

BERITA ENSEARCH

APRIL — JUNE 2013 / 2nd QUARTER

E - Bulletin at www.ensearch.org/publications/berita



BRIEF HISTORY OF ENSEARCH

ENSEARCH was formed in 1984 by a pioneer group of local professionals and academics from multidisciplinary backgrounds. Its first President (1984-2000) was Ir. K Kumarasivam and its first Hon. Secretary General was Dato' Dr. Abu Bakar Jaafar. Today, ENSEARCH has more than 300 members consisting of corporate, individual and life members.

It is acknowledged that enhanced awareness and capacity building of organizations and individuals through education and training is essential to achieve the objectives of Malaysian Environmental Quality Act, 1974.

Therefore ENSEARCH began formulating and implementing training programs to enhance the capacity for environmental management in Malaysia.

In addition, ENSEARCH organizes Tea Talks and Public Lectures to enhance awareness on pertinent and comprehensive issues on the environment.

ENSEARCH has also been actively involved in dialogue sessions with relevant authorities in development of legislative and regulatory frameworks that are supportive of good environmental management practices.

In recognition of ENSEARCH's objectives, it has been given tax-exempt status whereby the donations to ENSEARCH are exempted by from tax.

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"The planet is in Distress and all the attention is on Paris Hilton."
- Al Gore



EDITOR'S NOTE

ENSEARCH

is a non-profit association of organizations, professionals, students and people with interest in learning and promoting effective ways to manage the impact of human activities on the environment.

We at ENSEARCH believe that everyone is responsible for managing and mitigating the impacts of their corporate, professional and daily living activities on the environment.

ENSEARCH is also involved in species conservation and poverty eradication through its project Cyber Plant Conservation Network (www.cpcnet.org).

Hi everyone,

We have reached the second quarter for BERITA ENSEARCH for the year 2013. It's been a busy three months since our previous published newsletter. Over this period of time, Malaysia successfully had its 13th General Election on the 5th, May 2013. We in, ENSEARCH would like to congratulate YB Datuk Seri G. Palanivel on his appointment as the Minister for Natural Resources and Environment, and YB Datuk Dr. James Dawos Mamit as his Deputy Minister.

Appreciation and thanks also goes to YB Dato Sri Douglas Uggah Embas and YB Tan Sri Datuk Seri Panglima Joseph Kurup who have served the 'rakyat' well during their time in the ministry.

On the 9th of May 2013, ENSEARCH held its 29th Annual General Meeting at Subang National Golf Club (KGNS). This eventful evening included an Environmental Legislation Seminar intended to exchange views from various sectors representing the legal fraternity, industry players and stakeholders from various organizations on the implications of the new amendments on the Environmental Quality Act 1974. The keynote address was delivered by Datuk Halimah Hassan, the Director General for the Department of Environment.

The K. Kumarasivam Endowment Fund 2012 Young Internship Award talk was another significant event held in KGNS on that memorable day. The award winner, Mr. Kelvin Diong Siong Loong, presented his talk on Integrated Waste Management in Kaohsiung City, Taiwan.

On the Sabah front, Yg. Bhg. Datuk Adeline Leong and the team are doing a fine job for the ENSEARCH Sabah, in organizing trainings and activities for our members and the people of Sabah. In July, ENSEARCH Sabah will be having its 2nd Annual General Meeting, which will be held in Novotel Hotel, Kota Kinabalu. A talk on "Environmental Conservation in Malaysia" by Dr. Anna Wong will be held prior to the AGM.

July is also a time for spiritual reflection, improvement and increased devotion and worship. *Ramadan* is the holy month in the Islamic calendar where Muslim communities worldwide will begin fasting at dawn-to-sunset. Hari Raya Puasa which literally means 'Celebration Day' will mark the end of *Ramadan*.

On behalf of ENSEARCH, I would like to wish all Muslimin and Muslimah, *Selamat Berpuasa* in this Holy month of Ramadan. Let us always stay united with one cause, show compassion, generosity and mercy to others and care for our ENVIRONMENT!

KHOO BOON KEAT
Chairperson
WEBSITE & PUBLICATION

OUR VISION

"Malaysians are environmentally aware and are committed to taking personal responsibility to manage and mitigate the impacts of their corporate, professional and daily living activities on the environment"

OUR MISSION

"To promote excellence in environmental management among organizations, professionals and interested persons."



PROFILE OF COUNCIL MEMBER

Mr . Khoo Boon Keat



Khoo Boon Keat 's journey with ENSEARCH began in 2009 when he was brought in to assist then ENSEARCH President Mr. Peter Ho Yueh Chuen, where he was subsequently co-opted as member of the ENSEARCH Council. Following his acceptance into the Council, Boon Keat was appointed as the Chairperson for Publication and Website in ENSEARCH. With a limited budget and the assistance of the very capable secretariat, he set upon the task of getting the website updated and making sure

materials were published on a regular basis. During the past 5 years, Boon Keat also assisted in organizing and disseminating awareness on the various services provided by ENSEARCH, such as being in the organizing committee member of ENSEARCH National Photography Competition 2011.

Boon Keat was born in Kuala Lumpur in 1967 and presently resides in Petaling Jaya. He had his primary education in SK Sri Petaling, followed by his secondary schooling in Sek. Menengah Seaport and continued his Matriculation in Taylor 's College. He completed his tertiary studies in the University of New South Wales, Australia and graduated with a Bachelors degree in Civil Engineering in 1992.

Boon Keat started of his working career as a Design Engineer with Wan Mohamed and Khoo Sdn. Bhd. an engineering consultancy in 1992. After 9 years, Boon Keat made a career change from a Civil Engineer to become a n Environmental Consultant and joined ERE Consulting Group in 2001, where he is currently a Senior Consultant and the Head of the Sustainability Construction and Infrastructure Section. His work is focused on environmental impact assessments, environmental management, audit and monitoring for road constructions, large scale infrastructures and building constructions projects for companies such as MRCB and Gamuda, as well Government Agencies such as DID, ECERDC, Ministry of Energy, Green Technology and Water. Boon Keat has also been involved in several national environmental conservation projects with the Economic Planning Unit and WWF. His other projects include input in District-level Local Plans with the Department of Town and Country Planning.

Outside of work, Boon Keat is a avid runner and participates in races in the country and the occasional races overseas. He is also a photography enthusiast, and enjoys a day outdoors doing photo shoots. Reading is another pastime he enjoys, particularly thriller and fantasy novels, as well as books on sports and science in general.



