

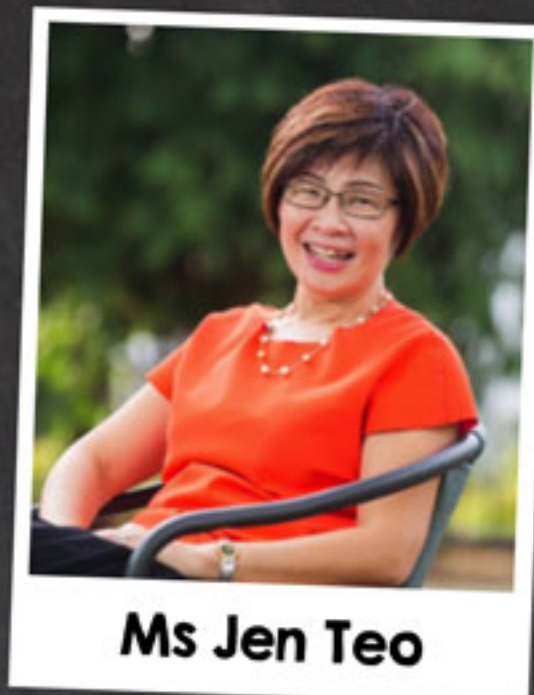
SECLITE

2017 ISSUE 2

A PUBLICATION OF THE SINGAPORE ENVIRONMENT COUNCIL



Ms Isabella Loh



Ms Jen Teo

WANT TO LIVE GREEN? START FROM YOUR HOME!

IN THIS ISSUE OF SECLITE, WE HOPE TO INSPIRE YOU TO LIVE GREEN – STARTING WITH AN INFORMATIVE Q&A WITH OUR CHAIRMAN, MS ISABELLA LOH, AND EXECUTIVE DIRECTOR, MS JEN TEO. READ ON AS THEY SHARE HANDY TIPS TO HELP YOU GET STARTED ON YOUR GREEN JOURNEY!

Q: WHAT INSPIRED YOU TO LEAD A GREENER LIFESTYLE?

Isabella: It began at a young age, when it was necessary to reuse discarded bottles and tins to store food. Back then people used much less plastic packaging. Today, when I visit an electronics shop, I would remove most of the packaging from the product and return it to the store for disposal. I do the same when I purchase cosmetics and beauty products. Hopefully, this will help retailers and manufacturers to realise how much packaging they use, and take action to reduce waste.

Q: CAN YOU SHARE A FEW ECO-FRIENDLY LIFEHACKS WITH OUR READERS?

Isabella: Wish to make full use of tube-based products like creams? Cut the top of the tube and be sure to empty it before you throw it away. This simple trick works for day-to-day items like cosmetic products and lotions. Save every drop and reduce waste!

You can also reduce waste by buying items in smaller sizes or with smaller packaging. For example, avoid buying 1.5 litre water bottles or sauces in large portions if you can't finish them. We may feel inclined to buy in bulk to save money, but cheaper isn't necessarily better or greener as you discard them once they expire.

Jen: There are plenty of easy ways to live a little greener, and most ideas cost little to no money. For example, you can start by replacing your chemical cleaners and funky air fresheners with essential oils. This works especially if you love to DIY recipes, and there are plenty available online.

Another quick tip – which takes only about 10 minutes of your time – is to stop junk mail. Review your existing subscriptions and opt out of mailers you no longer need. You'll be saving paper, fuel and other resources used in producing and mailing unwanted catalogues.



Singapore
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DON'T LEAVE ME RUNNING!

The cost of water is a hot topic in Singapore following the Government's announcement in February that water prices will increase for the first time in 17 years.

The first increase will be on July 1 this year, followed by a second on July 1, 2018. These price hikes, together with taxes, will increase the cost of water by 30 per cent.

WHY IS THERE A PRICE HIKE?

The Minister for Environment and Water Resources, Mr Masagos Zulkifli, explained the growing demand for water could only be met by desalination, even though it is more expensive than NEWater, because there is a limit to how much used water can be treated in NEWater plants.

The Minister said water will remain affordable – rising by less than \$25 a month for most businesses and less than \$11 a month for those living in HDB flats.

IN PREPARATION FOR THE PRICE HIKE, HERE ARE FIVE HABITS YOU CAN ADOPT TO HELP YOU CONSERVE WATER AT HOME:



1. MONITOR YOUR WATER BILLS

Monitor your water bills to see where you use the most water. If your water consumption is above the household average, review your family's water usage habits.



