

## Climate Change in Penang, Malaysia

First of all, let us introduce ourselves. We are from the Sri Mutiara Secondary School which is located in Penang, Malaysia. Well, thanks a lot for your willingness to exchange the information about the climate change of your state with us. We really appreciate it.

Penang is a state in Malaysia, located on the northwest coast of Peninsular Malaysia in the Straits of Malacca. Penang is a pleasant mix of warm, sunny days and occasional cooling rain storms. October through November being the wettest months generally. It enjoys a tropical climate, with rains from the annual southwest (May to September) and northeast (November to March) monsoons. The average rainfall is 2670 mm throughout the year. The humidity is usually high with temperatures averaging between 23°C to 32°C. As such, there are no recognizable hot or cold season.

However, the temperature in Penang has risen compared to 5 decades back. This is due to the activities in the name of development in Penang. We can see that climate change in Penang has an adverse impact on human health and survival including weather-related mortality, infectious diseases and air-quality respiratory diseases. Besides that, more floods have also hit Penang. Although Penang does not experience serious natural disasters such as hurricanes, floods in itself had brought much hardship to the residents. As the temperature in Penang ascends, the air pressure will descend and this causes the wind from a location which has high air pressure to blow the clouds to Penang. Thus, more rains will occur and floods occur when water overflows from the Pinang River which is made worse by rubbish.



**P. Ramlee Road Area (adjacent to Pinang River)**



**Houses next to Pinang River**



**P. Ramlee Road**



**The water barely entering the ground floor apartment unit**



### Han Chiang Road

The improvement in the economy and lifestyle of Malaysians have resulted in an increase in the demand of transportation. Transportation in Malaysia can be categorized into three major groups – air transportation, land transportation and maritime transportation. Petroleum, also known as liquid fuel is needed in the transportation sector. Burning whatever fuel produces heat. The burning of huge quantities of fuel exhausts CO<sub>2</sub> and NO<sub>2</sub>. These gasses, also known as greenhouse gases, contribute to the heating up of the atmosphere. In the other words, this causes the temperature to rise.

Methane gas, which can be found in dumping sites, is flammable. It causes the accidental burning in the dump sites which then increases the amount of CO<sub>2</sub> and warms up the surroundings. Open burning is commonly seen too. This is the work of irresponsible people who are not aware of the serious consequences. The heat produced will be dissipated into the surroundings. Eventually, the atmosphere will lose its coolness soon.

Penang is undergoing urbanization due to population increases. The opening of land for commercial or residential use will destroy the flora and fauna of tropical rainforest. Forests or trees gives out oxygen and can cut down the quantity of carbon dioxide through the process photosynthesis. Without trees, it would lead to a warmer microclimate in urban areas.

WWF-Malaysia is a national conservation trust that currently runs more than 75 projects covering a diverse range of environmental protection and nature conservation projects in Malaysia. WWF stands for World Wide Fund for nature. It was formerly known as the World Wildlife Fund but adopted its current name to show that it also works on other environmental issues, and not just wildlife.



## The logo of WWF

In order to cut down the emissions of the greenhouse gases that cause global warming, many steps have been taken by WWF to make our locality free from pollution and contamination. One of it was the Earth Hour campaign. Penang joined the rest of the world to flick the switch for Earth Hour on 28th March 2009 from 8.30pm to 9.30pm.



## Earth Hour

Part of Penang turned dark to help Mother Nature. On 28th of March 2009, Penangites were urged to participate in "Earth Hour," to raise awareness regarding climate change and global warming. Earth Hour – the worldwide movement to make a change against global warming by a simple action of switching off the lights for an hour. And this year, Penang was a part of that global drive. The year 2009 marked 28th March as 'the night that will go down in history', the one night, when lights of millions of homes and businesses were switched off in over 74 countries and territories, from 8.30pm till 9.30pm as a call for action to be taken against global warming.