PROFILE OF COUNCIL MEMBER

Mr . Khoo Boon Keat

Professional Affiliations and Membership

- Professional Engineer registered with the Board of Engineers Malaysia.
- Registered EIA Consultant with the Department of Environment, Malaysia.
- Registered Environmental Auditor with the Department of Environment, Malaysia.
- Council Member for the Environmental Research Management Malaysia (ENSEARCH)

Publications

- **Khoo, B. K.** (2004) Sedimentation and Earthworks. Integrated River Basin Management (IRBM) Training Course.
- **Khoo, B. K.** (2007) Environmental Best Management Practices for Constructions of Highways, 2nd National Seminar on Transportation and the Environment.



Mr. Boon Keat carrying out site inspections.



Session Chairman at the ERE Annual Forum 2013



Finishing Standard Chartered Hong Kong Marathon 2013.



FEATURE

PRECOATING MATERIALS AS FILTER AIDS AND FLUE GAS TREATMENT FOR FABRIC FILTERS.

Research Article by,
S. Hajar, A. Nurnadia, M. Rashid
Air Resources Research Laboratory,
Malaysia-Japan Institute of Technology

M. Ammar
AMR Environmental Sdn. Bhd.

ABSTRACT

Fabric filters are extensively used as an air pollution control system for its ability to separate particles from a gas stream of any conditions with relatively high efficiency. Presently, many of the system are being applied in the incineration plants as the means to control dust and even gaseous emissions from such operation. Unfortunately, their applications in these facilities are short lived due to wear and tear of the fabric media. One of the main issues associated with this problem is that the fabric filter is not adequately conditioned before it is put up into service. A simple technique is to apply so called 'pre-coat' material to coat a layer of inert material onto the surface of the fabric as a 'barrier' for protection as well as to allow a uniform air flow passing through the filter media. This paper presents the important characteristics of a newly formulated flue gas cleaning agent consisting combination of pre-coat and activated carbon as filter aids in flue gas cleaning system.

1.0 Introduction

Issue involving air pollution such as global warming, climate change, greenhouse gas (GHG) emissions from incinerator and human health deterioration has become an international issue of the 21st century. In many countries, increasing motor vehicle causes air pollution in cities and conducive local climatic conditions promote ozone formation with serious implications for the surrounding peri-urban and even distant rural vegetation [1]. Air pollution refers to the presence of any substance such as chemicals, particulate matter and biological materials become a global concern because it is harmful or injurious to human health or welfare, animal or plant life, or property. Micron and submicron sized particles in air are commonly known to be harmful to human health and environment [2].

Incinerator for example has been widely used to treat municipal solid waste (MSW) in many countries. Incineration has advantages such as reduction in waste volume, pathogen inactivation and energy recuperation; but it also has disadvantages such as release of gaseous pollutants, generation of waste water and ash residues. The fly ashes from incineration process are treated before release to the atmosphere.

Figure 1 presents the process flow diagram of a typical incineration plant which is equipped with fabric filter as the air pollution control device with lime and activated carbon injection system. Lime is to remove acid gaseous (e.g HCl and SO₂) while activated carbon is used to remove organic substances including heavy metals (e.g mercury). Both lime and carbon are also known as the flue gas cleaning agents or adsorbents to minimize the release of pollutants into the atmosphere from incineration process. In this case, the fabric filters also acts as a reaction chamber where the interaction of pollutants with the layer of adsorbents on the surface of the fabric is taken place within a certain period of time.

Among the several air purification methods, filtering techniques stands out as the main approach to gas-solid separation [3]. Fabric filters are frequently used in such processes, since they are relatively inexpensive, easy to use and highly efficient at collecting particles. Fabric filter material, whether fibres or felt, is formed into the cylindrical or envelope bags and suspended in bag-house. The dirty gases passes through the fabric leaving the dirt in a form of a cake onto the outside surface of the fabric [4].

The layer of cake provides or acts as an additional filtering medium which further increases the performance of collection of pollutants. Thus, having a coating material that helps to increase the collection of particles (or gaseous and organic pollutants alike) and at the same time increases the filtering efficiency against plugging and blinding of fabric filter is highly warranted in this regard.

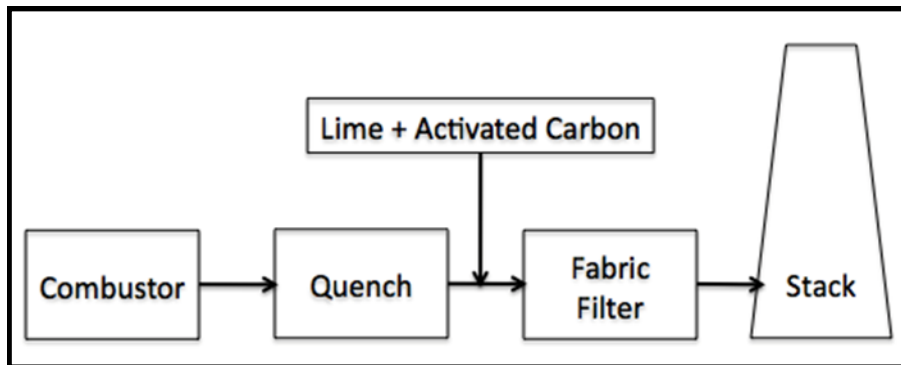


Figure 1. Process Flow Diagram of a typical incineration plant which is equipped with fabric filter with lime and activated carbon injection system.

2.0 Pre-coat as Filter Aids for Fabric Filters.

As mentioned, fabric filter are extensively used to capture dust emitted from many industrial sources. However, their applications can be short lived due to wear and tear of the fabric media. A simple technique to overcome this problem is by applying an inert material known as 'pre-coat' which acts as filter aids material to preserve the life span of a fabric filter in service.

Generally, filter aids is an inert powder or granules such as diatomaceous earth, fly ash, activated carbon, lime or sand added to a solution (usually in wastewater application) that is to be filtered in order to form a porous cake on the filter to increase the rate and improve the quality of filtration. Filter aids consisting of a group of inert materials that can be used in filtration pre-treatment or improvement. This is commonly referred to as 'pre-coat'. Filter aids as 'Pre-coat' material can be used to coat a layer of inert material onto each of a fabric as a 'barrier' for protection as well as to allow a uniform air flow passing through the filter media.