2. TAKE SHORTER SHOWERS

Remember to keep the shower under five minutes and turn it off while soaping. Also, turn off the tap when you're brushing your teeth.

You can also request for a free Water Saving Kit from the Public Utilities Board (PUB), which comes with thimbles to fit on your taps and showerheads to help you regulate water flow.



3. REUSE RINSE WATER

Reuse rinse water from the washing machine by collecting it in a bucket for flushing toilets or washing the car. Rinse water from washing your rice can also be reused to water your plants.



4. REPAIR LEAKS PROMPTLY

Prevent water wastage by repairing leaks or dripping taps promptly.



5. CHOOSE WATER-EFFICIENT PRODUCTS

Look out for products that carry PUB's Water Efficiency Labelling Scheme (WELS) label, which helps you identify water-efficient products like taps, washing machines and showerheads.

BAGGING THE PLASTIC HABIT

Plastic bags have a bad reputation with environmental groups repeatedly calling for retailers to charge for these thin plastic carriers. Cities like the United States, China, the United Kingdom and France have all taken steps to reduce the use of plastic bags by charging for them, promoting the use of alternatives or by banning free plastic bags entirely.

So what exactly is the problem with the use of plastic bags?

THE SITUATION IN SINGAPORE

According to statistics from the Ministry of the Environment and Water Resources, Singaporeans use around 2.5 billion plastic bags a year – that's a lot!

Although people reuse plastic bags to dispose of their waste at home, the reality is that we use an excessive amount of plastic bags and they end up being wasted. The adverse impacts of using excessive plastic bags are undeniable. Discarded plastic bags may end up blocking drains, littering streets and contaminating oceans where fish and other marine animals eat them or get tangled up in them.

Excessive use of plastic bags contributes to the waste of non-renewable oil resources and the generation of carbon dioxide emissions from incineration. As much as 37 million kilograms of crude oil and 12 million kilograms of natural gas were required to manufacture 3 billion plastic bags in 2011, according to a paper by the Singapore Environment Council.



REDUCE, REUSE, RECYCLE

As consumers, reducing our use of plastic bags is perhaps one of the simplest and most effective ways we can help to protect the environment and reduce waste.

HERE ARE SOME TIPS TO HELP YOU REDUCE YOUR PLASTIC BAG USAGE:



- **USING LESS PLASTIC BAGS**

Cashiers are often instructed to separate different types of groceries into different bags. Ask the cashier to bag more items per plastic bag.

- **DECLINE THE BAG ENTIRELY**

Think before you take these bags – do you really need a bag for such a small item? Hand-carry your items if you can.

- **BRING YOUR OWN REUSABLE BAG**

Perhaps what's most challenging is remembering to bring reusable bags and making it a habit. These bags are an efficient way to carry items without adding to plastic wastage!



DIVE RIGHT! CONSERVING OUR REEFS

By: Adibah Majeed, Environmental Engineer (Environmental Certifications)

We often take the things we love for granted. I love to scuba dive – it's a fantastic sport and a great way to witness a whole other world beneath us. But a trip to a diving school in Koh Tao, Thailand taught me that something as innocent as scuba diving can affect marine life, and that it is our responsibility to help take care of life underwater.

THE IMPACT OF CLIMATE CHANGE ON CORAL REEFS

Coral reefs are sensitive ecosystems affected by climate change, irresponsible fishing practices and maritime pollution. Rising water temperatures alone have damaged many coral reefs around the world during the last 30 years. Coral reefs are also at risk from irresponsible scuba-divers.

I believe that divers, as visitors to the sea, have to take responsibility for our actions on the marine ecosystem. We need to be aware of the effects of our presence in order to preserve marine biodiversity and its beauty for generations to come.



With love from Koh Tao!

"I BELIEVE THAT DIVERS, AS VISITORS TO THE SEA, HAVE TO TAKE RESPONSIBILITY OF OUR ACTIONS ON THE MARINE ECOSYSTEM."

HUMAN IMPACT ON CORAL REEFS

To learn more about the coral reef ecosystem and how to conserve it, I ventured to the island of Koh Tao on the gulf of Thailand. There, a friend introduced me to the New Heaven Dive School which is actively involved in reef conservation. I took a short conservation course with the school, learning about marine biodiversity, conducting marine biodiversity surveys and coral transplanting. The reef conservation course typically takes three months to complete, but I tried to get the most out of my five days on the island.

