

KEMENTERIAN TENAGA, SAINS, TEKNOLOGI, ALAM SEKITAR DAN PERUBAHAN IKLIM

| Bil | Berita | Media | Capaian Berita Penuh |
|---------------------------------|---|-------------------|--|
| 3 SEPTEMBER 2018 (ISNIN) | | | |
| 1. | <p><u>We're missing radioactive device and law on its safety</u></p> <p>It is understood that the safety and security of this radioactive device are under the regulatory control of the Atomic Energy Licensing Board (AELB), the regulatory body responsible for all things atomic in Malaysia, in other words, our radioactive guards.</p> | New Straits Times | Rujuk lampiran 1 atau klik pada tajuk berita |
| 2. | <p><u>Pemancar tak ancam kesihatan</u></p> <p>Menurut Pengarah Bahagian Keselamatan dan Kesihatan Sinaran, Agensi Nuklear Malaysia, Mohd Sidek Othman, sinaran adalah penggunaan istilah umum untuk menggambarkan pelepasan dan penghantaran tenaga melalui ruang dalam bentuk gelombang atau zarah.</p> | Utusan Malaysia | Rujuk lampiran 2 |
| 3. | <p><u>Peka keadaan cuaca</u></p> <p>Jabatan Meteorologi Malaysia (MetMalaysia) menasihatkan orang ramai supaya peka dengan keadaan cuaca serta mengambil langkah berjaga-jaga susulan kejadian hujan lebat dan angin kencang yang menyebabkan rumah rosak dan pokok tumbuh di sekitar ibu negara, petang semalam.</p> | Sinar Harian | Rujuk lampiran 3 |
| 2 SEPTEMBER 2018 (AHAD) | | | |
| 4. | <p><u>Inspiring to inspire</u></p> <p>After all, the 35-year-old is taking helm of a portfolio which is not just broad – the Energy, Science, Technology, Environment and Climate Change Ministry – but also one that is extremely technical.</p> | The Star | Rujuk lampiran 4 atau klik pada tajuk berita |

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| 5. | <p><u>Anti-open burning SOP being drafted</u></p> <p>Energy, Science, Technology, Environment and Climate Change Minister Yeo Bee Yin said her office was engaging various government agencies to create an SOP which would be first used to tackle persistent peat fires in Johan Setia, which residents claim have caused respiratory illnesses.</p> | The Star | Rujuk lampiran 5 atau klik pada tajuk berita |
| 6. | <p><u>All acclimatised to the challenge</u></p> <p>Today, however, any chasing related to her is only that of reporters trying to catch up with the Bakri MP, who, as the Energy, Science, Technology, Environment and Climate Change Minister, has been very busy in the past two months learning the technical nitty-gritty of her new portfolio.</p> | The Star | Rujuk lampiran 6 atau klik pada tajuk berita |
| 7. | <p><u>Fed ministry welcomes initiative to promote renewal energy</u></p> <p>Deputy Minister at the Federal Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC), Isnaraissah Munirah Majilis, herself an electrical engineer by profession, welcomed the initiative by Renewable Energy Association of Sabah (REASabah) to further promote the development of clean green technologies in the electricity supply industry.</p> | The Borneo Post | Klik pada tajuk berita |
| 1 SEPTEMBER 2018 (SABTU) | | | |
| 8. | <p><u>Yeo: Illegal plastic recycling factories threatening the environment</u></p> <p>The Energy, Science, Technology, Environment and Climate Change Minister said the government had blocked the import of plastic waste a month ago and shut down 14 illegal recycling factories in Kuala Langat.</p> | The Star | Klik pada tajuk berita |

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| 9. | <p><u>Yeo: Blueprint from Klang peat fires to forge national SOP on open burning</u></p> <p>The Energy, Science, Technology, Environment and Climate Change (MESTECC) Ministry is engaging various government agencies including the Fire and Rescue Department, Klang Land Office, Department of Environment, Klang Municipal Council and state assemblymen to come up with a new SOP to solve the Johan Setia peat fire once and for all.</p> | The Star | Klik pada tajuk berita |
| 10. | <p><u>SOP baharu tangani pembakaran terbuka</u></p> <p>Menterinya, Yeo Bee Yin, berkata kawasan di Kampung Johan Setia di sini, yang menghadapi masalah itu sejak lebih 10 tahun lalu akan dijadikan projek perintis ke arah perangkaan SOP berkenaan yang dijangka mengambil masa dua minggu hingga sebulan untuk disiapkan.</p> | Berita Harian | Rujuk lampiran 7 atau klik pada tajuk berita |
| 11. | <p><u>Putrajaya working on SOP to curb open burning, minister says</u></p> <p>A new standard operating procedure (SOP) will be drafted soon to holistically address open burning activities particularly in areas with peat soil like Johan Setia here, said Energy, Green Technology, Science and Climate Change Minister Yeo Bee Yin.</p> | Malay Mail | Klik pada tajuk berita |
| 12. | <p><u>New SOP to deal with open burning in peat soils: Yeoh Bee Yin</u></p> <p>A new standard operating procedure (SOP) will be drafted soon to holistically address open burning activities, particularly in areas with peat soil like Johan Setia here, according to Energy, Green Technology, Science and Climate Change Minister Yeoh Bee Yin.</p> | The Sun Daily | Klik pada tajuk berita |

