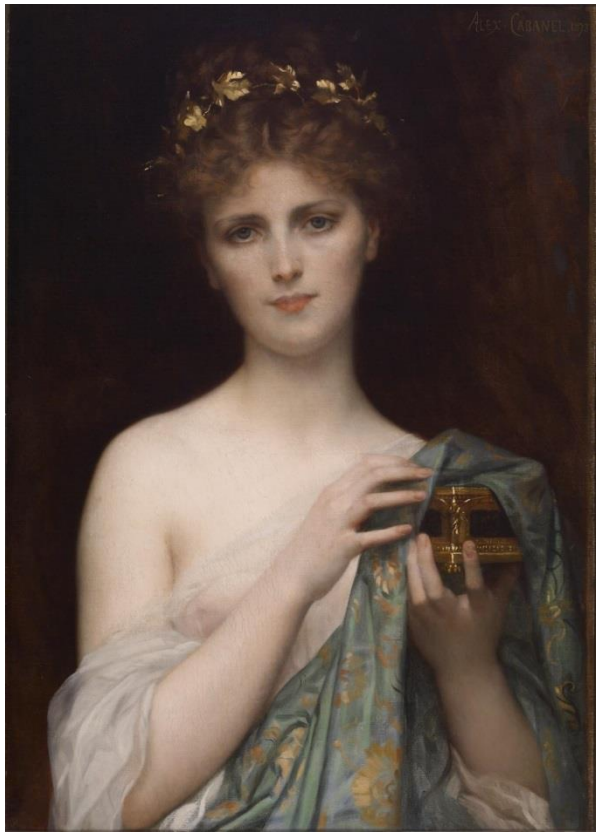
Expensive not to go Green. Going Green, Starting from Your Home!

Tropicana Green Carnival 4/10 – Love Nature

Touching on...

- The Pandora Box of our Human Progress
- Expensive Externalities – Carbon
- Holistic Approach of Going Green
- Understanding Your Household Energy Footprint
- Living Sufficiently
- Precedence Studies - Cooltek House

Pandora – The Goddess of Innovation?

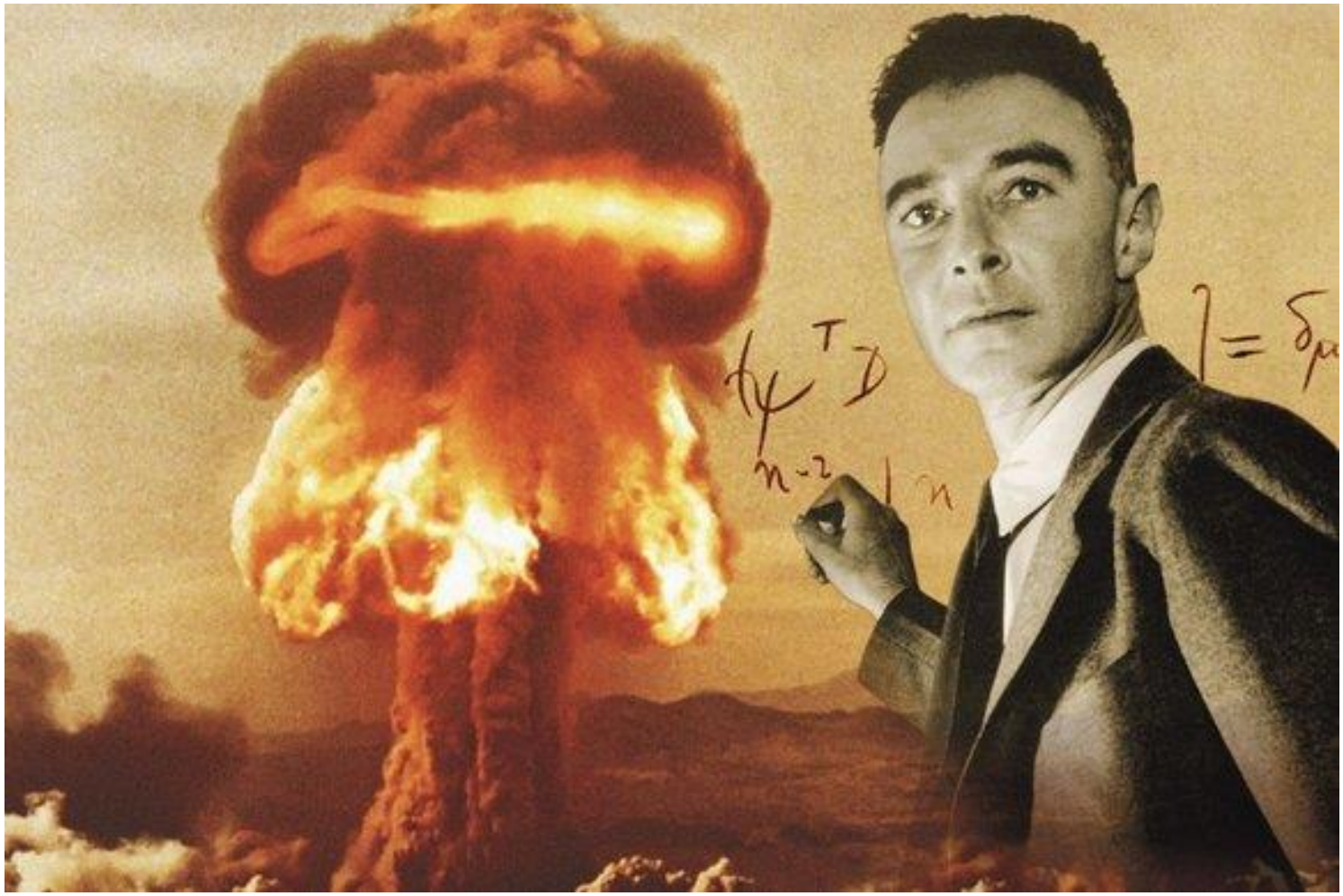


The first human woman created by the Gods (Greek Mythology).

Pandora's Box?

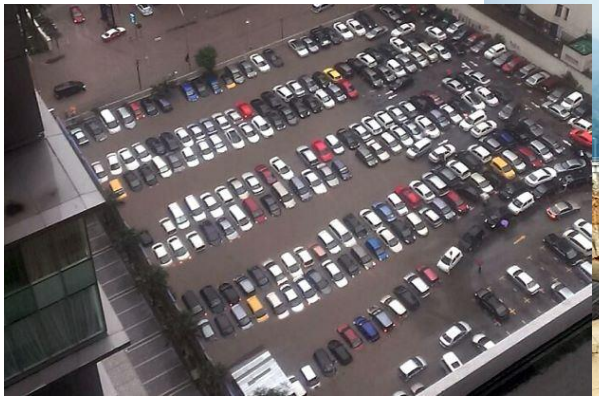
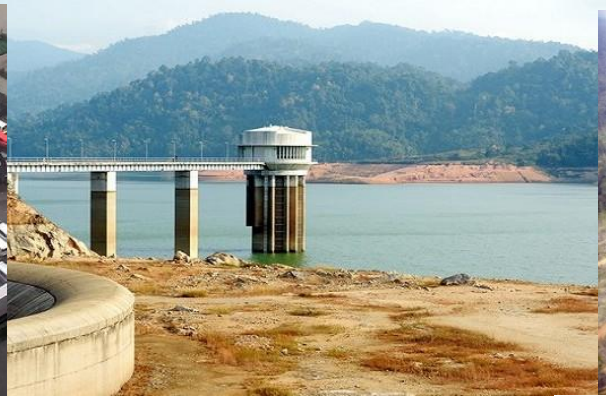
An action that may seem small or innocent, but that turns out to have severely detrimental and far-reaching consequences.

Our deepest fear is not that we are inadequate. Our deepest fear is that we are powerful beyond measure. It is our light, not our darkness that most frightens us. -Marianne Williamson



"When you see something that is technically sweet, you go ahead and do it and you argue about what to do about it only after you have had your technical success. That is the way with the atomic bomb"
J. Robbert Oppenheimer "Father of the Atomic Bomb"

We face on a daily basis our own Pandora's box indeed.

