A Little Green Guide to Eco-Friendly Living
“Be the change that you wish to see in the world” – Mahatma Gandhi

As a student of NUS, one of the leading universities in Asia, you have an unparalleled opportunity to shape the future. The research conducted by you and your professors in NUS will help to advance our knowledge in the fields of solar cell technology, climate change and sustainable construction to name just but a few.

The challenges facing the planet may seem daunting and overwhelming but we as individuals can make a difference. The simple tips and ideas in this booklet can help all of us move to a more sustainable lifestyle.

As a university NUS is committed, through the construction of greener buildings, environmental awareness and the use of renewable technology to reduce its carbon footprint by 23% by 2020 from business as usual (BAU) levels. Together we can achieve this.

Office of Environmental Sustainability

2 Estate Office Drive, Clementi
Singapore, 117587

Open:
Monday to Thursday, 8.30am – 6.00pm
Friday: 8.30am – 5.30pm

For more information on sustainable events, what we are doing and green tips why not …

Like us on Facebook: Office of Environmental Sustainability
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Or visit our website: http://www.nus.edu.sg/oes/
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“As a leading university, NUS is in a unique position to take on a leadership role on climate change. As a community, we can strategize and organize effective action. As laboratories for learning and centres of research, we can reduce our own emissions of greenhouse gases. We can educate our students about climate change. We can also direct scholarly attention to issues related to climate change. There is a lot we can do.”

Professor Tan Chorh Chuan
Purchasing

All products have a carbon footprint accumulated through their manufacture, transportation and storage and many continue to do so by their use of natural resources, such as paper and electricity.

- The best way to be green is not to buy anything in the first place. Always ask yourself; do I really need this? Can I use something I have already got or buy it second hand? Also, it saves you money!!

- If the answer is ‘no’ to all those questions, then buy green. This is a great way to reduce your carbon footprint (and feel better about buying stuff).

- Choose CFL or LED Light Bulbs instead of incandescent ones. They give out the same light but use 75% less energy and lasts at least six times longer\(^1\). It’s a win, win situation!

\[\text{CFL} \quad \text{LED} \quad \text{Incandescent}\]

- Purchase recycled goods or items which can be recycled.

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**Did you know?**

A laptop uses up to 85% less electricity than a desktop. Save the earth, ditch the desktop for a laptop.

Source: BBC, Opting for a laptop computer; http://www.bbc.co.uk/bloom/actions/laptops.shtml

\(^1\) Energy Star, Light Bulbs; http://www.energystar.gov/index.cfm?fuseaction=find_a_product.showProductGroup&pgw_code=LB
Know your Labels!

What it all means:
1. **Ticks** - the number of ticks indicate how energy efficient the electrical item is, it is ranked from zero to four
2. **Energy Efficiency Rating** - this corresponds to the ticks with four ticks being excellent, three being very good, two being good, one being fair and zero being low
3. **Energy Consumption**
4. **Capacity**
5. **Type of Appliance**
6. **Brand Name**
7. **Model Number**
8. **Test Standards**
9. **Disclaimer**; ‘Actual energy consumption may vary from test results’
10. **Registration Number**

For more information see: http://app.nea.gov.sg/cms/htdocs/article.asp?pid=2844
What it all means:
1. **Ticks** - the number of ticks indicate how water efficient the item is, it is ranked from zero to three
2. **Water Consumption** – measured in litres per minute
3. **Type of Product**
4. **Brand Name**
5. **Model Number**
6. **Registration Number**

For more information see:
http://www.pub.gov.sg/wels/Pages/default.aspx

- **Other Logos...**

This tells you the product is organic. It has grown without the use of chemical pesticides and fertilisers. If meat products have this logo then they have been fed organic feed.
Applies to all products except food, drink and pharmaceuticals. It is awarded only once the product has meet the criteria set out by the Singapore Environment Council.

Only relates to tropical agricultural products (e.g. coffee, bananas, pineapples and cocoa). It tell you that the production of the food is both ethical and environmentally friendly, especially the surrounding the conservation of tropical rainforest.

The Marine Stewardship Council awards this if the seafood has come from a sustainable fishery.

If wood or products that have been manufactured using wood (e.g. paper) have gained this label then the timber used to make the product has been sustainably sourced.

**Beware!**
A lot of companies may claim their products are ‘eco-friendly’ or ‘green’ but these are, in the corporate world, fairly meaningless terms. Always look for a label instead of just words.
Electronics

Everyone knows a computer and printer are fairly essential as a student, whether for doing work, watching films, googling or going on Facebook. But, if you follow these simple steps then you can dramatically reduce their paper and energy consumption. Saving you money and the environment.

Computer

- Screen Savers may look nice but they can consume twice as much energy! Furthermore, they stop the computer from going into sleep mode\(^2\). Put the screen saver setting to ‘none’ or ‘blank’.