Figure 2. illustrates the image of filtration without and with the use of filter aids which helps to protect against the penetration of particles passing through the filter media by forming a layer of barrier between the particles and the fabric.

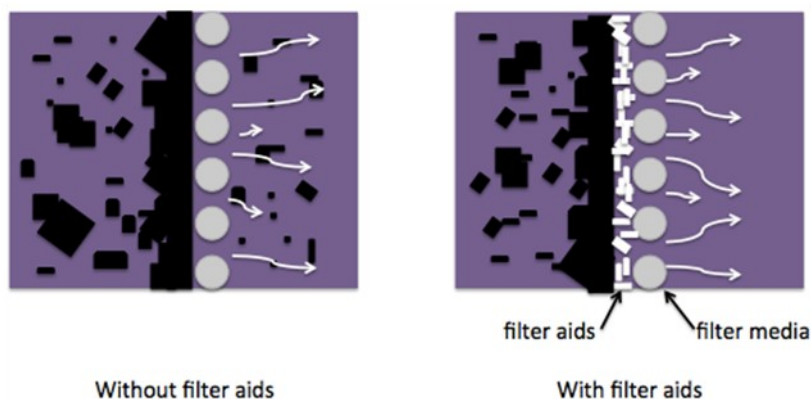


Figure 2. Filtration without and with filter aids.

Filter aids increases the efficiency of fabric filters by forming a permeable dust cake layer for efficient operation against blinding and plugging of fabrics filters [5].

A good filter aids should have the following characteristics:

- Chemically inert material with heat resistance property
- Have rigid intricately shaped and porous individual particles
- Form a highly permeable, stable and incompressible cake
- Allow a uniform air flow passing through the filter media and increase efficiency in the filtration process
- Protects against blinding and plugging of fabric filters
- Increase permeable surface area and reducing differential pressure and energy cost of fabric

Over long period of time, activated carbons have been extensively used as a filter aids in variety of environmental applications such as adsorbents, gas purification, solvent recovery, and waste water treatment as shown in **Figure 3**. Among the adsorbent materials activated carbons are unique and versatile adsorbents because of their large surface area, micro pore structure, varied adsorption effect, high adsorption capacity and high degree of surface reactivity [6]. It is recognized that the pore structure is the most important property of activated carbons for their application in adsorption processes [7]. Activated carbons have a very wide range of pore sizes from the Angstrom scale of micro pores to the micrometer scale of macro pores. They are used in various application depending on their porous properties for example, activated carbons with many micro pores are used for gas adsorption, meso pores are necessary for the adsorption of large molecules [8].

Conventionally, activated carbon is produced from wood, peat, coal, and wastes of vegetable origin based material (e.g. nutshells, fruit stones). The quality and characteristics of activated carbons depend on the physical and chemical properties of the starting materials and the activation methods used [9]. There are many studies in the literature relating to the preparation of activated carbons from agricultural wastes.



Figure 3. Activate Carbon



Figure 4. Prekot™ material

Prekot™ is another commercially available filter aids material which directly apply into the flue gas stream to bond with generated dust forming a well uniform and distributed dust cake onto the surface of a fabric filter as shown in **Figure 4**. It is a safe and inert coating powdered material used as a filtering aids to increase filtering efficiency of fabric filters by forming a permeable dust cake layer for efficient operation against blinding and plugging of filtration media. It has the properties of a good filter aids material with additional specifications as presented in **Table 1**, which illustrates that its fusion temperature is well above 200°C the normal operating conditions of a fabric filter. In addition, Prekot™ has the advantages of significantly very low thermal conductivity properties with less than 1% in terms of moisture content that makes it a reliable pre-coating material in flue gas cleaning. **Figure 5** shows the particle distribution of Prekot™ and activated carbon alone with the range size less than 75 to more than 600µm.

Table 1. Specification of Prekot™

Fusion Point	~ 1300 °C
Softening point	~ 900 °C
Bulk density	~ 120 kg/m ³
Thermal conductivity	Less than 0.0500 kcal/mh °C at 0 °C
Moisture content	Less than 1.0 % wt
Particle Size	Less than 75 up to 600 μm

Note: Prekot™ is a proprietary of AMR Environmental Sdn. Bhd.

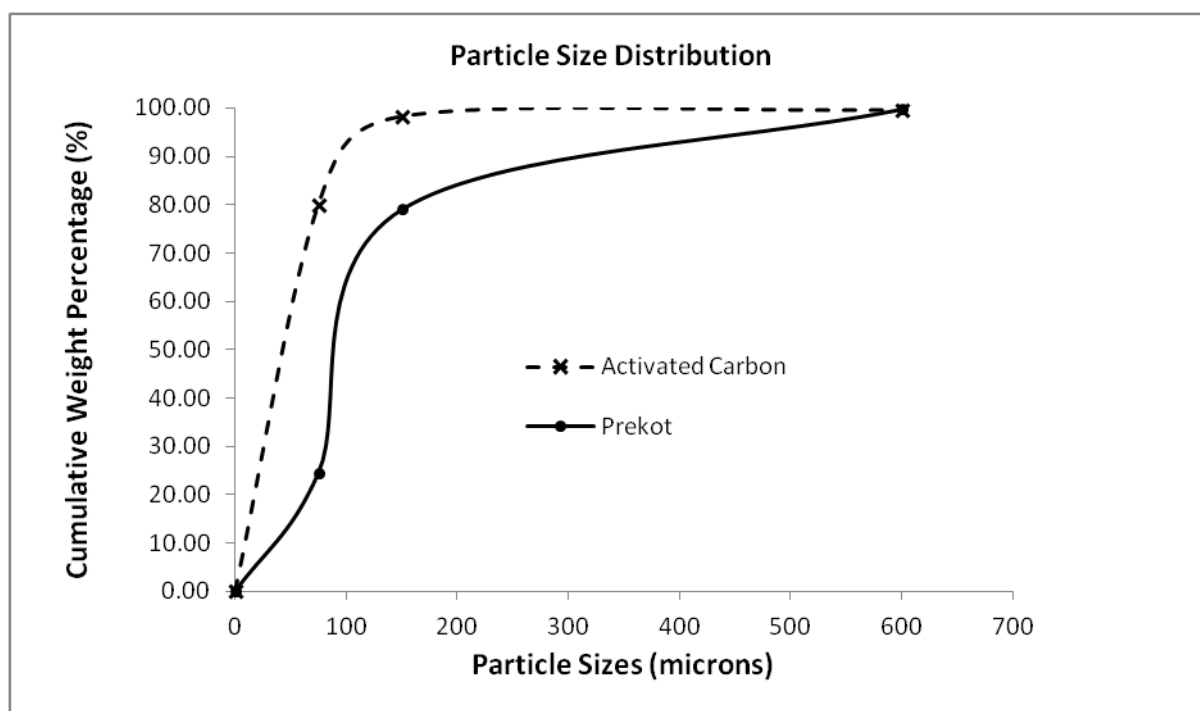


Figure 5. Particle Distribution of Prekot™ and Activated Carbon.