TEMPATAN

| Bil | Berita | Media | Capaian Berita Penuh |
|--------------------------|---|-------------------|--|
| 3 SEPTEMBER 2018 (ISNIN) | | | |
| 13. | <u>Taking IoT to the next level</u> “The devices could be transmitting -singular data points like temperature, humidity, send alerts like ‘I’m alive’ or -‘electricity on’. | The Star | Rujuk lampiran 8 atau klik pada tajuk berita |
| 14. | <u>Man of the people</u> To provide access to more than two billion people who lack modern energy services; promote renewable energy; reduce over-consumption; and ratify the Kyoto protocol to address climate change | New Straits Times | Rujuk lampiran 9 atau klik pada tajuk berita |
| 15. | <u>Program Kecekapan Tenaga galak pelajar alami STEM</u> Gas Malaysia (MGA) dengan kerjasama Petrosains dan Kementerian Pendidikan menganjurkan acara tahunan Program Kecekapan Tenaga (EEP) bagi menggalakkan generasi muda mempelajari serta meminati bidang Sains, Teknologi, Kejuruteraan dan Matematik (STEM). | Utusan Malaysia | Rujuk lampiran 10 |
| 16. | <u>Aplikasi teknologi hijau berkesan</u> Sekiranya pelepasan gas karbon dapat dikurangkan dengan jumlah yang ketara, kenaikan suhu permukaan purata global juga akan menjadi terhad. | Sinar Harian | Rujuk lampiran 11 |
| 17. | <u>Efficient energy usage</u> With electricity tariffs set to go up in the near future, it makes good sense to use electricity more efficiently and save money at the same time. | The Star | Rujuk lampiran 12 |

2 SEPTEMBER 2018 (AHAD)

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| 18. | <u>Team wins bronze medals in math olympiad</u> This is part of its commitment to Science, Technology, Engineering and Mathematics (STEM) initiatives in Malaysia. | The Star | Klik pada tajuk berita |
| 19. | <u>The Viking survival guide to climate change</u> Balascio is part of a team of archaeologists, climate scientists and students studying what remains of some of those coastal settlements by extracting core samples from the bottoms of glacial lakes. | The Star | Rujuk lampiran 13 atau klik pada tajuk berita |
| 20. | <u>Education, key to protecting our planet</u> MALAYSIA is recognised as one of the top 12 mega-biodiversity countries in the world. Our country is home to a great variety of natural resources that provide for the well-being and economic development of its people. | The Star | Rujuk lampiran 14 atau klik pada tajuk berita |

1 SEPTEMBER 2018 (SABTU)

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| 21. | <u>Reinforcing the security chain</u> According to another survey, 96 per cent of Malaysian enterprises are only in the early stages of security preparedness. While these companies recognise the importance of cyber security, most have only deployed basic tools like firewalls and anti-virus protections for on-premises and managed devices. | New Straits Times | Klik pada tajuk berita |
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31 OGOS 2018 (JUMAAT)

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| 22. | <u>Transforming waste management/ Sewerage company reflects on efforts to keep Malaysian waters clean</u> Along the way, there is a growing recognition that wastewater treatment is the solution to community sanitation by properly treating wastes into safer forms that is then released into the environment. | The Star | Rujuk lampiran 15 atau klik pada tajuk berita |
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| 23. | <u>Inovasi serap gempa</u> Teknologi Penyerap Getaran Struktur untuk elak risiko akibat gempa bumi dihasilkan kumpulan penyelidik dari Universiti Putra Malaysia (UPM) menarik minat syarikat kejuruteraan dan binaan, Herculas Engineering (SEA) Sdn Bhd berganding bahu mengkomersialkannya ke peringkat antarabangsa. | Harian Metro | Rujuk lampiran 16 atau klik pada tajuk berita |
| 24. | <u>Pendapatan TNB RM24.77 bilion</u> Tenaga Nasional Bhd. (TNB) mencatatkan pendapatan sebanyak RM24.77 bilion manakala perbe-lanjaan operasi berjumlah RM17.37 bilion untuk separuh pertama tahun kewangan berakhir 31 Disember 2018. | Utusan Malaysia | Rujuk lampiran 17 atau klik pada tajuk berita |