- Enable the power-saving features on your computer
  - Turn on all the options (e.g. putting the hard disk to sleep when possible).
  - Allow the computer to turn off the display after 5-10 minutes and put the computer to sleep after 10-30 minutes\(^3\).

- One really easy way to save power is to reduce the brightness of the computer screen by a couple of bars. In addition, it means your battery (if you are using a laptop) will last longer.

- You have probably heard this a million times but remember to turn off your computer when you are not using it for a while.

- Buy a Smart Power Strip. They work like conventional Power Planks so provide you with an easy way of turning off a lot of devices at once and more plug sockets. But Smart ones protect your computer against power surges and can sense when your computer is turned off or on sleep mode so stop/reduce its power supply accordingly. Very clever.

\(^2\) Energy star, Frequently Asked Questions; http://www.energystar.gov/index.cfm?c=power_mgt.pr_power_mgt_faq
\(^3\) Energy Savers, When to turn off personal computers; http://www.energysavers.gov/your_home/appliances/index.cfm/mytopic=10070
Myth Busters

1. ‘Turning your computer on and off wears the computer out’ – Modern computers are designed to last for 40,000 on and off cycles before failure. That means the computer can be turned on and off each day, every day for over 50 years!! And actually turning off the computer makes it last longer.

2. ‘It’s not worth turning the computer off as it uses more energy to turn it back on again then just leaving it on’ – This is partly true. As a rough guide turn your computer off if you are not going to use it for 20 minutes.

3. ‘When appliances are turned off they don’t use any energy’ – They do unfortunately, so always unplug if you are not going to use it for a while (e.g. going on holiday).

Vampire Slayer

• Even when electronic devices/chargers are not being used or ‘off’, if they are plugged in they will still suck energy. Pull the plug, slay the vampire.

Did you know?
By switching font from Arial to Century Gothic you can save yourself a fortune in ink cartridges. 30% less ink is consumed by switching!! And why not save more by refilling your used ink cartridges instead of buying brand new ones.

Printing

- Some simple printing tips to conserve paper and ink:
  - In your printer settings turn ‘economy mode’ on. This reduces the amount of ink the printer uses and generally the difference in quality is unnoticeable.

  - Reduce the margin size. Margin sizes are set at a default of 1.25” but by switching to moderate (0.75”) results in a paper reduction of

Prices are in US Dollars
4.75%. This doesn’t sound a lot but if everyone in the US did it for a year over 6 million trees would be saved!!

- Preview all documents before printing to check that all the space on the paper has been used efficiently.

- Make use of single-sided draft paper for rough work like essay plans and calculations.

- Print double-sided. This can be done by going to printer settings. If your printer doesn’t print double-sided, don’t despair. Follow these steps...
  1. From the File menu, click Print
  2. Under Page Range, enter the odd-numbered pages
  3. Click Print
  4. Remove the printed pages and turn them (face-down) 180° so the text at the top of the page is now at the bottom
  5. If there is an odd number of pages in the document, remove the last page
  6. Put the rest back in the feeder tray
  7. Repeat the printing process but now selecting even-numbered pages
  8. If you removed a page at point 5, now add it to the bottom after printing

- Once your ink cartridges have run out, why not refill them, recycle them and buy remanufactured ones.

What’s going on in NUS...
The Save3s campaign is encouraging the double sided printing, you can now submit work double sided and the reuse of single sided paper

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4 Science Lush, Change the Margins; http://sciencelush.typepad.com/change_the_margins/stats-how-much-will-i-rea.html
5 Information from WikiHow, How to Print Double Sided; http://www.wikihow.com/Print-Double-Sided
Room

- Turn off the lights when you don’t need them. When you leave the room or when it’s bright and sunny outside just flick the switch.

- Air conditioners use a phenomenal amount of electricity. In Singapore they are essential but try to use them sparingly and turn them off when you leave the room.

**Did you know?**

By turning the thermostat on the air conditioner up by 1ºC, energy consumption drops by as much as 10%. That’s why at NUS, there is a 1 Degree Up campaign.


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Studying

- With the cool breeze flowing through the campus and the nice workspaces in the Education Resource Centre, why not study outside? This saves energy required to cool and light rooms, plus you get the bonus of fresh air.

- Reuse single sided paper for rough work and once you are done with your notes recycle them at the various recycling points around campus.

- Taking notes in lectures is really helpful but not very good for the environment. But by using your laptop to take notes, you save on paper and ink and notes are far harder to lose. If you hate looking at computer screens and prefer the traditional way, look for notepads made of recycled paper.
Bathroom

Water conservation is hugely important in Singapore, a country with a very finite supply of water but large demand. Bathrooms are really ground zero in this area. A huge amount of water can be used in a very short space of time whilst showering and washing. But through slightly altering your daily routine a lot of it can be saved.