I learned that simple actions, such as holding on to coral and accidentally breaking off its pieces can damage it. Corals take years or even decades to grow, so breaking or removing it is equivalent to illegal logging in a forest. Touching the coral can even cause it stress – if its mucous layer is scraped off, a coral may get a bacterial infection and die once weakened.

We also conducted surveys on marine biodiversity, recording data of species that represent how healthy a reef's ecosystem is. It was interesting to learn that human intervention may be necessary to maintain the reef's balance, such as removing *Drupella* snails from corals. These sea snails feed on coral and an outbreak can cause significant harm to reefs. The outbreak of *Drupella* snails is due to lack of predators for the snail, a result of overfishing. This is why balance is key to maintaining life under the sea.

DIVE RIGHT! CONSERVING OUR REEFS

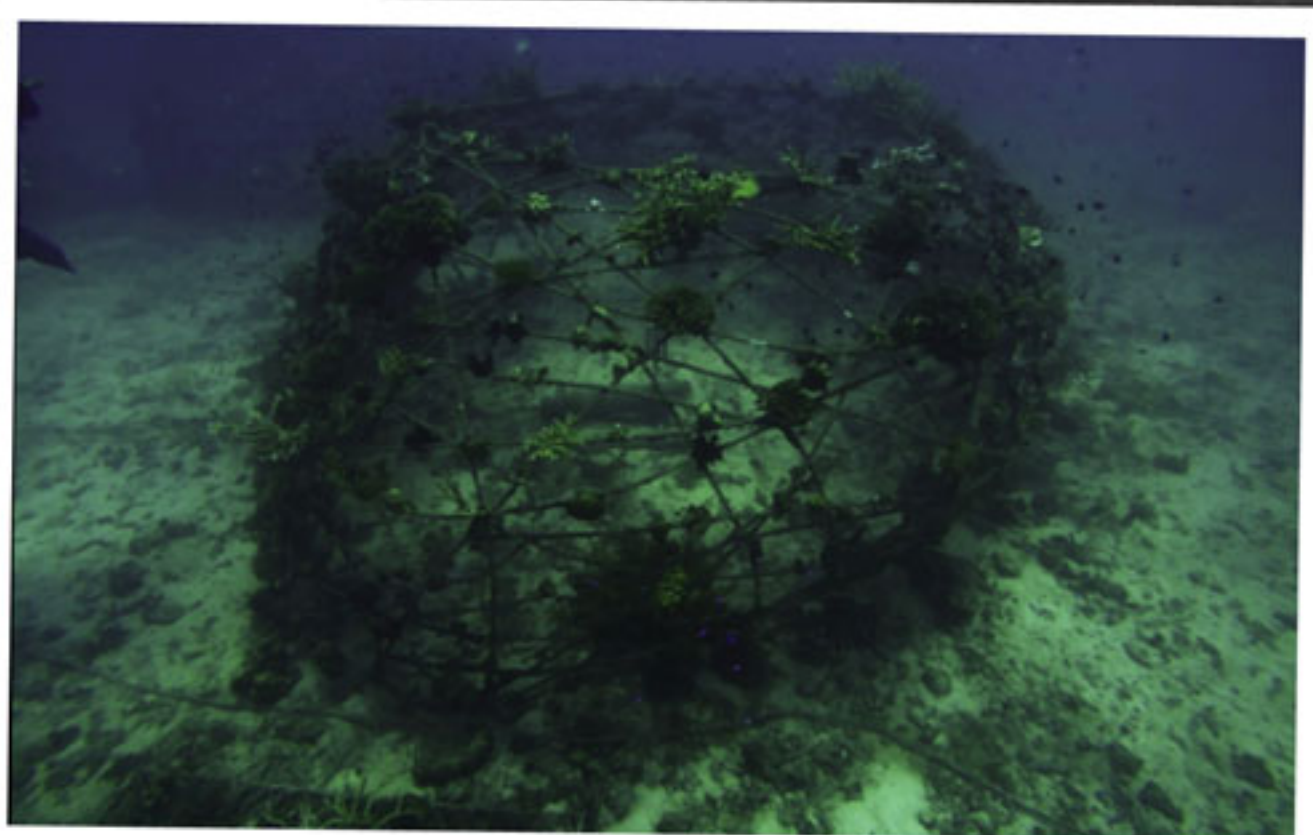
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A LIFESAVING TRANSPLANT FOR CORAL REEFS

One of the most interesting parts of the course was getting to participate in reef restoration through coral transplanting. Coral transplantation is the physical relocation of coral from an inhospitable site to where the coral is more likely to thrive. The transplanting took place at a dive site called Hin Fai Biorock, where massive steel domes sit at the bed of the sea.