ANTARABANGSA

| Bil | Berita | Media | Capaian Berita Penuh |
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| 3 SEPTEMBER 2018 (ISNIN) | | | |
| 25. | <u>How AI could help forecast quake aftershocks</u> Lightning might not strike twice, but earthquakes can. And forecasting where aftershocks will hit might now be a little easier thanks to an assist from artificial intelligence. | The Star | Klik pada tajuk berita |
| 26. | <u>A good time to beef up cybersecurity</u> Coming back to work after a long break? It's as good a time as any to make sure you and your staff is on the same page when it comes to cybersecurity. | The Star | Rujuk lampiran 18 atau klik pada tajuk berita |
| 27. | <u>Drought-hit farmers call on Gove to honour promise of assistance</u> The first half of this year's summer was the driest in the UK since 1961, with harvests suffering as a consequence of the hot weather. | The Guardian | Klik pada tajuk berita |

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| 28. | <p><u>How to buy less plastic when you shop at the supermarket</u></p> <p>That means tons of plastic gets used one time, only to be thrown away. It's a disaster for the environment – and it's also mostly unnecessary.</p> | The Star | Rujuk lampiran 19 |
| 29. | <p><u>Bangkok risks 'massive flooding' near future</u></p> <p>As Bangkok prepares to host climate-change talks, the sprawling city of more than 10 million is itself under siege from the environment, with dire forecasts warning it could be partially submerged in just over a decade.</p> | Malay Mail | Rujuk lampiran 20 |
| 30. | <p><u>Japan braces for 'very strong' typhoon</u></p> <p>Typhoon Jebi, packing winds of up to 252 kilometres an hour, is expected to make landfall on the country's main island on Tuesday, according to Japan's Meteorological Agency.</p> | Malay Mail | Rujuk lampiran 21 |
| 31. | <p><u>Lagi gempa baharu gegar Lombok</u></p> <p>Pulau Lombok sekali lagi digegarkan gempa bumi berukuran 5.3 pada skala Richter awal pagi semalam.</p> | Sinar Harian | Rujuk lampiran 22 |
| 32. | <p><u>MagicScroll, tablet PC gulung pertama dunia</u></p> <p>Sekumpulan saintis berjaya mencipta tablet komputer peribadi (PC) gulung pertama di dunia dikenali sebagai MagicScroll. MagicScroll berkenaan memaparkan skrin sentuh fleksibel yang boleh berputar melalui bentuknya yang silinder atau bertukar kepada paparan rata.</p> | Utusan Malaysia | Rujuk lampiran 23 atau klik pada tajuk berita |
| 2 SEPTEMBER 2018 (AHAD) | | | |
| 33. | <p><u>UK's green watchdog will be powerless over climate change post-Brexit</u></p> <p>Ministers are “deliberately weakening” the green watchdog that will hold the government to account</p> | The Guardian | Klik pada tajuk berita |

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| | after Britain leaves the EU, according to Labour's shadow Brexit minister. | | |
| 34. | <p><u>Plastic waste bid to fuel hydrogen cars at Swansea University</u></p> <p>Dr Moritz Kuehnel, from Swansea University's chemistry department, said it could be cheaper than recycling plastic as any plastic can be used and it does not need cleaning.</p> | BBC News | Klik pada tajuk berita |
| 31 OGOS 2018 (JUMAAT) | | | |
| 35. | <p><u>Penduduk Perth rakam imej bebola api 'tahi bintang'</u></p> <p>Penduduk Perth merakamkan imej bebola api dipercayai tahi bintang menerangi ruang angkasa ibu negeri Australia Barat itu semasa terhempas ke Bumi, malam semalam.</p> | Utusan Malaysia | Rujuk lampiran 24 atau klik pada tajuk berita |
| 36. | <p><u>Aussie dry season 'to last 3 months'</u></p> <p>Australia's east coast will experience dry weather for at least the next three months, the country's meteorological bureau said yesterday, intensifying a drought that has wilted crops and left farmers struggling to stay in business.</p> | New Straits Times | Rujuk lampiran 25 |
| 37. | <p><u>Myanmar dam breach floods 85 villages</u></p> <p>As many as 85 villages were flooded in Myanmar after a dam failed, unleashing waters that blocked a major highway and forced more than 63,000 people from their homes, a state-run newspaper said yesterday.</p> | New Straits Times | Rujuk lampiran 26 |
| 38. | <p><u>Scientists design VIRUS to build electrical components out of GOLD</u></p> <p>"By understanding and harnessing these capabilities, this extraordinary nanoscale precision can be used to build highly advanced materials with previously unattainable performance."</p> | Daily Star | Klik pada tajuk berita |
| 39. | <p><u>Wildfires And Energy, Will California Get It Right?</u></p> <p>California is in a bit of a predicament as the state imposes "inverse condemnation" on utilities if</p> | Forbes | Klik pada tajuk berita |