Figures 6A and **6B** present the physical view of the admixture of merely lime + activated carbon as compare to the admixture of Prekot™ + lime + activated carbon, respectively, which showed a very distinct morphology between the samples. The latter looks granulates of porous like structure than the former, which showed a more compact powdered material. Thus, merely based on the morphology of the sample demonstrates that admixture of lime + activated carbon with the addition of Prekot™ presents a better combination as a filtration aids material. As a result this brings into an idea of having a material that can serve as both a filter aids as well as flue gas treatment agent in a single product.



Figure 6A. Lime + Activated Carbon



Figure 6B. Prekot™ + Lime + Activated Carbon

3.0 Formulation of a New Filter Aid and Flue Gas Cleaning Agent Material.

The idea of two in one admixture as both filtration aids and flue gas cleaning agent was initiated by our study team at the Air Resources Research Laboratory, Malaysia-Japan International Institute of Technology. The study is to formulate and characterize a pre-coating material to be utilized as a pre-coating material that is not merely improving fabric filtration but also acts as flue gas treatment agent.

First and foremost, the key elements to be addressed in the study include; material selection which must have certain characteristics that can be applied as a pre-coat media as discussed above. The properties or characteristics of this material will be tested for its suitability for the purpose. Then, the selected material will be formulated with different amount of activated carbon as the latter has long be recognised as one of the most important adsorbing agent used in flue gas treatment.

A formulated comingled admixture between a pre-coating and an adsorbent agent as two in one material hope to further enhance the its function in threefolds i.e for better filtration efficiency, removal of organic contaminants including heavy metals, and also increase the life span of the fabric filter media. The physical characteristics of admixture will be evaluated based on its permeability and penetration as well as on the pressure drop generated across the fabric filter in a laboratory scale filtration unit developed specially for the experiment. Finally, the formulated material will be tested in an actual plant scale, notably in an incineration plant where fabric filters along with lime and activated carbon injection system are usually installed.

4.0 References

- [1] Ishii S., Bell J. N. B., Marshall F. M., (2007). Phytotoxic risk assessment of ambient air pollution on agriculture crops in Selangor State, Malaysia. *Environment Pollution* 150:267-279.
- [2] Sailaja D. and George G. C. (2008), Computer program for filter media design optimization. *Journal of the Chinese Institute of Chemical Engineers*, 39:161-167.
- [3] Tanabe E. H., Barros P. M., Rodrigues K. B., Aguiar M. L. (2011), Experimental investigation of deposition and removal of particles during gas filtration with various fabric filters. *Journal Separation and Purification Technology*, 80: 187-195.
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- [6] Bhabendra K. P., Sandle N. K., (1998), Effect of different oxidizing agent treatments on the surface properties of activated carbon, *Carbon*, 37: 1323-1332.
- [7] Wigmans T., (1989), Industrial Aspects of Production and use of activated carbons, *Carbon*, 27: 13-22.
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- [9] Aik C. L. and Ting Y., (2005), Characteristics of activated carbon prepared from pistachio-nut shell by zinc chloride activation under nitrogen and vacuum conditions. *Journals of Colloid and Interfaces Sciences*, 290: 505-513.

FINAL ANNOUNCEMENT



SUSTAINABILITY AND ENVIRONMENTAL MANAGEMENT CONFERENCE & EXHIBITION (SEM 2013)

In Conjunction with MALAYSIA ENVIRONMENT WEEK (MASM) 2013

**Date: 22nd & 23rd October 2013
(Tuesday & Wednesday)**

Venue: Sime Darby Convention Centre, Kuala Lumpur

For further information and to register please contact:

Tel: 603-6156 9807/8 Fax: 603-6156 9803

Email: sem13@ensearch.org;

Website: www.ensearch.org

Attn: Ms. Gee Baba

ENDORSED BY :



MINISTRY OF NATURAL RESOURCES & ENVIRONMENT(NRE)



Department of Environment (DOE)



Indah Water Konsortium Sdn. Bhd.

ANSWERS

Association of Scheduled Wastes
Recyclers Malaysia

THEME: "SHRINKING OUR ECOLOGICAL FOOTPRINT"

INTRODUCTION

There is no doubt that climate change, and the cataclysmic consequences arising from it are indeed real. Like many other parts of the world, Malaysia too have witnessed climate related disasters which were heart breaking and devastating. Malaysia believes that the science is sound and clear. Like other developing countries, we are now grappling with how to translate the need to include such science and management into our economic development system, plans and policies. The necessary adjustments require massive changes in many sectors that affect the very fabric of our economy.

The Sustainability and Environmental Management Conference & Exhibition (SEM 2013), is an inaugural event organized by ENSEARCH (Environmental Management Research Association Malaysia) which is held in conjunction with Malaysia Environment Week (MASM) 2013. For the past 10 years ENSEARCH had been organizing a series of Waste Management Conference and Exhibition. ENSEARCH, has now decided to evolve the Conference and Exhibition Series to another level and increase our level in commitment to bring greater environmental sustainability as we strive for continuous economic growth.

It is with this conviction that ENSEARCH, is driving the agenda of SEM 2013 with the apt Theme of "Shrinking Our Ecological Footprint". The objective of SEM 2013 is not only for networking amongst stakeholders but to profile and showcase good sustainable practices and achievements of conglomerates in Malaysia.

Do make time and be a part of SEM 2013. We look forward to having you join us to make a difference.