The Biorock is a steel structure energized by a low-voltage electrical current flowing through it. The current causes minerals in the seawater to precipitate onto the frame, forming a limestone layer.

Small fragments of live coral are attached to the structure and quickly become cemented in place by the accumulating limestone. Coral colonies propagate and grow on these structures, thus restoring habitat. These 'man-made' reefs are perfect spots for new divers to learn to control their diving posture and gain confidence underwater while still being able to see a beautiful diversity of marine life.



One of the Biorock domes at Hin Fai Dive Site, Koh Tao, where corals are being transplanted.



Securing a coral fragment on the steel bar of the Biorock dome with wire. A curious Moon wrasse - an inhabitant of coral reefs - stays to watch.

The course was an eye-opening and rewarding experience, and I encourage fellow divers to participate in such courses as well. Having the opportunity to experience life underwater is amazing but it comes with a responsibility to protect the marine ecosystem so that its beauty can be seen by future generations.

So the next time you dive, remember to maintain proper etiquette, a 'no touch' policy and do give back to nature by participating in reef restoration efforts.

LEAF-ING BEHIND A GREEN IMPACT

Educational programmes on Discovery Channel and Animal Planet were popular viewing for many of us growing up. My fascination with the greens developed during my days as a student at the National University of Singapore (NUS). It was then that I planted my first seeds in my second year in university – the Shepherd's Needles (*Bidens alba*) of the sunflower family.

I started a garden at NUS' Temasek Hall and spent most of my time tending to it, growing climbing plants, shrubs, palms and trees. In the walkway connection between two buildings, I helped to 'guide' an Elephant Creeper (*Argyreia nervosa*) up four stories so it could shield the roof from the hot sun. I also planted lemongrass right outside the rooms at the first level in hopes of warding off mosquitoes. Through this little exercise, I developed a passion for our green swaying friends and this started me on the pursuit of a career relating to the environment.



During my days in NUS, I stayed in the Temasek Hall which was surrounded by lush greenery.



A newspaper clipping from Lianhe Zaobao, which featured my team's efforts in caring for the garden at Temasek Hall.

If there is one thing I have gained from this love affair it is meticulous attention to detail. Singapore is home to more than 2,000 native plant species and each is unique with its own characteristics. Some plant species have fascinating ways of bending and branching out to reach sunlight while others have unique textures, grooves and bark undulations. Try doing a little research on the plants in Singapore and learn cool new facts to share with your friends!

Keen to embark on your own nature adventure? You can take part in SEC's Biodiversity Learning Trails to gain a greater appreciation of our unique flora and fauna. We offer trails covering 17 sites, ranging from nature reserves, nature parks, reservoirs, and islands. Visit our website at www.sec.org.sg for more details.

THE GREEN JOURNEY

SNAPSHOTS: GEARING UP FOR A SUSTAINABLE SINGAPORE

Young people are among the most committed environmentalists in Singapore. That's why SEC, as part of the **SEC-StarHub School Green Awards (SGA)**, organises workshops where students and teachers gain the skills they need to take the green message into the community.