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| | electrical equipment is a substantial cause of a wildfire. | | |
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LAMPIRAN 1

NEW STRAITS TIMES (LETTERS): MUKA SURAT 17

TARIKH: 3 SEPTEMBER 2018 (ISNIN)

WHO'S GUARDING THE GUARDS?

WE'RE MISSING RADIOACTIVE DEVICE AND LAW ON ITS SAFETY

THERE was a heated discussion on a missing radioactive device on a radio station recently. Apparently, a newspaper reporter had revealed "too much information" on the case, which may give ideas or the "right information" to the wrong people.

As such, one who was clueless about the device and its worth can estimate its black market value, all from just reading the article.

But more worrying is what was not covered in the article.

It is understood that the safety and security of this radioactive device are under the regulatory control of the Atomic Energy Licensing Board (AELB), the regulatory body responsible for all things atomic in Malaysia, in other words, our radioactive guards.

But, what about safety and security that fall under the nuclear aspect?

Nuclear safety is the protection of the public and the environment against radiation risk, and the safety of facilities and activities that give rise to radiation risk.

Meanwhile, nuclear security is prevention, detection and response to malicious acts that involve radioactive and nuclear material. Nuclear safety and security have the same end goal: to protect human lives, health and environment.

AELB derives its power and jurisdiction from the Atomic Energy Licensing Act 1983 (Act 304).

Act 304 governs only the regulatory control of nuclear safety.

The act doesn't cover the safety and security aspects of atomic energy activities.

As such, AELB does not have the full provision to govern nuclear security.

This is worrying when one considers the missing radioactive device and other nuclear-related equipment.

These devices should be regulated for their safety and security, but Malaysia does not have the legislation and regulatory framework for the purpose. Not only do we have a missing radioactive device, we also are missing a law to regulate its safety and security.

As an alternative, one can argue that Section 130B of the Penal Code, which covers offences relating to terrorism, is sufficient to regulate nuclear security as it criminalises the use of radioactive devices, and any other similar equipment, for criminal purposes.

However, the Penal Code is applicable only if the device falls under the interpretation of



Nuclear safety is the protection of the public and environment against radiation risk, and the safety of facilities and activities that give rise to radiation risk. REUTERS PIC

"explosive or other lethal device".

Additionally, to be charged under the said code, the offence must be evidentiary, where you need to prove the "mens rea" (the intention or knowledge of wrongdoing that constitutes part of a crime) and "actus reus" (action or conduct that is a constituent element of a crime).

I feel that nuclear security of a radioactive device and other similar equipment should not be limited to instances when it is used for criminal purposes or when there is an element of terrorism.

As nuclear

security encompasses multifaceted countermeasures to prevent nuclear terrorism, including the protection of nuclear facilities and materials, Section 130B of the Penal Code is insufficient to regulate nuclear security.

The ideal principal law to cover the Nuclear 3S (safety, security, and safeguards) should ensure that any user of these radioactive materials must follow requirements that assure the safe, secured and safeguarded use and transport of the said materials for its peaceful purposes.

The law shall then equip AELB with staff who are trained by the International Atomic Energy Agency, an autonomous international organisation in the United Nations, and knowledgeable in handling these materials, to have the principal safety, security and safeguards (3S) authority to regulate nuclear-related activities.

This will give assurances that the public and environment can be protected from ionising radiation.

Since Act 304 was in-

troduced in 1984, it, worryingly, does not fully guarantee this, and has remained static, while the world embraces the 3S requirement in regulating nuclear-related activities.

Thus, there is a gap in the law. While the missing radioactive device is the first such incident under Malaysia Baru, it may not be the last and there is a possibility that this could even escalate.

As such, the Energy, Science, Technology, Environment and Climate Change Ministry, which is the patron of AELB, must look into the issue by getting advice from technical experts and, subsequently, reassess gaps in our nuclear 3S-related legal and regulatory framework so that we will be in line with international best practices and standards.