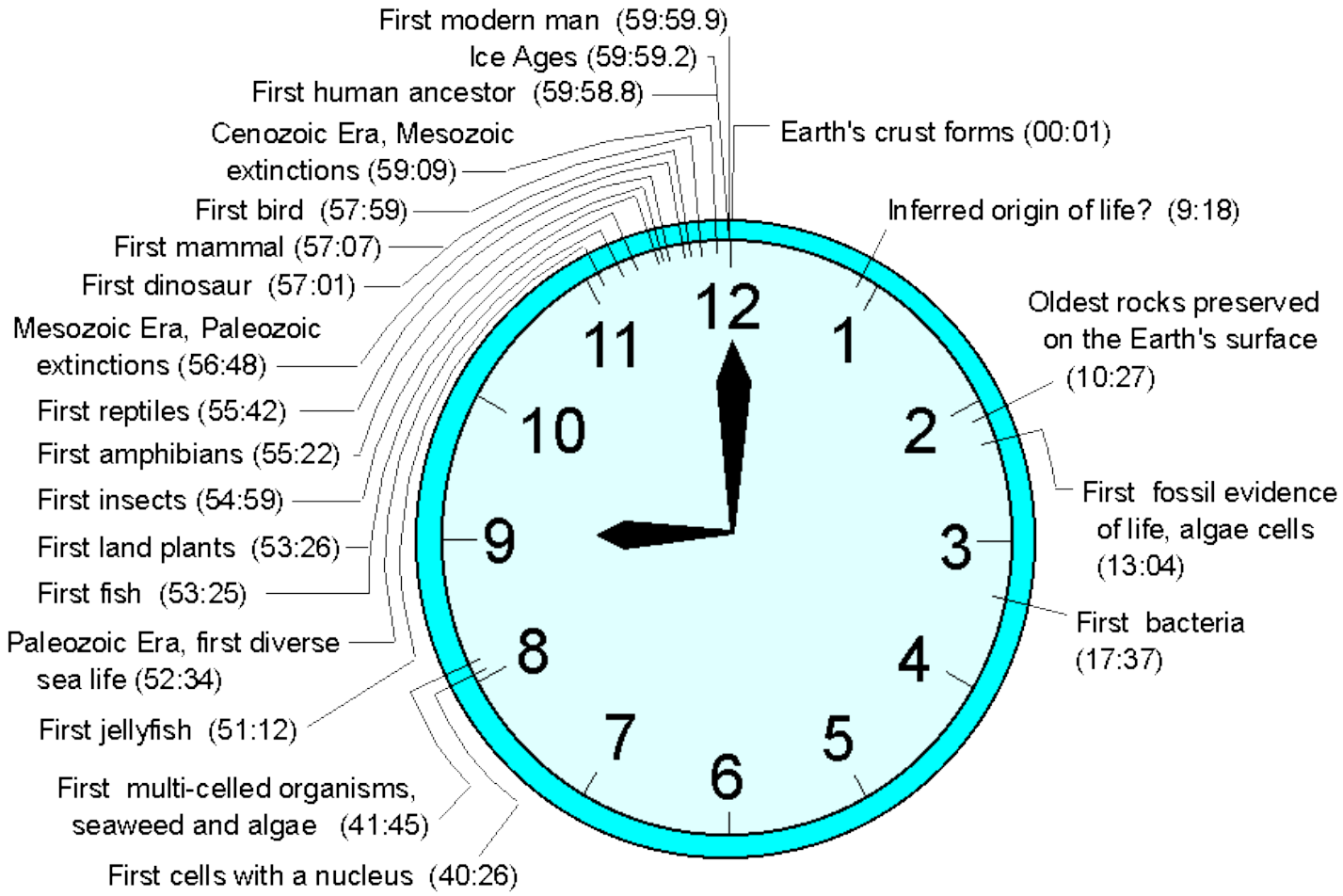




Rapid Urbanization, Population Increase and the privatization of space has seen the rise of the concrete jungle.

"Getting things built" without considering the consequences of ones action.

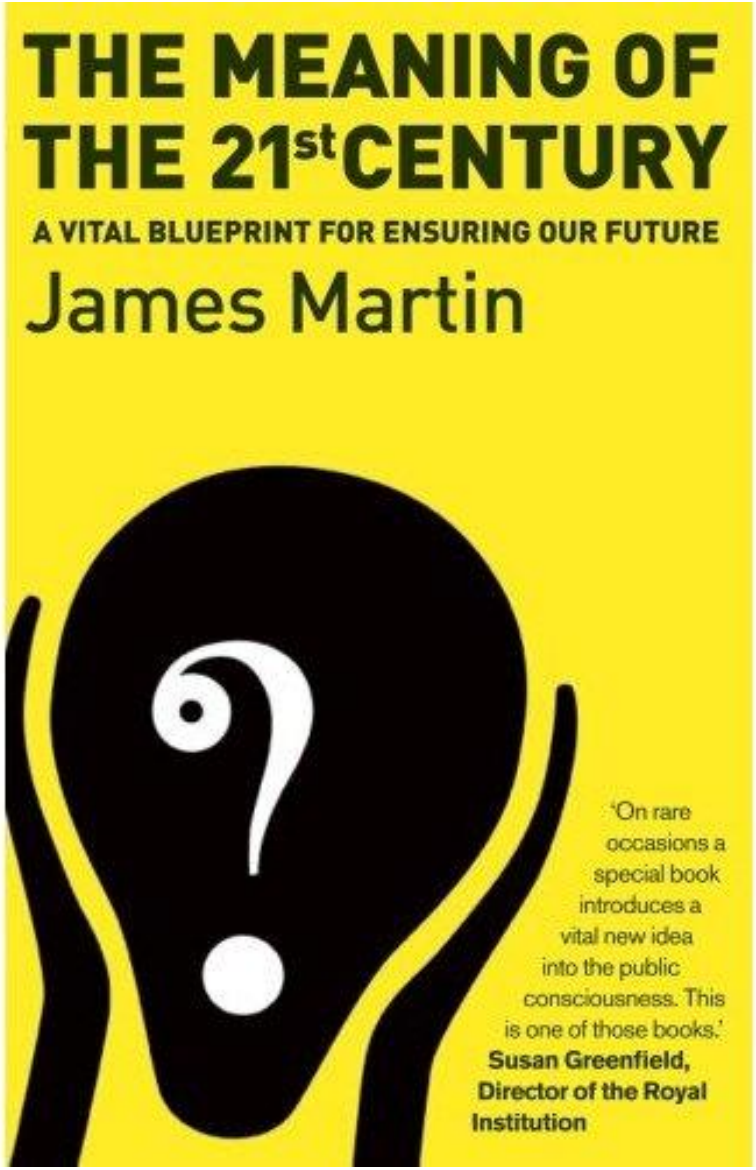
"Economic Growth does not translate into Human Development Progress" **2013 Human Development Report (United Nations)**


Deep Time! We are only here for 47.94 seconds!