SEM 2013 will consist of 4 half-day Plenary Sessions :-

1. Climate Change and Risk Management
2. Biodiversity Conservation and Enrichment
3. Innovations in Waste Management
4. Water Resources Sustainability

ABOUT ENSEARCH

ENSEARCH is a non-profit association of organization, professionals, students and people with interest in learning and promoting effective ways to manage the impact of human activities on the environment. At ENSEARCH, we believe that all are responsible for managing and mitigating the impact of their corporate, professional and daily living activities on the environment. Thus, the motto of the association is; ENSEARCH for a Better Environment

TARGET AUDIENCE

- Industry groups in the manufacturing and service sectors.
- Oil and Gas Companies.
- Plantation Companies.
- Recycling Companies.
- Government Agencies.
- Research and Development Institutions.
- Academia and Consultants
- NGOs and all interested individuals.

OBJECTIVES

- To provide a platform for various stakeholders to showcase different sustainable environmental management solutions to support and improve our national sustainability agenda.
- To showcase various initiatives on environmental sustainable efforts.
- To enhance the capacity development of various industry stakeholders such as managers, regulators, consultants, and policy makers in support of sustainable and environmental management practices.



PROGRAMME

TIME	TUESDAY, 22nd October 2013
08:00 AM - 09:00 AM	REGISTRATION
09:00 AM - 09:10 AM	WELCOME ADDRESS BY En. Abdul Aziz Bin Long, President ENSEARCH
09:10 AM - 09:40 AM	ADDRESS BY GUEST OF HONOR AND OFFICIAL OPENING, YB Datuk Seri G. Palanivel, Minister of Natural Resources and Environment
09:40 AM - 10:10 AM	TEA BREAK & EXHIBITION TOUR
SESSION 1 : CLIMATE CHANGE AND RISK MANAGEMENT	
10:10 AM - 10:40 AM	KEYNOTE ADDRESS : MALAYSIA'S STRATEGY & ACTION PLAN FOR CLIMATE CHANGE RISK MANAGEMENT, Y. Bhg. Datuk Dr. Che Ab Rahim Bin Hj. Nik, Deputy Secretary General, Ministry of Natural Resources and Environment
10:40 AM - 11:10 AM	PAPER 1 : IMPACT OF CLIMATE CHANGE ON MALAYSIA, Y. Bhg Ir. Hj. Ahmad Jamalluddin Bin Shaaban, Director General, National Hydraulic Research Institute of Malaysia
11:10 AM - 11:40 AM	PAPER 2 : SUSTAINABLE CITIES FOR A GREENER FUTURE, Siemens Malaysia Sdn Bhd
11:40 AM - 12:10 PM	PAPER 3 : THE GREEN CAR AND ITS CONTRIBUTION TO SHRINKING OUR ECOLOGICAL FOOTPRINT, Mr. Sashi Ambi, Corporate Communication Manager, BMW Group Malaysia
12:10 PM - 01:00 PM	PANEL DISCUSSION/Q&A, Moderator: Mr. Muru Loganathan, British High Commission
01:00 PM - 02:00 PM	LUNCH BREAK
SESSION 2 : BIODIVERSITY CONSERVATION AND ENRICHMENT	
02:00 PM - 02:30 PM	KEYNOTE ADDRESS : MALAYSIA STRATEGIES & ACTION PLAN FOR BIODIVERSITY CONSERVATION & ENRICHMENT, Y. Bhg. Dato' Dr. Abdul Latif Mohmod, Director General, Forest Research Institute Malaysia
02:30 PM - 03:00 PM	PAPER 4 : INNOVATIVE FINANCING FOR BIODIVERSITY PROJECTS, En. Indra Purwandita Sunjoto, District Forest Officer, Sabah Forestry Department
03:00 PM - 03:30 PM	PAPER 5 : BIODIVERSITY ENRICHMENT COMMITMENT FOR LOCAL & OVERSEAS PLANTATIONS, Ms. Oi Soo Chin, Biodiversity & Conservation Manager, Roundtable on Sustainable Palm Oil
03:30 PM - 04:00 PM	PAPER 6 : CROPS FOR THE FUTURE, Prof. Sayed Azam-Ali, Chief Executive Officer, Crops for The Future Research Centre
04:00 PM - 04:40 PM	PANEL DISCUSSION/Q&A, Moderator : Mr. Hari Ramalu Ragavan, United Nation Development Programme Malaysia
04:40 PM - 05:00 PM	TEA BREAK/ END OF DAY 1
TIME	WEDNESDAY, 23rd October 2013
09:00 AM - 09:10 AM	WELCOME ADDRESS BY SEM 2013 ORGANIZING CHAIRPERSON, Mr. Gobinathan Kumaran Nair, Vice President ENSEARCH
09:10 AM - 09:40 AM	KEYNOTE ADDRESS, Y. Bhg Dato' Halimah Hassan, Director General, Department of Environment, Malaysia
09:40 AM - 10:10 AM	TEA BREAK & EXHIBITION TOUR
SESSION 3 : INNOVATIONS IN WASTE MANAGEMENT	
10:10 AM - 10:40 AM	PAPER 7 : WASTE TO ENERGY : ARE WE FUTURISTIC? Mr. Pavel Cech, Regional Vice President Industrial Ecology South East Asia Pacific, Lafarge Malaysia Berhad (Invited)
10:40 AM - 11:10 AM	PAPER 8 : HOUSEHOLD E-WASTE TAKE BACK PROGRAM, Mr. Lim Joo Peng, Senior Manager, Toshiba Asia Pacific
11:10 AM - 11:40 AM	PAPER 9 : WHY LANDFILL WHEN WE CAN RECOVER, Dr. Dominik Wojewodka, President, Ecotech Polska/Mr. Francisus Stephen, Managing Director Encycle Sdn Bhd
11:40 AM - 12:10 PM	PAPER 10 : TBC, En Zamri Abdul Rahman, Head, Environment Division, Worldwide Landfills Sdn Bhd
12:10 PM - 01:00 PM	PANEL DISCUSSION/Q&A, Moderator : Ir. Lee Heng Keng, ENSEARCH
01:00 PM - 02:00 PM	LUNCH BREAK
SESSION 4 : WATER RESOURCES SUSTAINABILITY	
02:00 PM - 02:30 PM	KEYNOTE ADDRESS : OVERVIEW OF WATER RESOURCES MANAGEMENT IN MALAYSIA - SURFACE & GROUNDWATER, Y. Bhg. Ir. Dato' Lim Chow Hock, Director, Drainage And Irrigation Department
02:30 PM - 03:00 PM	PAPER 11 : ALTERNATIVE WATER RESOURCES AS A POTENTIAL TO REDUCE WATER FOOTPRINT, Datuk Ir. Abdul Kadir Bin Din, Chief Executive Officer, Indah Water Konsortium Sdn Bhd
03:00 PM - 03:30 PM	PAPER 12 : HOW DO WE PRESERVE THE WATER CYCLE, Mr. Maurice Neo, Director, Industry Development Department, Public Utilities Board Singapore (Invited)
03:30 PM - 04:00 PM	PAPER 13 : THE PROTECTION AND REMEDIATION OF MALAYSIA'S GROUNDWATER RESOURCES, Mr. Edward Fahnline, Senior Engineer, Geosyntec Consultants Sdn Bhd
04:00 PM - 04:30 PM	PANEL DISCUSSION/Q&A, Ir. Dr. Lee Jin, ENSEARCH
04:30 PM - 05:10 PM	TEA BREAK/ END OF CONFERENCE