In light of the lax procedures and requirements in the tracking, transport and security of radioactive devices, the ministry's position and policy on atomic energy activities and the roles of related agencies must be stated.

This is important when one considers that Malaysia is an important regional transit and trans-shipment hub.

Therefore, Malaysia needs to address the lack of legal and regulatory framework to regulate the safety and security aspects of atomic energy activities and address this question: "Quis custodiet ipsos custodes?" (Who will guard our guards?)

NAJWA HASSAN

Energy activist and member of the Women in Nuclear and International Nuclear Law Association



Radioactive devices and nuclear-related equipment must be regulated for their safety and security.

LAMPIRAN 2

UTUSAN MALAYSIA (MEGA SAINS): MUKA SURAT 1

TARIKH: 3 SEPTEMBER 2018 (ISNIN)

PEMANCAR TAK ANCAM KESIHATAN

MANUSIA terdedah kepada pelbagai jenis sumber sinaran dalam kehidupan sehari-hari sama ada dari sumber semula jadi atau pun buatan manusia. Antaranya adalah sinaran ultraviolet (UV) daripada matahari, sumber mineral, peralatan elektrik, peralatan hospital, gelombang radio, gelombang mikro, laser dan sebagainya.

Terdapat pelbagai persoalan, sama ada dedahan kepada sinaran seperti ini berbahaya?

Peralatan komunikasi seperti telefon pintar, menjadi sebahagian dari kehidupan manusia. Justeru, penggunaan sinaran atau gelombang elektromagnetik yang dipanggil frekuensi radio (RF) adalah sangat penting untuk memastikan sistem komunikasi berfungsi dengan baik.

Menurut Pengarah Bahagian Keselamatan dan Kesihatan Sinaran, Agensi Nuklear Malaysia, Mohd. Sidek Othman, sinaran

Oleh AQILAH MIOR KAMARULBAID
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adalah penggunaan istilah umum untuk menggambarkan pelepasan dan penghantaran tenaga melalui ruang dalam bentuk gelombang atau zarah.

Sinaran terbahagi kepada dua iaitu sinaran mengion dan sinaran tidak mengion (NIR). Jenis-jenis sinaran perlu difahami agar masyarakat faham kegunaannya dan tidak disalah faham sehingga menyebabkan berasa bimbang, tidak selamat, keliru yang membawa kepada persepsi yang tidak tepat tentang teknologi ini.

Kekeliruan orang awam terhadap sinaran RF dari struktur pemancar telekomunikasi boleh diuraikan secara terperinci dengan memahami konsep asas sinaran. Sinaran RF dikategorikan NIR seperti sinaran elektromagnet frekuensi rendah (ELF, EMF), laser, cahaya boleh nampak dan UV.

NIR mempunyai tenaga yang sangat rendah dan tidak berupaya untuk membebaskan elektron atau melaksanakan perubahan dalam struktur atom. Justeru, ia tidak boleh menyebabkan proses pengionan. Julat frekuensi penggunaan sinaran RF adalah di



antara 3 kiloHertz (kHz) hingga 300 gigahertz (GHz).

"Sinaran mengion pula mempunyai tenaga yang mencukupi untuk melaksanakan perubahan dalam atom media yang dilaluinya, membebaskan elektron (mengion) dari atom asalnya dan menghasilkan sinaran alfa, beta, gama dan neutron.

"Sinar-X yang dihasilkan melalui radas penyinaran juga dikategorikan sebagai sinaran mengion dan banyak digunakan dalam industri dan juga hospital di negara ini. Oleh kerana sinaran mengion mempunyai tenaga

yang lebih tinggi berbanding NIR, maka sering dikaitkan dengan risiko terhadap keselamatan dan alam sekitar jika disalahgunakan," katanya ketika ditemui Mega Sains baru-baru ini.

Tambah beliau, penggunaan sinaran RF dalam memberikan liputan telekomunikasi pada dasarnya sangat penting kerana ia menghubungkan telefon pintar dengan menara pemancar telekomunikasi supaya mendapat liputan dan boleh berfungsi dengan baik.

Untuk mendapat liputan yang baik dan optimum,

MOHD SIDEK OTHMAN (kanan) bersama P. Shamesh Raj (tengah) dan Pembantu Jurutera Agensi Nuklear Malaysia, Mohd Azizi Mohd Ali (kiri) membuat bacaan radiasi sistem komunikasi di Stesen Pemantauan Radionuklid RN24 Agensi Nuklear Malaysia di Cameron Highlands, Pahang baru-baru ini.

syarikat penyedia rangkaian telekomunikasi membina lebih banyak menara pemancar telekomunikasi seiring dengan perubahan teknologi semasa.