4.6 billion years in one hour

More info @ http://deeptime.info/



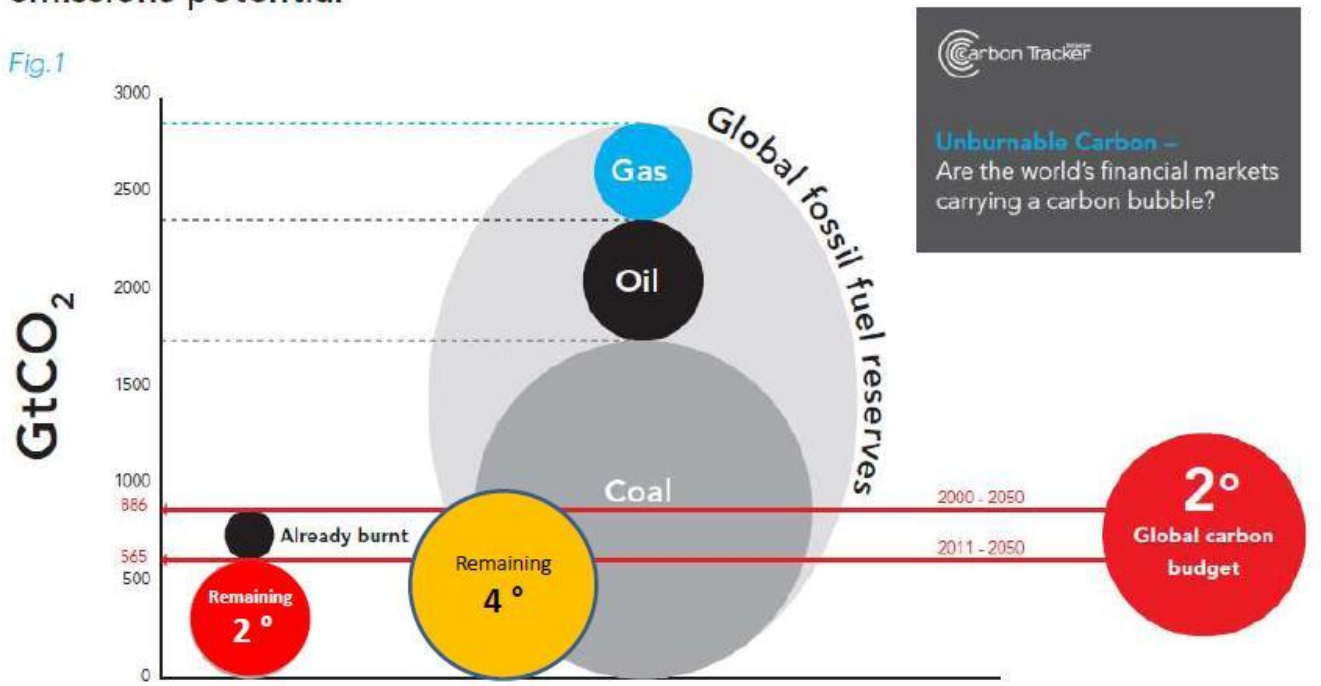
Dr James Martin, founder of Oxford Martin School.
More info @ www.jamesmartin.com

<u>16 Highlighted Mega Problems</u>

Global Warming
Excessive Population Growth
Water Shortage
Ocean Deaths
Mass Famine in ill-organized countries
The spread of Deserts
Pandemic AIDS
Extreme Poverty
Growth of Shantycities
Unstoppable Global Migrations
Non State Actors with Extreme Weapons
Violent Religious Extremism
Runaway Computer Intelligence
War that could end Civilization
Risks to Homo Sapien's Existence
A New Dark Age

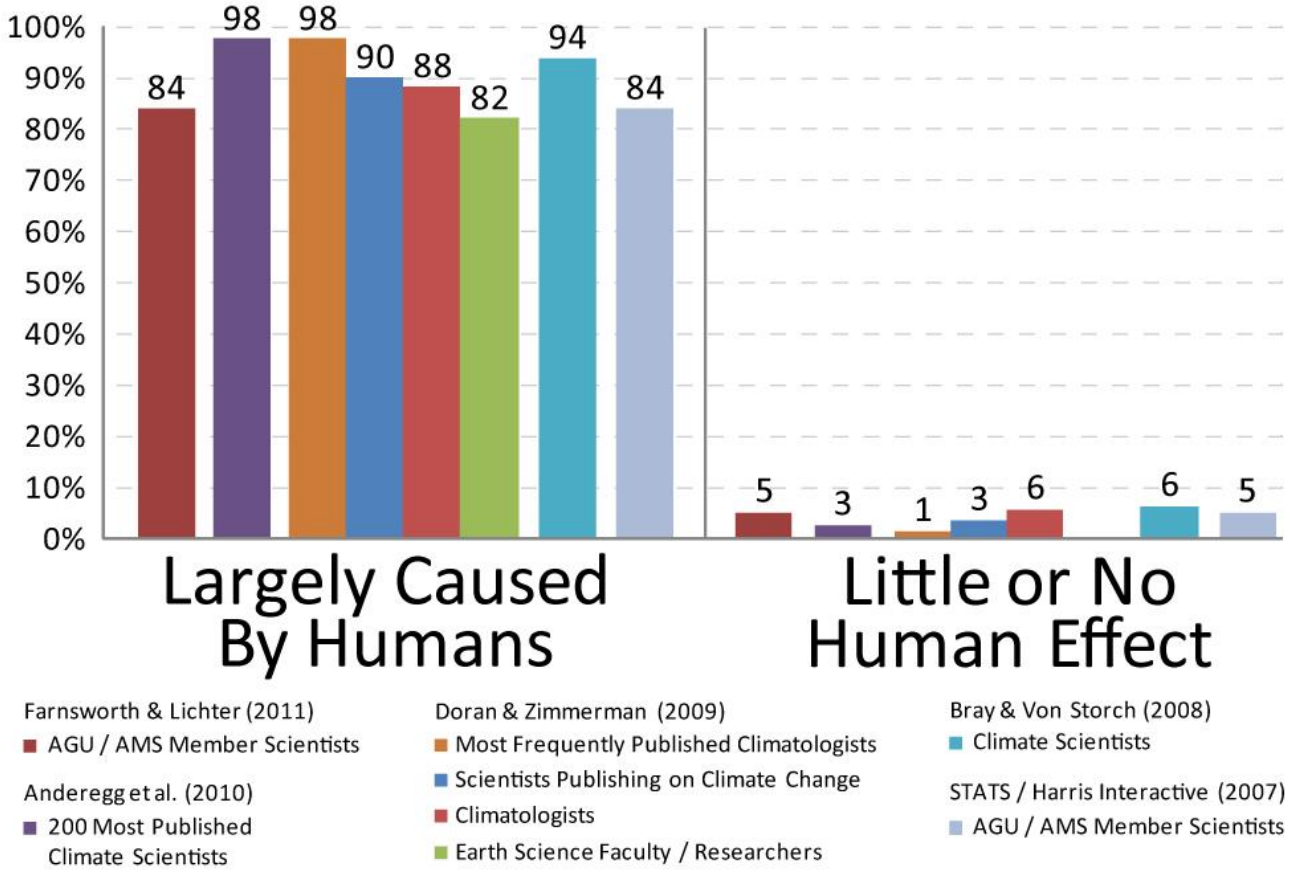
To keep temperature rise within 2˚C, climate scientists calculate that human activity can add **no more than another 565 gigatons**of carbon dioxide into the atmosphere **by 2050**. At present rates, (31 gigatons globally during 2011 and rising) this figure will be reached **by 2028**. (Bill McKibben, Rolling Stone 2/08/12)

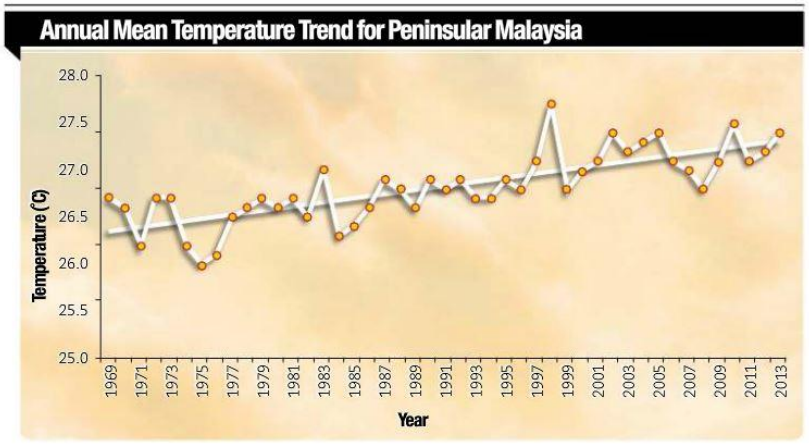
Comparison of the global 2°C carbon budget with fossil fuel reserves CO_2 emissions potential