- The average Singaporean uses 153 litres of water per day! I know what you must be thinking, how can I use 153 litres of water a day? That’s huge! Well its simple, 9 litres of water are used every minute you are in the shower\(^6\). But luckily the solution is simple too, shorten your shower and reduce the water pressure can make a massive difference. Also, try a cold shower, after a hot and humid day in Singapore it’s a nice way to cool down quickly.

- Make use of the dual flushing function on university toilets. This is a very easy way to use water more efficiently.

- Turn off the taps whenever possible and the bathroom lights when you leave the room.

- When buying toiletries such as shampoo and shower gel look at the label. Is it made from environmentally friendly products? Can I recycle the bottle after use? How sustainable is the manufacture of this toiletry?

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Challenge yourself...
Take part in the 10-litre challenge run by PUB and the Singapore Environment Council (SEC). Follow the link below:

Food

Probably the biggest impact you have on the environment as a student at NUS is felt when you eat. The production of food is both energy (to power all the farming equipment, transportation, chemical fertilizers and pesticides) and water intense. Furthermore, local habitats and ecosystems are constantly threatened by the ever increasing demand for food requiring more and more land. But it doesn’t have to be this way.

• The biggest, easiest and cheapest way to reduce your food carbon footprint is to reduce the amount of meat you eat. This doesn't mean you have to turn vegetarian overnight, maybe have a vegetarian lunch once or twice a week.

The figures behind our love of meat are staggering...

➢ 51% of global greenhouse gases are produced through the farming and production of meat
➢ 30% of the earth ice-free land surface is used by livestock or producing food for livestock
➢ 70% of water available to humans is used for farming – the vast majority for arable farming
➢ To produce a pound of beef requires 9,000 litres of water

Source: http://www.guardian.co.uk/lifeandstyle/2010/jul/18/vegetarianism-save-planet-environment

• Buying local and organic food can dramatically cut the amount of energy required to produce the food, eliminating much of the energy used both in transportation of the food and the production of chemical fertilizers and pesticides.

What NUS is doing...

• Eco-Food courts – NUS food courts are progressively gaining eco-food court status by the Singapore Environmental Council (SEC).
This certifies that the food court is actively reducing its environmental impact as well as raising awareness on sustainability.

- **Biodiesel** – since October 2008, used cooking oil in NUS canteens has been converted to biodiesel. So far over 7,200 liters of used cooking oil has been recycled.

**Campaigns in NUS**

**Rebate2Earth**

**It pays to reuse** – get a $2 reward when you bring your own container to NUS’ canteens ten times for takeaways and 50-cents by bringing your own tumbler.

**It costs to use** – there’s a 10-cents tax for every plastic bag.

**Food4Thought**

Go Veggie every Thursday. All stalls in the canteens on Thursday will serve a vegetarian dish.
Waste

The average Singaporean generates over one ton of waste a year! And much of this is thrown away and incinerated. 24% of Singapore’s total waste incinerated was plastic, over 23% was paper and cardboard and 19% was food waste – most of this could have been recycled. But it’s not too late to act...

- At NUS, there is an extensive recycling program where paper, cardboard, plastics, cans, printer ink cartridges, mobile phones and pens can be recycled.

- Look out for the various recycling points

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General recycling Points like this one are located throughout the campus.
The yellow bin is for cans
The green bin is for plastics
The blue bin is for paper
And the Green/ Grey bin is for general waste

- Check the top of the recycling bins to know what to recycle and what to put into the general waste bin.

Did you know?
NUSSU group SAVE are running a ZeroWaste campaign encouraging and educating students about recycling
Laundry

- Only use the washing machine if you have a full load. This is both more cost effective and economical. Maybe combine loads with my roommates if you don’t have a small amount of washing.

- Wash on a colder setting, e.g. ‘bright colors’ setting. This reduces the amount of energy used by the machine and stops the colour of the clothes from bleeding.

- Try to limit the amount of washing you do. Clothes don’t have to be washed constantly. Furthermore, excessive washing can wear the fabric of the clothes, so they won’t last as long.

- Singapore’s hot climate is ideal to drying clothes. Why waste money using a tumble dryer, which also uses a lot of electricity.

- If you have to use a tumble dryer, put it on for a shorter time then check to see if the clothes are dry. This both save money and the environment.

- Tumble dryers are a lot bigger than washers. Why not combine loads with a friend – this is more economical, environmentally friendly and makes washing more social.

Transport

- There’s really no need to drive in the NUS campus, the shuttle buses are free and frequent. If you want to travel outside campus, there are regular bus services as well. In addition, two MRT stations are close by (Kent Ridge Station and Dover).
New!
Look out for the new cycle share scheme. 30 NUS bikes will be available around campus for you to use and new cycle routes are being mapped out.