**Penang Times Square**



**Starbucks Coffee Shop in New World Park**



**New World Park**



**Gurney Drive Food Court**

Below is a list of simple steps that people can consider to reduce their energy consumption.

1. Switch off unused lights
2. Switch off unused appliances and put computers on standby mode
3. Reduce use of hot water
4. Switch off the air-conditioner when you are not in the room
5. Use shopping bags rather than plastic bags. Plastic is a petroleum-based product. That means using fewer bags helps reduce our use of fossil fuels and helps reduce global warming.

Beside that, many steps were taken by the Penang government to reduce the amount of rubbish thrown in Penang. For example, "No Plastic Bags Day". The Penang state government declared every Monday a "No Plastic Day" for Penang beginning on 1 July 2009. Following consultation and dialogues with hypermarkets

and supermarkets and mini-markets, plastic manufacturers and NGOs, the ban on using plastic bags on every Monday marks the serious commitment towards reducing the use of plastic bags. As the first state in Malaysia to adopt such a measure, Penang state government hopes that this environmentally-friendly approach will assist Penang achieve its goal of becoming a green state.

Plastics bags are cheap and useful, when they are given away free, the excessive use and injudicious dumping of plastic bags has turned an otherwise useful product into something that is polluting our environment. In order to encourage the consumers to bring their own bags and reduce their dependency on the plastic bags, consumers will be charged at 20 cents per bag on the "No Plastic Bag Day" at the check-out counters in shopping complexes. Proceeds collected will be donated to the Hardcore Poverty Programme of the state. Collection boxes were prepared at the check-out counters for this good purpose. This is indeed a big step for all Penangites to celebrate United Nations World Environment Day 2009.

Penang generates about 1,500 - 1,600 tons of solid waste per day, which means that Penangite generates about 1 kg of solid waste per person per day. In year 2007, the local council, MPPP and MPSP spent RM57.6 million in solid waste management. This figure accounts for 30% of the total income generated by the local government.

Our own survey of 6 major groups of super/ hypermarkets in Penang also shows that as much as 25.2 million pieces of plastics bags or 2.5 million pieces monthly have been distributed in 2008 alone. This does not take into account the other millions of plastic bags used by other retailers, hawkers and other businesses. Where do all these plastic bags end up?

According to a survey conducted by D.Playground Events for the state government, in Penang Island, 74.86% out of 1500 interviewees think that plastic bags create huge environmental problem, and 53% of them think that the government should ban the use of plastic bags. This survey will be extended to Seberang Perai soon.

We hope that by reducing the excessive use of plastic bags and through the promotion of the 3Rs (Reduce, Reuse, and Recycling), we can eventually cut down the expenditure spent on the solid waste management.

In order to overcome the problem of air pollution which aids climate change, Rapid Penang, a government-owned company was set up to operate bus services to improve the transportation in Penang. Rapid Penang began operations since 31 July 2007.

Furthermore, in conjunction with the theme of World Environment Day 2009: Your Planet Needs You! UNite to Combat Climate Change, the Penang government launched a special additional webpage in the Penang Web Portal "About Climate Change". The creation of this webpage demonstrates that the state government is serious about climate change issues. Activities like tree-planting programmes and river cleaning through EM mudballs had been organised.

In the webpage, there is an introduction to climate change, greenhouse gases and 20 tips for every Penangite to tackle climate change. The government hopes that by creating an awareness of the consequences of Climate Change among Penangites (website: <http://climatechange.penang.gov.my> ), Penangites will be able

to work together towards transforming Penang into an international city-state that is the location of choice for investors, destination of choice for tourists and habitat of choice for Malaysians desiring sustainable living.

Prepared by,  
Danella Eunice Tang,  
Lau Yee Yin,  
Mokagathi Ganesan,  
Fong Swee Man,  
Kong Pey San,  
Cheah Swee Si,  
Rosnurul Ain Syuhada bt Rosli,

Supervised by,  
Madam Boey Mei Li