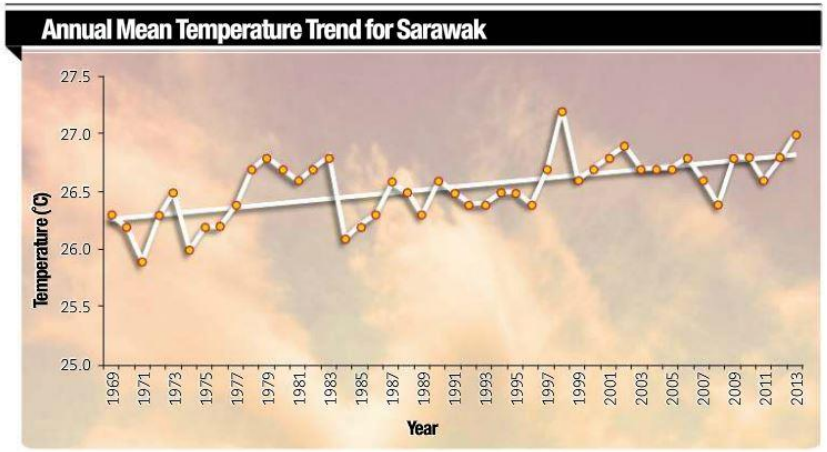


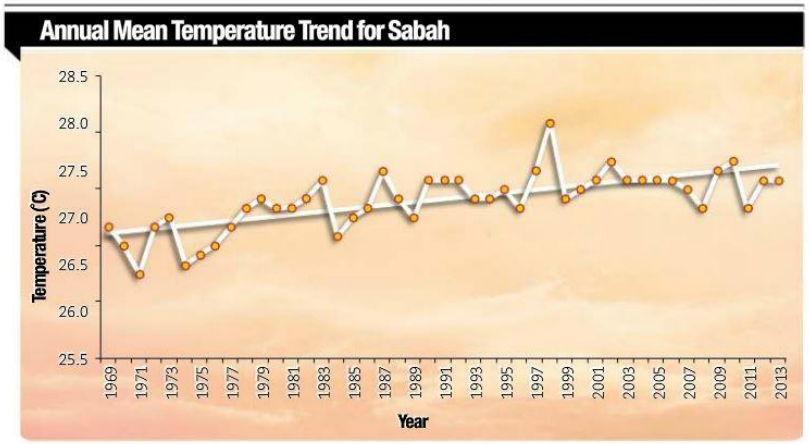
Link 2.

Opinions of Climate and Earth Scientists on Global Warming





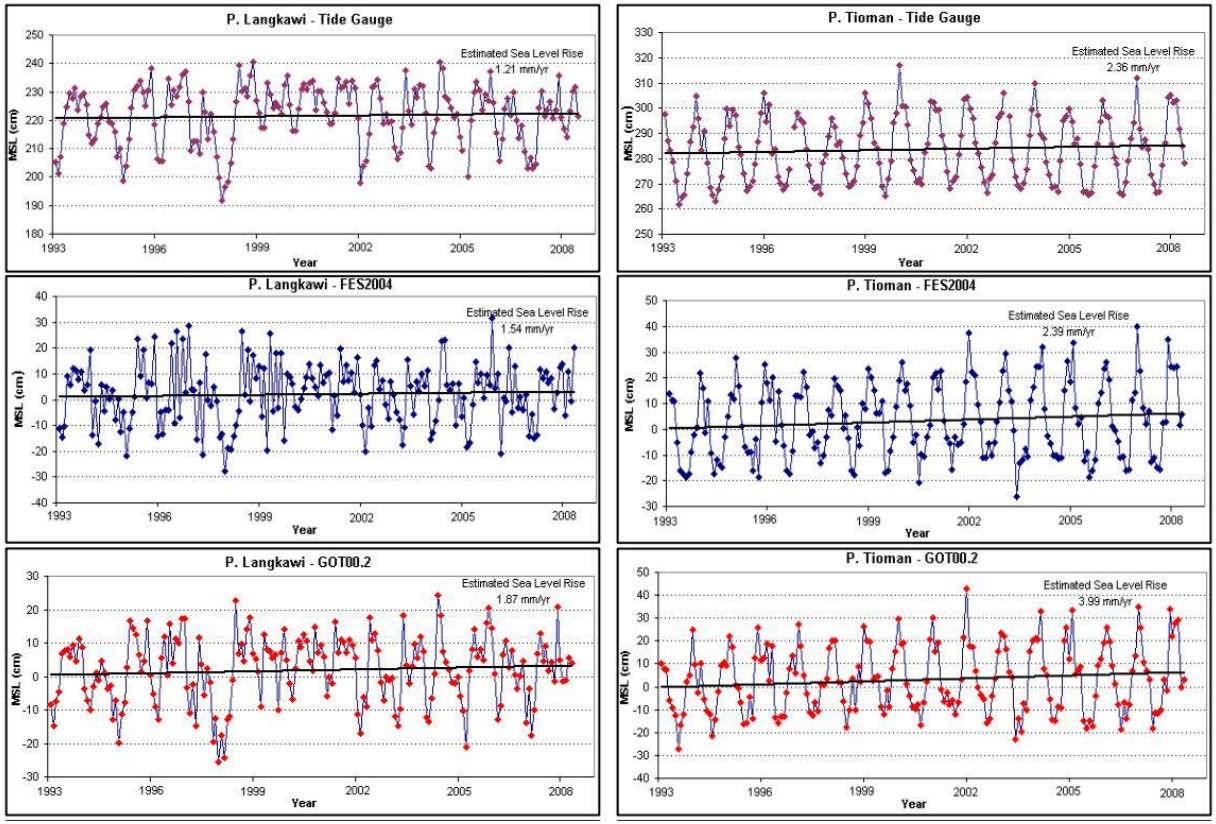




Average of 26.7°C in Peninsular Malaysia during 1969.

In 2013, 44 years later, more than 300 meteorological stations across the country gave an average temperature of 27.4°C, or an increase of 0.7 degrees. (source The Heat)

This can also be seen a rising of 0.02°C in the mean temperature annually, or 0.2 degrees every decade.



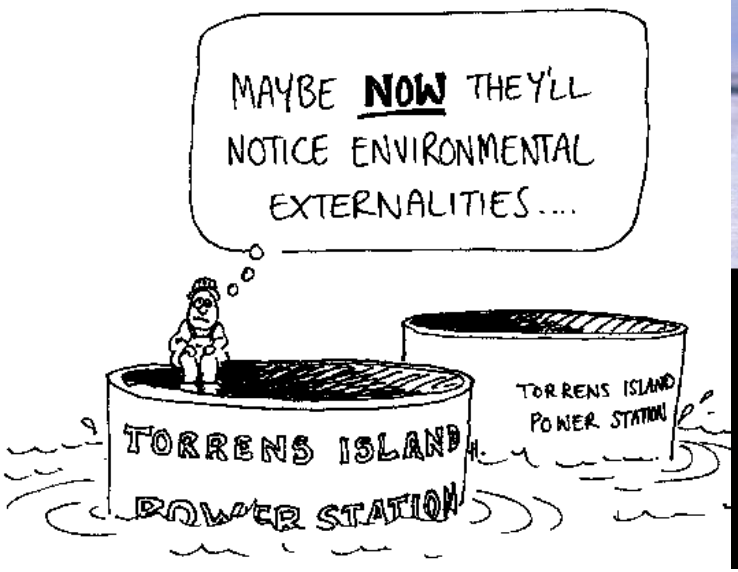
Sea Level Change in the Malaysian Seas from Multi-Satellite Altimeter Data" 2009 Ami Hassan Md Din, Kamaludin Mohd Omar

The altimeter sea level time series revealed that since 1993, the mean sea level in Malaysian Seas has been rising at a rate of between 1.42-4.08 mm/year.

We can observe a rising sea level of 14 – 41cm in 100 years!

Expensive for Planet.

Cost of fossil fuel does Not include externalities, yet we subsidize it!



Which is more green?