REGISTRATION DETAILS

(Please photocopy form for multiple registrations)

- RM750.00 per person (ENSEARCH Members/ Government and NGOs)
- RM900.00 per person (Non Members)
- RM500.00 per person (Students)

Special Group Discount

For Group Registration (3 Participants & above per organization)

FULL NAME (Dato ' / Datin/Prof/ Dr/Mr/Mrs/Ms)

DESIGNATION

ORGANISATION ' S NAME

MAILING ADDRESS

NATURE OF BUSINESS

- | | | |
|--|--------------------------------------|-------------------------------------|
| <input type="checkbox"/> Manufacturing | <input type="checkbox"/> Consultancy | <input type="checkbox"/> Education |
| <input type="checkbox"/> Construction | <input type="checkbox"/> Corporate | <input type="checkbox"/> Government |
| <input type="checkbox"/> Engineering | <input type="checkbox"/> Financial | <input type="checkbox"/> NGO |
| <input type="checkbox"/> Others - Please Specify : _____ | | |

TEL & MOBILE NO

FAX NO

EMAIL

HUMAN RESOURCES / TRAINING MANAGER

TEL & FAX

EMAIL

BANK DRAFT / CHEQUE NO

AMOUNT (RM)

Please (✓) if you are a vegetarian

VITAL INFORMATION

VENUE

Sime Darby Convention Centre
1A, Jalan Bukit Kiara 1, 60000 Kuala Lumpur
For location map, please visit www.simedarbyconvention.com

PAYMENT

Payment is required in advance and should be sent to ENSEARCH Secretariat by **7th October 2013** to guarantee your place. Walk in Delegates on the Conference day will be permitted on seat availability basis.

PRIVATE SECTOR

The Organizer reserves the right to stop a Delegate from taking part in the Conference if proof of payment is not presented. This only applies to registered Delegates who have NOT paid registration fee PRIOR to the event .

FOR GOVERNMENT OFFICIALS

A Local Order (LO) or a Letter of Approval to Participate in the Conference must be presented before the event.

CANCELLATION / SUBSTITUTES

Substitutes are allowed for registered Delegates at no additional cost. Please provide name and designation of the substitute Delegate no later than 2 days before the date of the event. A refund minus 10% service charge will be returned for cancellations received in WRITING by **7th October 2013** . A refund will not be returned for cancellations made after **7th October 2013** .

PAYMENT INFORMATION

Payment could be made through cheque / bank transfer / cash deposit into **Maybank Berhad** account NO: **5127 5431 5185** (ENSEARCH) with proof of payment faxed to ENSEARCH Secretariat (03-61569803/emailed to sem13@ensearch.org)

Mail/Fax/Email your registration form to



Ms Gee Baba
30-3 Jalan PJU 5/16,
Dataran Sunway, Kota Damansara,
47810 Petaling Jaya, Selangor
Tel : 03-61569807 / 08
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Email : sem13@ensearch.org
Website : <http://www.ensearch.org>



CYBER PLANT CONSERVATION NETWORK (CPCNet)



ON-GOING ACTIVITIES:

- Developing a mobile phone application that allows users to upload observed information on tree health, flowering and fruiting.
- Developing a school class project for environmental awareness.



Join us on our Facebook:
Cyber Plant Conservation Network
 Visit us : www.cpcnet.atbioversity.net

Contact us :

EPRETEL
Cyber Plant Conservation Network
 C/o
ENSEARCH
Environmental Management and Research Association of Malaysia (ENSEARCH)
 30-2, Jln PJU 5/16, Dataran Sunway, Kota Damansara, 47810 Petaling Jaya, Selangor
 Tel: 03-6156 9807/8 Fax: 03-6156 9803
 Email: epcm@ensearch.org
 Website: <http://ensearch.org/>

Partner :
Bioversity International
 P.O. Box 236, UPM Post Office, Serdang, 43400 Selangor.
 Tel: 03-8942 3891
 Fax: 03-8948 7655
 (<http://www.biodiversityinternational.org/>)

Photo Credits:
 Planting activities: Nur Hafizah
 Activities pictures by A. Perival

The Cyber Plant Conservation Network (CPCNet)

is a community program that embraces the effort of keeping our rare and diverse fruit tree species available for future generations.



Goals:

- To encourage the public in planting indigenous rare fruit trees to make them common and sharing the knowledge on these trees.
- To engage public participation in an online networking program to conserve Malaysian rare fruit trees and monitor the planted trees through adoption and tracking the tree development.



Objectives:

- Care and propagate our indigenous fruit trees
- Provide additional income for forest fringe communities
- Complement our national tree genebank system
- Network with civil societies
- Enhance public appreciation of our indigenous fruit trees
- Track the wellbeing of our planted fruit trees online



Impacts:

- Increase the public awareness and participation especially the youth, in looking after our environment through their direct involvement in taking care of these fruit trees.
- Make available a collection of traditional knowledge related to these trees for the younger generations.
- Strengthen the economic values of these fruit trees to the forest fringe communities, through their participation in seedling production.



Achievements

- Planted over 600 indigenous fruit trees of 35 different species in 30 schools and 10 organizations within Selangor and Kedah.
- Collected more than 2500 indigenous fruit tree seedlings of 56 different species from five different forest fringe communities in Selangor, Perak and Pahang.
- Awareness and education on fruit tree conservation and tree care to participating schools and interested organizations.