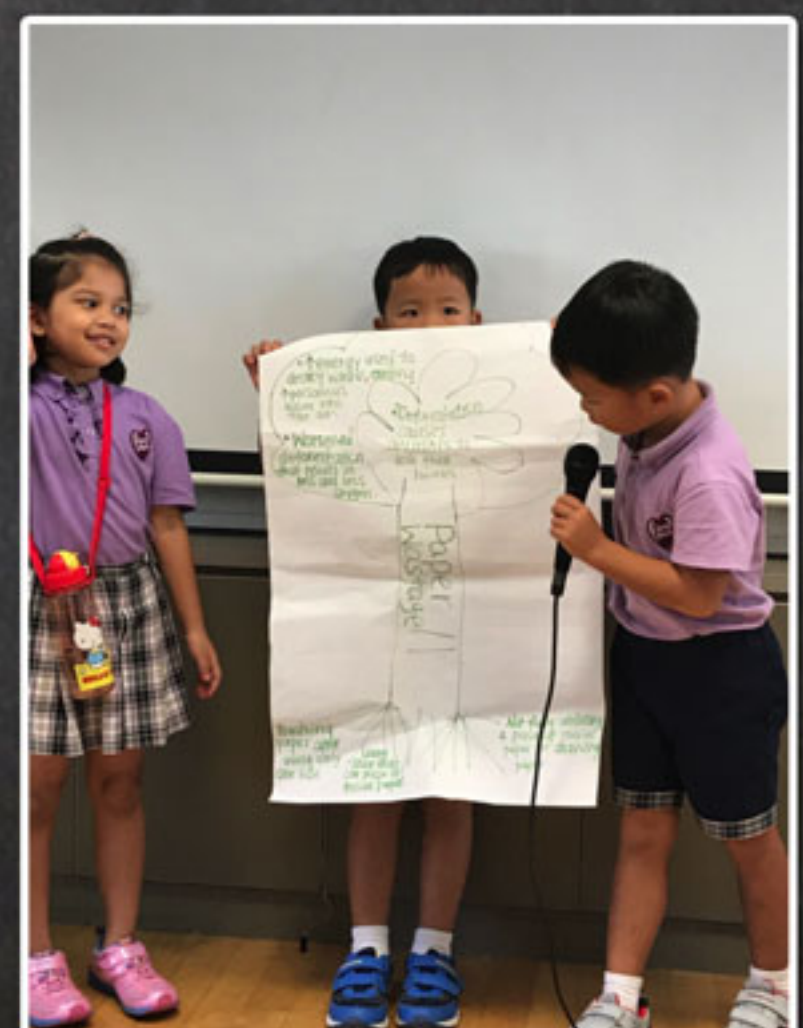


The SGA is a voluntary environmental programme where youths put their ideas into action by developing and showcasing innovative solutions for environmental challenges.

As part of the programme, the SGA team conducted workshops between March and May, with 77 students and 142 teachers taking part. The students represented all the educational levels in Singapore – from preschools through to Institutes of Higher Learning.

Conducted by our supporting partner Youth's Leader SG, the workshops teach project management skills and train students to conceptualise and organise community outreach projects.

This November, look out for SEC's **School Green Day**, an awards ceremony where we celebrate the environmental efforts of schools islandwide! Visit our website at sec.org.sg/sga for more details.



THE GREEN JOURNEY

DRIVING SUSTAINABILITY IN THE CONSTRUCTION SECTOR

An increasing number of companies are making sustainability part of their business model.

One company at the forefront of green business is **Samwoh Corporation Pte Ltd**. From its humble beginnings as a logistic company in 1975, Samwoh has grown to become a market leader in civil and infrastructure construction. In the early 2000s, its management decided that innovation and sustainability was the way forward for the firm – and thus began Samwoh's green journey.

A winner of the **SEC-SETSCO Singapore Environmental Achievement Award (Manufacturing)** in 2016, Samwoh invested in a state-of-the-art Innovation Centre and sought new green technologies for use in construction applications.



Samwoh carries out many research studies on green technologies, such as turning wastes like incinerator bottom ash into reusable, sustainable materials for construction.

Besides green technologies, Samwoh implemented numerous measures to further improve its use of resources, helping the company lower its carbon footprint. For example, the adoption of warm-mix technology to produce an asphalt mixture at a lower temperature reduces the firm's fuel consumption. Environmental policies encourage Samwoh employees to adopt eco-friendly habits and reduce their consumption of energy, water and paper.

Equipped with cutting-edge testing facilities and expertise, Samwoh Innovation Centre successfully turned industrial by-products such as construction and demolition waste and asphalt pavement waste into usable resources for the construction sector. Many of these sustainable materials have been accepted by regulatory bodies and are widely adopted by other firms in the industry.



Samwoh seeks to nurture the next generation of 'green warriors' through collaborations with schools on internships and student research projects.

Dr Ho Nyok Yong, Chief Operating Officer of Samwoh shared: "Our accomplishments in leading the green transformation of the construction sector have opened up a new chapter in our green journey. At the same time, it has marked a significant milestone for sustainable development in Singapore. We believe that if everyone plays the role of a responsible community member, our nation will become a truly zero-waste nation with a future where nothing goes to waste."

THE GREEN JOURNEY

EDUCATING OUR FUTURE CHANGE-MAKERS

What better way to educate people on the importance of conserving the environment than to start with the young?

Recognising the potential of youths to become change-makers, **Bukit View Secondary School** embarked on their green journey early in 2000.