Understanding Your Energy Footprint

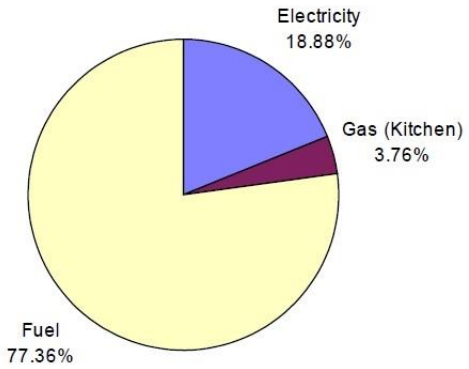
Source from Centre of Environment, Technology & Development CETDEM

Comparison of 2 CETDEM studies on household energy/electricity consumption.

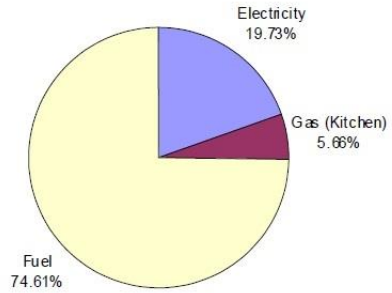
WCPJ – Working With the Community on EE at Household Level in PJ (50 Homes 205 Occupants) Year 2006

CACCET – Creating Awareness on Issues Related to Climate Change, Energy Usage, and Transport in Kajang and PJ. (20 Households with 101 samples) Year 2008.

Average Energy Consumption (%) – CACCET & WCPJ

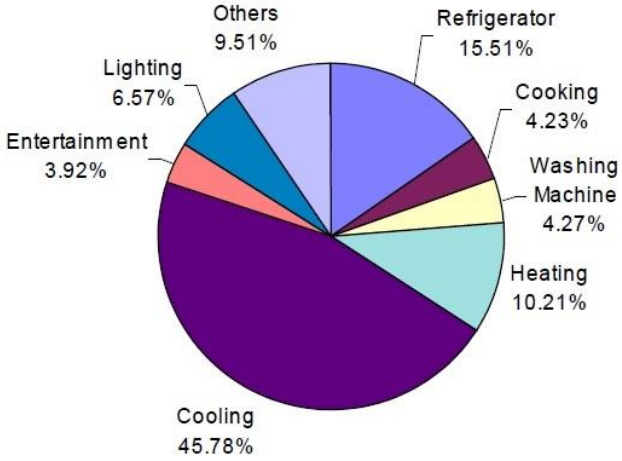


(i) CACCET (4,005 kWh)

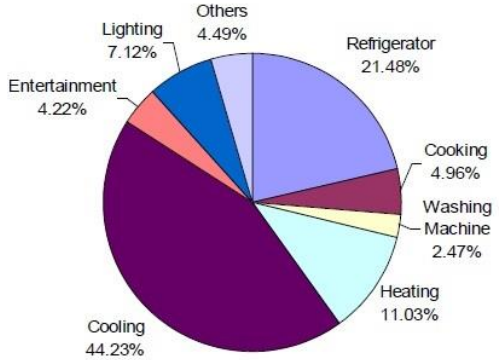


(ii) WCPJ (3,098 kWh)

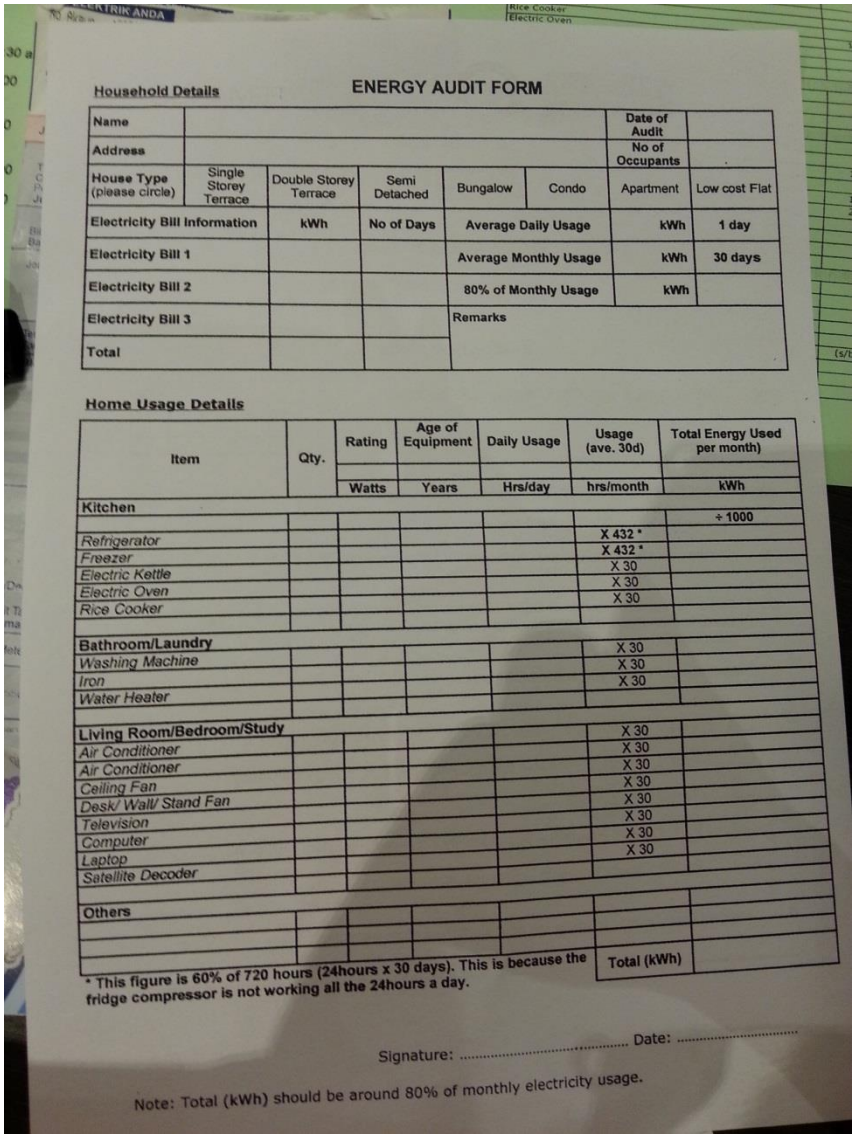
Average Electricity Consumption Breakdown (%) – CACCET & WCPJ



(i) CACCET (756 kWh)



(ii) WCPJ (592 kWh)



Household Details

ENERGY AUDIT FORM

Name						Date of Audit	
Address						No of Occupants	
House Type (please circle)	Single Storey Terrace	Double Storey Terrace	Semi Detached	Bungalow	Condo	Apartment	Low cost Flat
Electricity Bill Information		kWh	No of Days	Average Daily Usage		kWh	1 day
Electricity Bill 1				Average Monthly Usage		kWh	30 days
Electricity Bill 2				80% of Monthly Usage		kWh	
Electricity Bill 3				Remarks			
Total							

Home Usage Details

Item	Qty.	Rating	Age of Equipment	Daily Usage	Usage (ave. 30d)	Total Energy Used per month)
		Watts	Years	Hrs/day	hrs/month	kWh
Kitchen						÷ 1000
Refrigerator					X 432 *	
Freezer					X 432 *	
Electric Kettle					X 30	
Electric Oven					X 30	
Rice Cooker					X 30	
Bathroom/Laundry					X 30	
Washing Machine					X 30	
Iron					X 30	
Water Heater						
Living Room/Bedroom/Study					X 30	
Air Conditioner					X 30	
Air Conditioner					X 30	
Ceiling Fan					X 30	
Desk/ Wall/ Stand Fan					X 30	
Television					X 30	
Computer					X 30	
Laptop					X 30	
Satellite Decoder						
Others						
					Total (kWh)	

* This figure is 60% of 720 hours (24hours x 30 days). This is because the fridge compressor is not working all the 24hours a day.

Signature: ..... Date: .....

Note: Total (kWh) should be around 80% of monthly electricity usage.

Understanding Your Energy Footprint – Study it!

Understanding and Identifying The Energy Culprits in your Home.

