregate that suitable used in concrete and lightweight concrete. This aggregate was produced by mixing the volcano ash with alkaline activator which classified as geopolymer. This artificial geopolymer aggregate have high strength, less water absorption and porosity with acceptable density which are comparable to the existence of aggregate in market. This aggregate can help to reduce global warming with low Carbon Dioxide (CO₂) emission due to its geopolymerization process that make this aggregate is in green technology. In addition, the production of this volcano ash artificial geopolymer aggregate is using low temperature

processing three times compared to other artificial lightweight aggregate with simple manufacturing process. Artificial aggregate with volcano ash is in research cooperation agreement between Petra Christian University – University Malaysia Perlis (UniMAP) participate in settling technology between the two countries to convert the continuously volcano mud in Sidarjo, Indonesia to become as artificial geopolymer aggregate. This effort may reduce the high quantity of unstopable of volcano mud from an eruption site in Indonesia.

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