"Kita sangat bergantung kepada frekuensi radio kerana sistem komunikasi wayarless yang terdiri daripada sistem pemancar telekomunikasi dan telefon pintar tidak boleh berfungsi tanpanya. Kita juga tidak mendapat liputan telefon dan Internet."

"Terdapat pelbagai jenis struktur telekomunikasi antaranya struktur kutub tunggal (monopole), menara di atas tanah, struktur pada tiang lampu, struktur di atas bumbung bangunan dan antena yang diletakkan di atas tangki air, papan iklan mahupun masjid yang berperanan untuk memberi liputan memancarkan isyarat gelombang radio bagi membolehkan telefon menerima isyarat," jelasnya.

Tambah Mohd. Sidek, untuk mendirikan pemancar telekomunikasi, setiap penyedia rangkaian telekomunikasi perlu mendapatkan kebenaran pihak berkuasa tempatan (PBT) dan mengikut standard yang ditetapkan oleh Suruhanjaya Komunikasi dan Multimedia

Malaysia (SKMM).

Malah, pembinaan struktur telekomunikasi diperlukan bagi meluaskan liputan dan meningkatkan kualiti supaya pengguna dapat menikmati perkhidmatan komunikasi yang optimum dan memuaskan.

"Selain itu, penempatan penduduk dalam sesebuah kawasan juga mendorong kepada penempatan penempatan struktur telekomunikasi yang lebih banyak bagi menampung keperluan mereka.

Sejak akhir tahun 1990-an, isu sinaran RF telah dibangkitkan oleh pengguna. Justeru, SKMM dan Nuklear Malaysia bekerjasama rapat dalam menangani aduan, rungutan dan kebimbangan yang dibangkitkan. Kumpulan Sinaran Tidak Mengion, Bahagian Keselamatan dan Kesihatan Sinaran, Agensi Nuklear Malaysia ditubuhkan pada 1996 menjalankan beberapa aktiviti termasuk penilaian aras sinaran, program kesedaran awam, penyelidikan dan latihan serta kursus berkaitan dengan NIR.

Gambar: AZRUL EDHAM MOHD AMINUDDIN

Pemancar banyak lagi baik

BERKALI-KALI kita mencetuskan dengan kesan bahaya sinaran frekuensi radio (RF) daripada struktur pemancar telekomunikasi yang kononnya penyebab penyakit kanser. Ini menyebabkan orang ramai yang mula takut apabila syarikat telekomunikasi memasang pemancar telekomunikasi di

INFO

- Punca sinaran tidak mengion: RF
- Telefon pintar
- Televisyen dan radio
- Sistem jalur lebar (Bluetooth)
- Menara telekomunikasi
- Struktur telekomunikasi
- Pemancar atau antena
- Peralatan hospital dan MRI
- Radar
- Penyiaran
- Pengesanan logam

kawasan perumahan, malah lebih teruk mencetuskan bantahan pembangunan pemancar tersebut oleh pihak yang tidak berpuas hati.

Walaupun terdapatnya beberapa kajian mengenai perkara tersebut, namun data yang diperoleh boleh dipertikai memandangkan tiada sumber yang jelas boleh dikaitkan dengan kesihatan.

Terdapat 500 pemancar telekomunikasi di seluruh negara dengan data kurang satu peratus daripada yang ditetapkan oleh SKMM dan agensi antarabangsa seperti International Commission on Non-Ionising Radiation Protection (ICNIRP) dan IEEE. Ini bermakna sebarang sinaran frekuensi radio

yang terhasil daripada stesen pemancar telekomunikasi adalah selamat berdasarkan had pendedahan.

Menurut Pegawai Penyelidik Bahagian Keselamatan dan Kesihatan Sinaran, Agensi Nuklear Malaysia, P. Shamesh Raj, kajian yang dijalankan sebelum ini menjadi punca masyarakat gelisah dan takut dengan pembinaan pemancar telekomunikasi.

"Jika diamati, rekaan pemancar itu sendiri sudah selamat dan mengikut piawai yang ditetapkan dan sekiranya dibina di kawasan perumahan atau kepadatan penduduk pastinya pembekal telekomunikasi membina

pemancar pada jarak fizikal yang selamat bagi mengelakkan kemalangan," jelasnya.

Beliau juga menambah, sinaran frekuensi daripada

menara telekomunikasi, struktur komunikasi, televisyen, radio, telefon mudah alih, gelombang mikro dan satelit hanya sekitar 3 kHz hingga 300 GHz, dan masih lagi pada tahap selamat.