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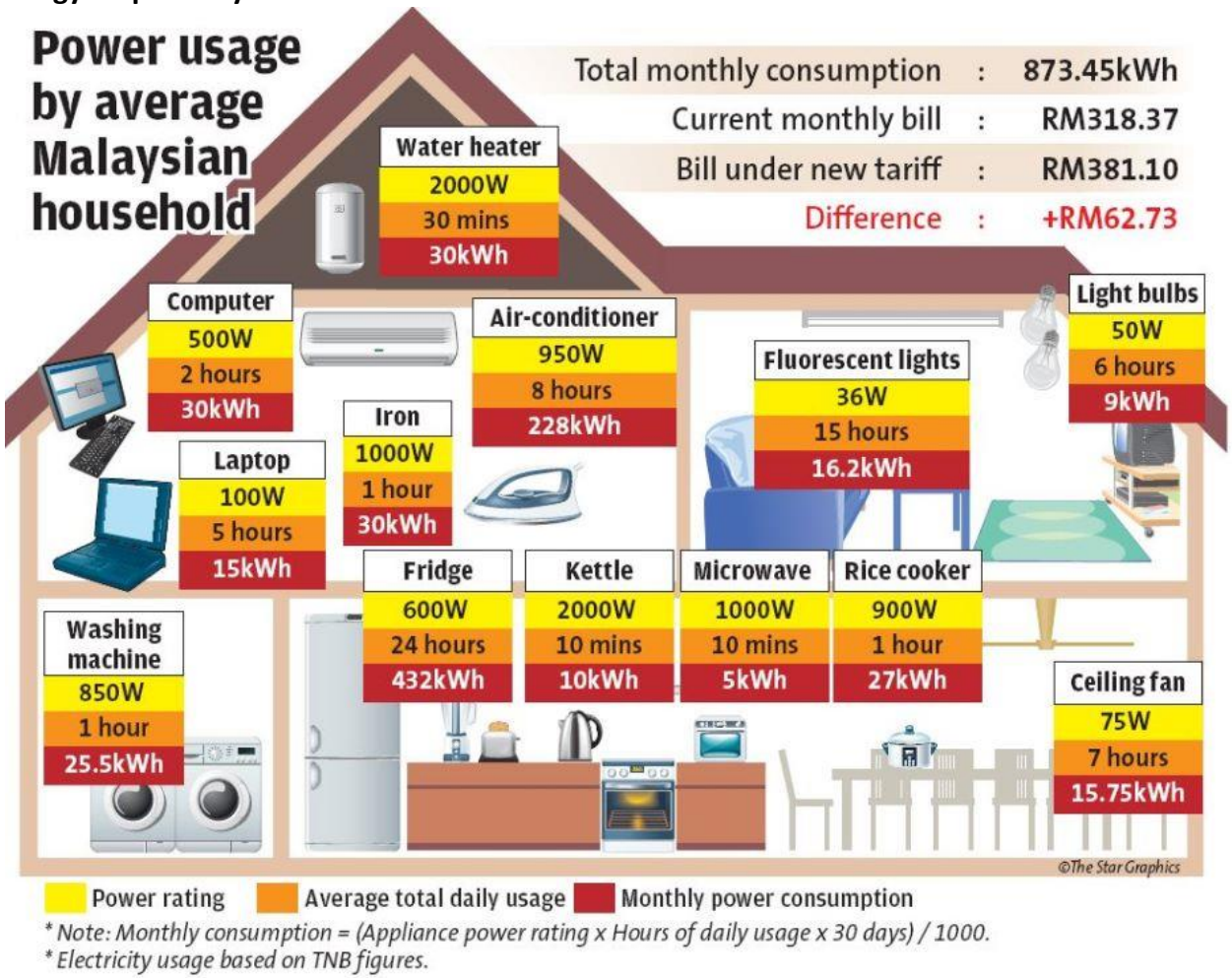
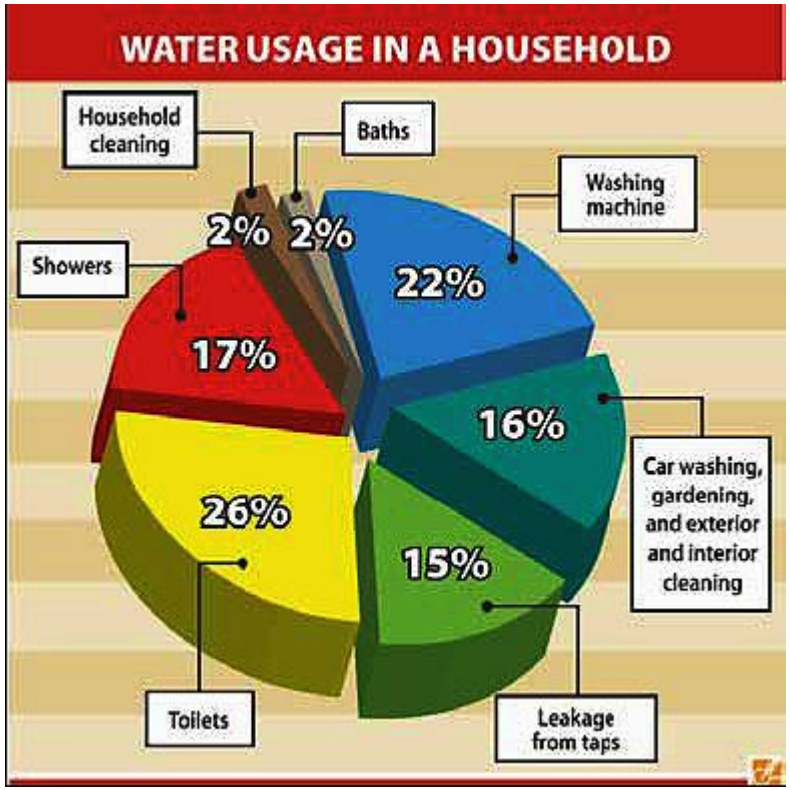


Understanding Your Water Footprint – Study it!

Study by FOMCA (Federal of Malaysian Consumers Association) involving 1,792 Households-

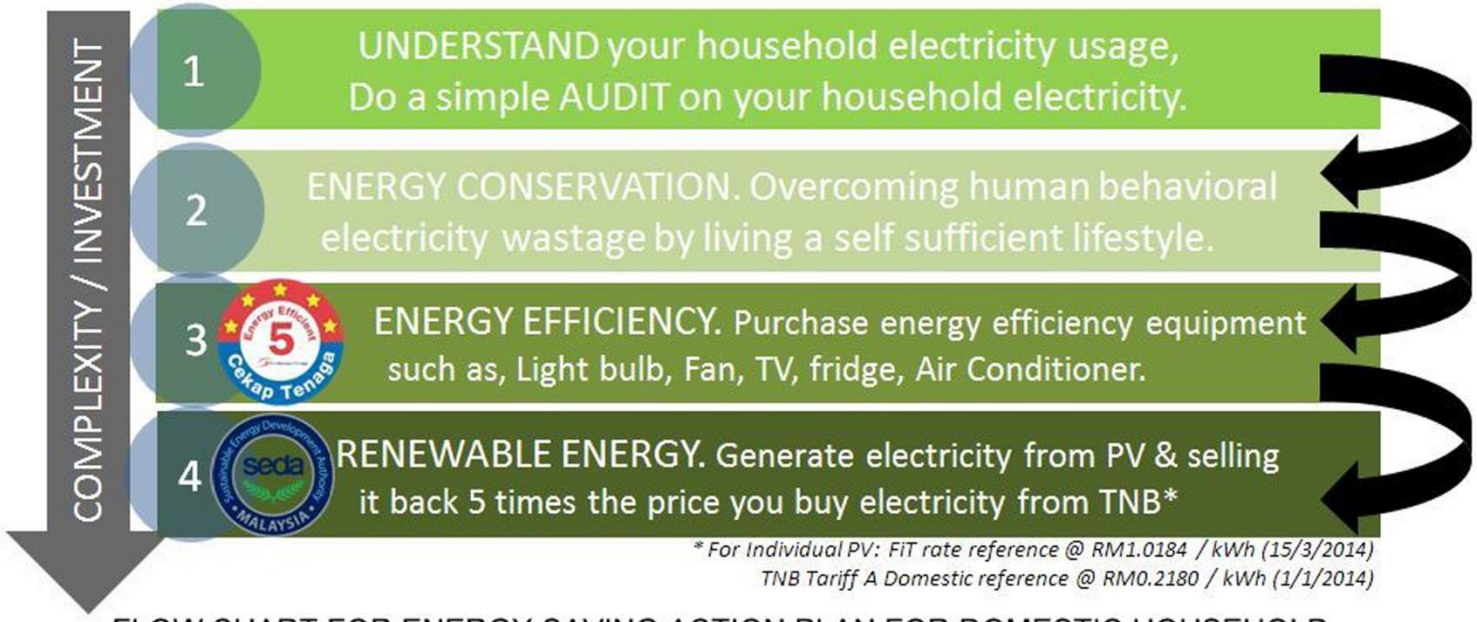
- 70% of those surveyed said they were not likely to reduce water usage for the next 3 years.
- Consumer only needs 80 litres of water a day (including 3 litres for drinking)
- 70% looked for leaks! But almost 50% rarely did or did nothing to fix the leaks.
- 40% of households did not use controlled shower heads.
- 42% agreed that water was unlimited. 80% did not know which river or reservoir their water supply came from.
- "It shows that people do not know their water service infrastructure and the seriousness of an impending water crisis" FOMCA President Datuk N.Marimuthu (Quoted in 2010)