K. KUMARASIVAM YOUNG ENVIRONMENTALIST INTERNSHIP AWARD 2013



The Environmental Management and Research Association of Malaysia (ENSEARCH) would like to invite young Malaysians with a passion for environmental management excellence to apply for the K. Kumarasivam Young Environmentalist Internship Award. This award began in 2004 and will provide the selected individual with the opportunity to be placed as an Intern in a reputable center of environmental management excellence abroad for a period of at least two weeks. It will cover all expenses related to travel, accommodation and an allowance for living expenses. In previous awards, successful applicants have been placed in Korea, Germany, Australia, Thailand, India, Singapore, Sri Lanka and Taiwan.

Candidates are invited to submit their: photocopy IC, current photo, current evidence of employment/education, detailed CV, essay (hardcopy & softcopy) and cover letter stating area of interest for internship and how they would benefit from the experience to be gained.

The selection criteria are as follows:

1. Below 35 years old (at the time of application) as of 15 April 2012.
2. Young professionals are encouraged to apply.
3. Interest or working experience in the environmental field.
4. Detailed CV highlighting interests, leadership and accomplishments in environment related field management and include at least two (2) professional referees.
5. Submission of a type-written (*Font: Times New Roman, Font Size: 12*) English essay of not more than 1,000 words, with thoughts and ideas of current environmental topics of interest, such as climate change, waste and/or resource management.
6. Shortlisted candidates will be contacted for interview.

Upon return, the candidate will be required to write a report on what he/she has learned as an intern and share his/her experiences and findings in an ENSEARCH organized function.

Please submit the above to the KKEF Awards Committee at No. 30-2, Jalan PJU5/16, Dataran Sunway, Kota Damansara, 47810 Petaling Jaya and /or email to kkef@ensearch.org before **30 August 2013**. Further details about ENSEARCH and the KKEF awards are available at www.ensearch.org Tel: 03-61569807/08 Fax: 03-61569803.



ENSEARCH CALENDAR

JULY 2013

Training: GIS Application in Environmental Management

Trainer: Dr. Tuong Thuy Vu

3 - 4 July (Wed & Thurs)

AUGUST 2013

Training: OSH Legislation - Occupational Safety and Health Act 1994 and Regulations

Trainer: Mr. Chan Tein Kee

28 - 29 Aug (Wed & Thurs)

SEPTEMBER 2013

Training: Air Pollution Assessment - Level 2

Trainer: Mr. Tan Poh Aun

5th Sept (Thursday)

Training: Industrial Waste Water Treatment & Optimization

Trainer: Prof. Dr. Md. Zahangir Alam

25 - 26 Sept (Wed & Thurs)

OCTOBER 2013

Training: Risk Assessment

Trainer: *To be Confirmed*

TBC

NOVEMBER 2013

Training: Social Impact Assessment

Trainer: Ms. Herlina Abdul Aziz

TBC

ENVIRONMENTAL LEGISLATION SEMINAR 2013



- Date** : 09th MAY 2013
- Venue** : Subang National Golf Club (KGNS)
- Guest of Honor** : Puan Halimah Hassan
Director General, Department of Environment (DOE), MALAYSIA.
- Keynote Address** : Puan Halimah Hassan, DG of Department of Environment.
- Speakers** :
- 1) Mr. Kiu Jia Yaw, Deputy Chairperson, Bar Council Environment & Climate Change Committee.
Title : Facing Environmental Challenges - The response of the Malaysia Bar.
 - 2) Dr. Norlinda Mohd. Zawawi, Executive Director & Principal Consultant for Enviro Business Asia Sdn. Bhd.
Title : Environmental Legislation and EMS Standards : Impact to Stakeholders.
 - 3) Ms. Marina Yong, Sustainability Mentor, Sustainability Momentum Sdn. Bhd.
Title : EQA 1974 in the 21st Century - A Perspective.
 - 4) Mr. Roger Chan Weng Keng, Co-Chair of Bar Council Environmental & Climate Change Committee.
Title : Addressing Gaps in Malaysian Environmental Legislation.
- Summary** : The Environmental Legislation Seminar 2013 is held in conjunction with ENSEARCH 's 29th AGM. The aim of the forum is to provide highlights and solicit views from various sectors such as representatives from the legal fraternity, industry players and stakeholders from various organization on the implications of the new amendments to the Environmental Quality Act 1974 in force and as well other environmental regulation in light of the current socio-economic development in Malaysia.
- The objective of the forum is to facilitate better understanding of the industries and various stakeholders in fulfilling their obligations under the law with reference to the latest amendments to the Environmental Quality Act 1974.
- Puan Halimah Hassan, DG for the Department of Environment presented the key note address during the forum. One of the meaningful message conveyed is it important for the Department of Environment working together with all stakeholders such as the NGOs, Industries, GLCs and the general public in further improving, reducing and managing our environment to ensure a clean, healthy and safe environment for our citizens with the message - that **Environmental Protection & Conservation Is Indeed Our Shared Social Responsibility.**

Supported by :



Department of Environment Malaysia

Sponsored by :



Texcycle Malaysia Sdn. Bhd.



Welcoming Address given by ENSEARCH
President, En. Abdul Aziz Long.

Environmental Legislation Seminar 2013
Participants



Mr. Roger Chan giving his talk on Addressing
Gaps in Malaysia Environmental Legislation.

The Panel Discussion and Question & Answer
session which was moderated by
Ir. Lee Heng Keng from ENSEARCH.



**K. KUMARASIVAM YOUNG ENVIRONMENTALIST INTERNSHIP AWARD 2012,
MEMORIAL PUBLIC LECTURE.**

Date	:	09th MAY 2013
Venue	:	Subang National Golf Club (KGNS)
Winner	:	Mr. Kelvin Diong Siong Loong
Internship to	:	Southern District Waste Management Plant, Kaohsiung City, Taiwan.
Summary	:	<p>K. Kumarasivam Young Environmentalist Internship Award began in the year 2004, provides selected individuals with the favorable break to be placed as an Intern in an esteemed environmental management centre overseas for a period of 2 weeks. For the year 2012, young environmentalist Mr. Kelvin was placed in Kaohsiung City, Gov. R.O.C. Environmental Protection Bureau 's Southern District Waste Management Plant. Mr. Diong was also fortunate to visit other solution for waste management such as Renwu Incineration Plant, Nanxing Project Seaside Landfill, Daliao Sanitary Landfill and Xiqingpu Methane Gas Energy Harvesting Power Plant. The 2 weeks in Kaohsiung City exposed Mr. Kelvin on Taiwan 's Integrated Waste Management Plan and the need to change waste to energy plant to substitute the role of landfills.</p>



**Kaohsiung City Government Environmental Protection Bureau Southern District
Waste Management Plant.**



Mr. Kelvin giving his introduction speech to the participating ENSEARCH members and public.