"Tahap had yang tidak selamat adalah di antara 3,000 THz hingga 30 EHZ iaitu daripada sumber radio aktif, malah struktur pemancar telekomunikasi dipasang pada struktur tinggi seperti tangki air, menara atau bangunan tinggi mahupun di kawasan lapang.

"Antena diletakkan di kedudukan paling tinggi untuk memastikan kawasan liputan sejauh mungkin. Ketinggian menara pemancar secara purata antara 50 hingga 100 kaki. Gelombang frekuensi radio (RF) adalah sangat lemah dan tidak mempunyai kuasa mencukupi untuk mengganggu kesihatan manusia," katanya.

Justeru tiada apa yang perlu ditakutkan, malah memberi kelebihan kepada penduduk setempat sekiranya struktur pemancar telekomunikasi atau pemancar telekomunikasi dibina berdekatan kawasan anda.

Agensi Nuklear Malaysia merupakan agensi teknikal yang menjalankan penilaian keselamatan sinaran RF menara pemancar telekomunikasi bagi mengetahui aras sinaran dari menara telekomunikasi.

Dalam pada itu, menurut Mohd Sidek Othman, penilaian bertujuan memastikan aras sinaran atau radiasi RF yang dihasilkan dari menara telekomunikasi tersebut mematuhi had dedahan untuk orang awam seperti yang dinyatakan dalam Standard Mandatory SKMM dan ICNIRP.

"Antara proses yang akan dilakukan adalah mengenal pasti sumber frekuensi radio dan mengenal pasti titik pengukuran. Lokasi pengukuran dipilih berdasarkan kepada keberagkalian orang ramai mendapat dedahan radiasi RF seperti kawasan perumahan dan taman permainan kanak-kanak.

"Dalam kata lain, pengukuran hanya dilakukan sekiranya wujud permintaan, aduan atau bantahan daripada orang ramai bagi memastikannya selamat," jelasnya lagi.



MOHD SIDEK OTHMAN



SHAMESH RAJ PARTHASARATHY

LAMPIRAN 3
SINAR HARIAN (NASIONAL): MUKA SURAT 12
TARIKH: 3 SEPTEMBER 2018 (ISNIN)

Peka keadaan cuaca

KUALALUMPUR – Jabatan Meteorologi Malaysia (MetMalaysia) menasihatkan orang ramai supaya peka dengan keadaan cuaca serta mengambil langkah berjaga-jaga susulan kejadian hujan lebat dan angin kencang yang menyebabkan rumah rosak dan pokok tumbang di sekitar ibu negara, petang semalam.

Pengarah Pusat Operasi Cuaca dan Geofizik Nasional MetMalaysia, Dr Mohd Hisham Mohd Anip berkata, orang ramai perlu mengelakkan daripada meletakkan kenderaan atau berada di kawasan banyak pokok, papan tanda (street signboard) dan papan iklan (billboard) kerana ia berkemungkinan tumbang ketika cuaca buruk.

Menurutnya kejadian

hujan lebat dan angin kencang ekoran pembentukan awan kumulonimbus, iaitu sumber utama pembentukan hujan ribut petir, disebabkan arus perolakan yang kuat dalam awan berkenaan.

Pembentukan awan kumulonimbus katanya, kerap berlaku di Malaysia yang beriklim tropika.

Katanya, selain mengakibatkan hujan lebat dan angin kencang, ia juga kadang-kala boleh menghasilkan hujan air batu.

Orang ramai boleh mendapatkan maklumat cuaca terkini menerusi laman sesawang, www.met.gov.my, aplikasi my-Cuaca pada telefon bimbit pintar, laman sosial Facebook Malaysiamet dan Twitter @malaysian-met, SMS 15888 atau talian hotline 1300 22 1MET (1638). - Bernama

LAMPIRAN 4

THE STAR (FOCUS): MUKA SURAT 17

TARIKH: 2 SEPTEMBER 2018 (AHAD)

Inspiring to inspire

WITH her youth and a Masters in Philosophy in Advanced Chemical Engineering from Cambridge University, it is no surprise that Yeo Bee Yin is an inspiration to many women.

After all, the 35-year-old is taking helm of a portfolio which is not just broad – the Energy, Science, Technology, Environment and Climate Change Ministry – but also one that is extremely technical.

But then, Yeo knows quite a bit about being inspiring. After all, it was another woman who has first inspired her.