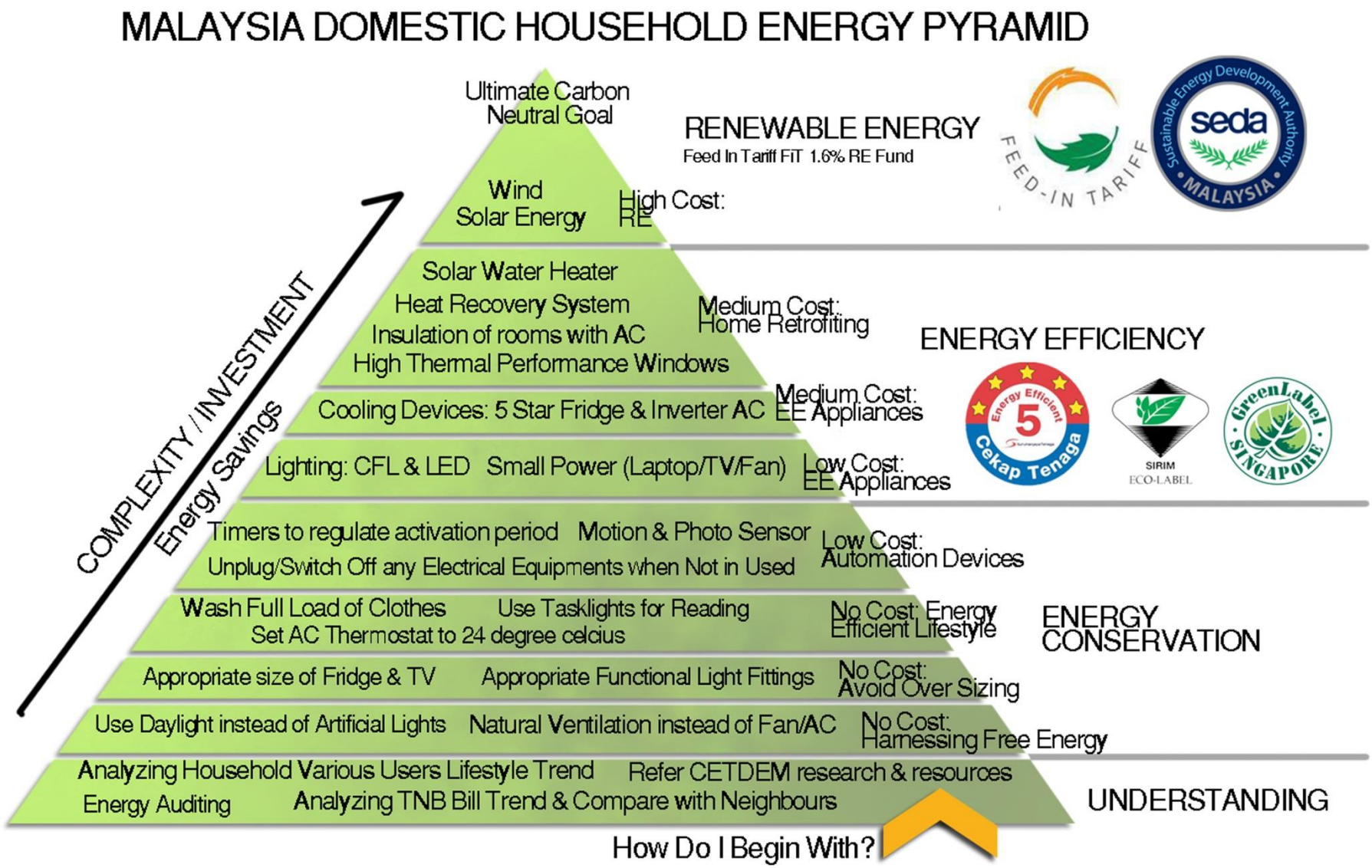
Going Green is Never Expensive.

Rule #1 USE ONLY WHAT YOU NEED!

"Earth provides enough to satisfy every man's need but not enough for any man's greed. " -Gandhi



FLOW CHART FOR ENERGY SAVING ACTION PLAN FOR DOMESTIC HOUSEHOLD


MALAYSIA DOMESTIC HOUSEHOLD ENERGY PYRAMID
Ultimate Carbon Neutral Goal
RENEWABLE ENERGY
Feed In Tariff FiT 1.6% RE Fund
FEED-IN TARIFF
Sustainable Energy Development Authority
seda
MALAYSIA
Wind
Solar Energy
High Cost: RE
Solar Water Heater
Heat Recovery System
Insulation of rooms with AC
High Thermal Performance Windows
Medium Cost: Home Retrofiting
ENERGY EFFICIENCY
Cooling Devices: 5 Star Fridge & Inverter AC
Medium Cost: EE Appliances
Energy Efficient 5 Cekap Tenaga
SIRIM ECO-LABEL
GreenLabel SINGAPORE
Lighting: CFL & LED
Small Power (Laptop/TV/Fan)
Low Cost: EE Appliances
Timers to regulate activation period
Motion & Photo Sensor
Unplug/Switch Off any Electrical Equipments when Not in Used
Low Cost: Automation Devices
Wash Full Load of Clothes
Use Tasklights for Reading
Set AC Thermostat to 24 degree celcius
No Cost: Energy Efficient Lifestyle
ENERGY CONSERVATION
Appropriate size of Fridge & TV
Appropriate Functional Light Fittings
No Cost: Avoid Over Sizing
Use Daylight instead of Artificial Lights
Natural Ventilation instead of Fan/AC
No Cost: Harnessing Free Energy
Analyzing Household Various Users Lifestyle Trend
Refer CETDEM research & resources
Energy Auditing
Analyzing TNB Bill Trend & Compare with Neighbours
UNDERSTANDING
How Do I Begin With?
COMPLEXITY / INVESTMENT
Energy Savings

19 page detail Item Purchasing and Usage Guide for Home Owners

Download at: http://blog.japhethlim.com/wp-content/uploads/2013/07/Green-Building-Purchase-Guide-IEN-Consultants-rev21.pdf

Set a Target! Challenge yourself with <RM20!

Home > Residential > Discounts, Rebates and Offers > RM20 Government Subsidy

RM20 Government Subsidy

Print this page

A RM20 subsidy on monthly electricity bills is provided by the Malaysian Government to all eligible TNB residential customers. This rebate has been offered since 1 October 2008.