Mr. Kelvin going through his presentation lecture on Kaohsiung City Integrated Waste Management.

ENSEARCH 29th ANNUAL GENERAL MEETING (AGM)

Date : 09th MAY 2013

Venue : Subang National Golf Club (KGNS)

Summary : Its been 29 years since ENSEARCH was established as a non-profit association with interest in learning and promoting effective ways to manage the impacts of human activities on the environment. The 29th AGM was the final event for the programme itinerary at Subang National Golf Club on 09th May, 2013. A healthy crowd of members attended the annual event. The AGM started off with the Opening Address by the President, En. Abdul Aziz bin Long. Mr. Aziz began going through his speech by putting at heart on ENSEARCH current focus for the past few years which is refocusing efforts on building human resource capabilities and capacity related to environmental management. The confirmation of the 28th AGM and tabling and acceptance for Annual Report, Balance Sheet and Statements of Accounts was the next matter in the programme. The election of Council Members for session 2013/2014 was brought about in a quick fashion. Arising matters which was discussed and debated during the AGM was with regards to the endorsement of amendment to the constitution in relation to the formation of ENSEARCH Sabah Branch and the admittance of foreign members registering as members. The AGM was adjourned at 6.00 pm with words of thanks and appreciation by Mr. Abdul Aziz, to all members for their attendance and participation.



The Council members for session 2012/2013:-
 Ms. Geetha P. Kumaran (far left),
 En. Abdul Aziz bin Long,
 Mr. K.N. Gobinathan,
 Ir. Abu Harith bin Shamsuddin, Ir. Elias Saidin (far right).

29th AGM held at KGNS:
 Participating ENSEARCH members during the meeting.



ENSEARCH Joins Department of Environment to Promote Rakan Alam Sekitar.

Date : 05th June 2013.

Summary : ENSEARCH 's unyielding commitment to the environment is shown once again on 5th June 2013, where a Memorandum of Understanding (MoU) was signed with the Department of Environment (DOE). The MoU signed allows ENSEARCH to work closely DOE on providing environmental awareness at all levels of society, instill a sense of responsibility and care towards the environment and providing the right channel for the community to voice out their opinion or complaint about the environment to government related agencies through the Rakan Alam Sekitar (RAS) Membership Program.

The signing agreement on behalf of ENSEARCH was represented by our President himself, En. Abdul Aziz Long. The signing was also in conjunction with the World Environment Day 2013, which was witnessed by the Deputy Minister of Natural Resources and Environment, YB. Dato Dr. James Dawos Mamit. Also present as well was Deputy Secretary General (Environmental), YB. Datuk Dr. Abdul Rahim Bin Haji Nik and Dato ' Halimah Hassan, Director General for the Department of Environment.



Memorandum of Agreement (MoU) signing with the Department of Environment (DOE) to promote RAS took place in Genting Highlands. This program was also in conjunction with World Environment Day 2013.

PUTRAJAYA TREE PLANTING PROJECT

Date : 15th JUNE 2013

Venue : Taman Rimba Desa, Presint 9, Putraya

Summary : ENSEARCH and its partner organization BIODIVERSITY to part in a programme launched by Federal Territories Minister, Datuk Seri Tengku Adnan Tengku Mansor. This programme is in conjunction with the National Landscape Day themed “ *1Malaysia Komuniti Penggerak Negara Taman* ”. The aim of the programme is to build an interest in tree planting and tree care. It is also to increase awareness that greening environment is a shared responsibility. In addition, this programme is to ensure a balance between development and preservation of environment for a sustainable future, in line with turning Malaysia into a high tech developed garden nation by 2020.

More than 100 people turned up for the tree planting event in Taman Rimba Desa, Presint 9, Putrajaya. 150 indigenous fruit trees were planted by members of the Landscape and Park Department along with 20 students and teachers from the school in Putrajaya. Among the fruit tree species that were planted were Tampoi, Pulasan Hutan, Macang, Kundang and Larah.



A group of school student from Putrajaya at Taman Rimba Bukit Kerinchi in Pantai Dalam.



Kelidang (*Artocarpus lanceifolius*) is one of the 150 different indigenous fruit trees that was planted.

This programme also included participation from residents associations, uniformed bodies, non governmental organizations and the private sectors



The Putrajaya Tree Planting Project also provides an opportunity for the younger generation gain traditional knowledge related to these trees.

ENSEARCH COUNCIL 2013 / 2014

President	:	En. Abdul Aziz Long
Vice President	:	Mr. Gobinathan Kumaran Nair
	:	Ir. Ellias Saidin
Honorary Secretary General	:	Ms Geetha P. Kumaran
Asst. Honorary Secretary General:	:	Mr. Joel Lawrence Jayasunthar
Honorary Treasurer	:	Ir. Abu Harith Shamsuddin
Council Members	:	En. Mohamed Siraj Abdul Razack
	:	En. Akashah Hj. Majizat
	:	Mr. Khoo Boon Keat
	:	Ir. Lee Heng Keng
	:	Dr. Foo Say Moo
	:	Ms. Adibah Sabrina Mohd Sebri
Co-opted Members	:	Mr. Jaya Sarathy
	:	Ms. Jenny Tan Suat Eam
	:	Mr. Hari Ramalu
	:	Ms. Lee Tzee Wan
	:	(Petronas Rep.)
	:	Prof. Michael D. Steven
	:	(University of Nottingham Rep.)
	:	Datuk Adeline Leong
	:	(ENSEARCH Sabah Rep.)

ENSEARCH Secretariat 2013/2014

Executive Secretary	: Ms. Edna Xavier
Project Officer	: Ms. Geetha Baba
Project Officer (Cyber Plant Conservation Network)	: Ms. Audrey Percival
Project Officer (Training & Education/Publication & Website)	: Mr. Jonathan Kovilpillai
External Accountant	: Ms. Tan Siok Yin

"For a better environment"



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