Bukit View Secondary School's eco-trails programme enables students to reach out to primary schools in Singapore and expose their 'juniors' to nature.

In 2006, the school implemented an official environmental education curriculum for all Secondary One and Two students. To help students better understand and apply what they learned, the school launched an eco-trails programme where the secondary school students reached out to their juniors in primary schools to teach them about science and biodiversity.

Bukit View Secondary School is a winner of the Lotus Sustained Achievement Award - the top award category under the **SEC-Starhub School Green Awards** - in recognition of its green achievements. The school was also conferred the Niche Status in Environmental Science from the Ministry of Education in 2012.

The school has continued to develop eco-friendly programmes for its students. In 2016, the school introduced the Junior Outstanding Leaders in Energy for Sustainability (JOULES) programme which grooms students with an interest in science, engineering, technology and mathematics. In the same year, Bukit View Secondary School was awarded the SEC-Lee Foundation Singapore Environmental Achievement Award (Public Sector) for their achievements.

The school's green programmes continue to have a positive impact on both students and the environment. Many graduates from Bukit View Secondary School have taken up post-secondary studies in environmental-related fields. In 2016, Bukit View Secondary School student Yasmin Sim clinched the HSBC-NYAA Youth Environmental Award – the youngest recipient in 18 years.

For the teachers at the school, the green programmes are all about preparing students for the future. As Mr Heng Chong Yong, Head of Department, Partnerships at Bukit View Secondary School explained: "As Singapore develops into a Sustainable Smart Nation, the programmes at Bukit View Secondary will ensure that our students will benefit and be able to contribute to the nation's development."



Bukit View Secondary School student Yasmin Sim clinched the HSBC-NYAA Youth Environmental Award in 2016, and is the youngest recipient in 18 years.

Does your organisation have similar green initiatives? SEC would like to commend you for your effort in promoting sustainability within your industry. Do visit www.sec.org.sg for a list of awards programmes and other initiatives you can be a part of.

ECO-FRIENDLY SPACES

7 WAYS TO GO GREEN IN THE OFFICE

Singapore has upped its green game in recent years with the launch of the Sustainable Singapore Movement outlining plans to help our little red dot go green. An increasing number of organisations are taking steps to reduce their carbon footprint and achieve cost savings by using resources more efficiently.

WANT TO BE A PART OF THE GREEN MOVEMENT? HERE ARE SEVEN EASY WAYS YOU CAN HELP YOUR OFFICE BE MORE ECO-FRIENDLY.



1. PLACE PLANTS AROUND YOUR OFFICE SPACE

Plants liven up the office and act as a natural air purifier, improving air quality.

2. PLACE SIGNS AROUND THE OFFICE ABOUT SAVING WATER

Placing signs around the office in places such as the pantry and washroom can remind employees to practise water-saving habits.



3. SET UP A GREEN COMMITTEE

A Green Committee can help to set specific, achievable green goals and encourage employees to work together to develop a more eco-friendly office.

4. REDUCE YOUR COMPANY'S DISPOSABLE WASTE

Keep reusable kitchen supplies in the office and encourage staff to bring reusable containers for takeaways.



5. RECYCLE, RECYCLE, RECYCLE

Properly educate staff on what can be recycled. Place recycling bins in easily accessible areas. Simple recycle bins can be created using materials like cardboard boxes.

6. ADOPT ECO-FRIENDLY PURCHASING HABITS

Purchase products with an accredited green label, such as the Singapore Green Label, and buy in bulk to reduce packaging.



7. ONLY PRINT WHEN NECESSARY

Educate your staff on proper printing use and print on both sides of the paper. Avoid printing in colour if you can.

PROJECT: ECO-OFFICE

Project: Eco-Office is a collaboration between SEC and City Developments Limited (CDL). Launched in 2002, the programme aims to spread environmental awareness among companies in Singapore by helping staff to implement effective environmentally-friendly practices. Your organisation can make use of the Eco-Office Kit and the Eco-Office Rating System to achieve a more efficient use of resources. Offices that achieve a satisfactory rating are then certified with an Eco-Office Label which offers access to environmentally responsible corporate networks and an ability to promote the company's environmental credentials.




Visit www.sec.org.sg/ecoffice for more information on Project: Eco-Office.



**Singapore
Environment
Council**

Contact:

1 Kay Siang Road, #04-02
Singapore 248922
Tel: 6337 6062
Fax: 6337 6035

 Singapore Environment Council
 www.sec.org.sg
 communications@sec.org.sg