This rebate is offered to **residential customers only.**

Electricity bills amounting to RM20 or less are eligible to receive this rebate, and this amount already includes any applicable discounts. Outstanding amounts, late payment charges or any other charges are excluded from this RM20 bill total.

You will still continue to receive your monthly electricity bill. This rebate will appear in your monthly electricity bill as`Govenment Rebate - dibiayai oleh Kerajaan Malaysia.' Please check your monthly bill for any outstanding amounts.

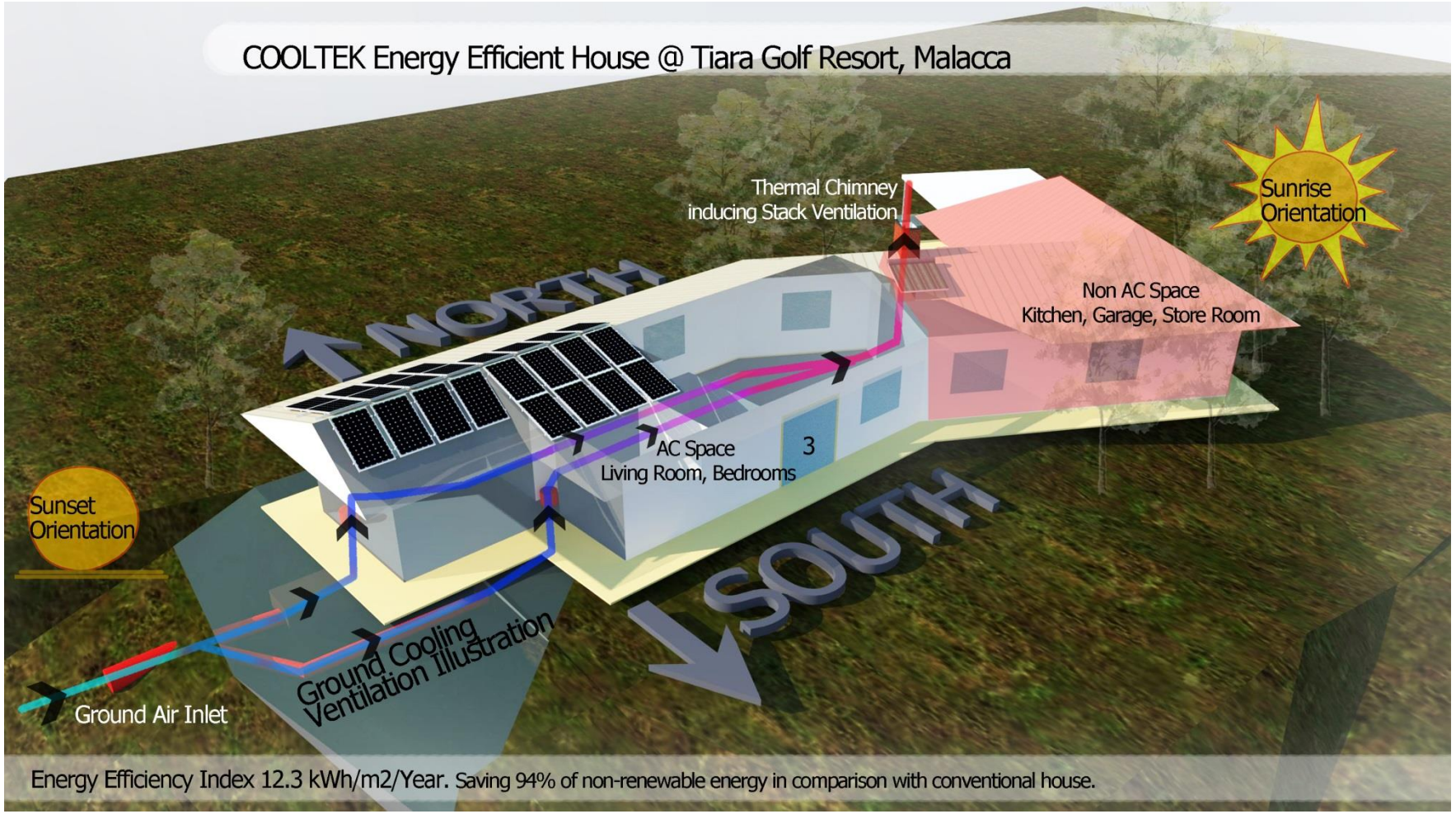
Residential customers who have a monthly reading of 0kwh (kWh) a month, e.g. vacant premises, are **NOT** eligible for this rebate.

Source: http://www.tnb.com.my/residential/discounts-rebates-and-offers/rm20-government-subsidy.html

Cooltek Home as an example...

COOLTEK @ Tiara Golf Resort

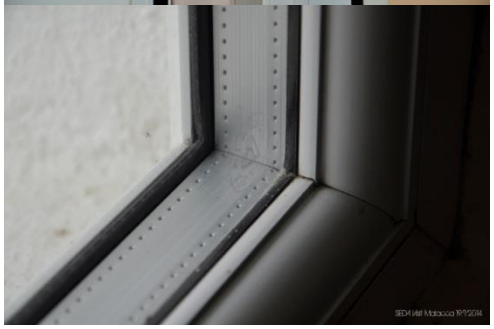
Cooltek Home as an example...

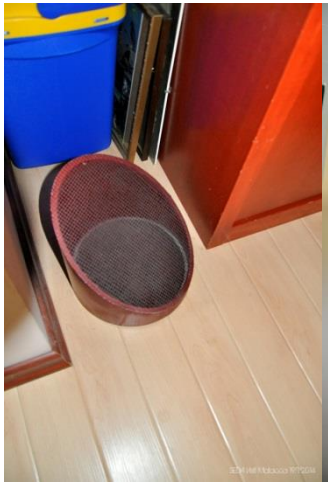


COOLTEK was designed to use AC continuously and is therefore a sealed building, preventing loss of the cooled air- conditioned air to the outside. It is a small, simple building with minimal decoration, thus ensuring Energy Efficient in design.

Cooltek Home!

More info at www.cooltek.org





Cooltek Home!

More info at www.cooltek.org

COOLTEK

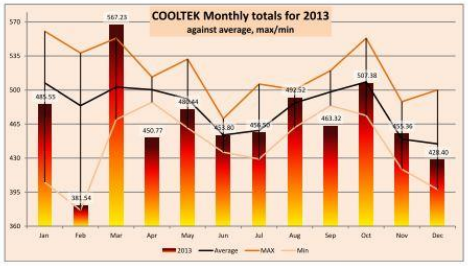
350 Jalan Woodland, Tiara Melaka Golf & Country Club, Ayer Keroh, 75450 Melaka

4.8 kWp BIPV SYSTEM FOR DECEMBER 2013

UNDERSTANDING YOUR HOME AS YOUR HABITABLE SPACE INSTEAD OF AN INVESTMENT!

During the month of December, 426kWh were generated, 4% below the December average generation of 445kWh.

This December was cooler than December 2012 with an average temperature of 26.5°C. The highest temperature recorded during the month was 36.2°C on 13th December. The temperature reached 32°C on 24 days in December.

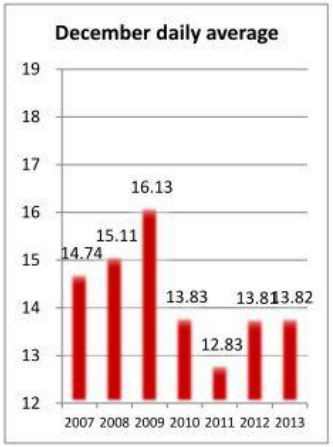


With 31 days in December, the installation was generating for a total of 343 hours.

Average daily solar electricity generated for the month was 13.82kWh, practically the same as last year and 2010.

The system generated 108% of the electricity of that was consumed by COOLTEK, helped by the fact that is was unoccupied for four days while I was in Kuala Lumpur.

The average daily generation for the year 2013 is 15.40kWh and the average since the system was installed in December 2007 is now 15.78kWh.



Thank you!

Contact me @ geneharn@ien.com.my

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