Her aunt, Yeo Swee Lan, became the first woman from the village to enter university. Batu Anam, where Yeo was born on May 26, 1983, was – and still very much is – a sleepy hollow near Segamat in northern Johor surrounded by rubber and oil palm plantations where nothing much happened. In fact, Yeo tells, as a young girl, she had been quite contented to live out her life in Batu Anam apart from two serious incidents: as a toddler, she hit her head on the edge of wooden sofa, requiring a long spell in ICU, and shortly after, was hit by a car.

But her aunt changed her mind.

"It's a very small kampung where nobody – no woman – went to university and my aunt became the first one."

"She inspired me that as a girl, I could go to university as well, and I wouldn't have to end up my life by just marrying somebody," she shares.

As she had noted in her personal blog some time ago, most women tended to only play complementary roles to men in her community then or the way that princesses were always rescued by their knight or Prince Charming in Disney films.

Having an aunt who successfully graduated from university, she says, inspired her to do more. It also opened her eyes to the need for good role models for young women and girls.

"When I was young, I never thought myself as a politician because there is no role model. It was even difficult for me to imagine myself going to university," she admits.

It is precisely this lack of role models, according to Yeo, that is contributing to the current deficit in the number of young women and girls in Science, Technology, Engineering and Mathematics (STEM) subjects, and even in politics.

Yeo once lamented about the "uncles only" phenomenon in DAP and other political parties in her Reimagining Malaysia series on her blog, which was compiled into a book and released in April.

For that girl from Batu Anam, however, she did not just get to enter university. She became one of the few women who studied chemical engineering at the Universiti Teknologi Petronas (UTP) under a Petronas Scholarship – graduating with a first class honours – before completing her masters with a commendation in Cambridge under the Gates Cambridge Scholarship.

In between, she had a stint with Schlumberger Limited, the world's largest oilfield services company, working in, among other places, Turkmenistan, where she spent close to two years, and Alexandria in Egypt and Baku in Azerbaijan.

With women making up less than half of the graduates in engineering and technology in Malaysia in 2015, this is a situation that Yeo is personally trying to reverse.

"I will now accept invitations to get me to speak on women for engineering, science, STEM – all this, I will go because I think that's part of my role," she vows.

It is a role that Yeo hopes other women engineers and scientists will pick up as well – by speaking to female students and convincing that they, too, could equally excel in STEM subjects.

"We can also do whatever man can do and even more than what men can do. So, role models are important," she stresses, adding that girls are only being held back by cultural differences and psychological barriers.

"There is no biological differences," she points out.

Asked if there has been anyone who had



No Disney princess: Yeo's role model while growing up in Batu Anam, a sleepy hollow near Segamat, was her aunt.

ever told her that she could not do it – as critics and naysayers are aplenty in the political minefield – Yeo says: "There have been but not my parents."

"I don't look at what people say I cannot do. I only take the positive comments. I ignore negative comments."

Yeo is indeed used to naysayers.

In fact, after finding out she would not be allowed to defer her 10-year bond with Petronas despite being accepted into Cambridge, she went to work with Schlumberger, turning her disappointment into an opportunity to work overseas.

It was also during that time – on May 9, 2008, to be exact – that she began her journey into politics. The then Pakatan Rakyat had denied Barisan Nasional its two-thirds' majority in Parliament in the GE13, a historical first.

"When I opened *The Star* online and saw the news on the political tsunami, I realised how I still love and care about my country," she says.

That moment touched Yeo, who after half a year, quit her job.

"I wanted to be back to make a change to my nation so that our next generation do not need to wander around the world for a better future because the better future IS in Malaysia," she recalls.

After fulfilling her personal dream of studying in Cambridge, she headed back to Malaysia with a new vigour, joining DAP 2012.

Picked to contest the then Damansara Utama state seat in the general election in 2013, Yeo won with a 30,689-majority, making her the youngest assemblyman in Selangor.

For the 14th General Election, despite being a first-term assemblyman, she was moved from Selangor to her home state, standing in the Bakri parliamentary seat in Johor as one of Pakatan Harapan's frontliners in its bid to capture the state.

She trounced her opponents with a 23,211-vote majority – the highest majority ever achieved for that constituency.

As a young, single woman in politics, Yeo is no stranger to unsavoury comments – just check Google and Lowyat.

However, Yeo, who, besides being Bakri MP for DAP, is also its National Assistant Publicity Secretary as well as vice-chairman of Pakatan Harapan Youth, has learnt early on in her political career to dismiss such destructive criticisms and comments. "In politics, as in life, a lot of people are going to say a lot of negative things."

"Your life is going to be miserable and it's not productive to look at the negative things that people say."

"I would rather spend more time and get more energy from people who encourage us, who want the best for us and those who want us to do well in life."

Sounds like good advice, Yang Berhormat.

LAMPIRAN 5
NEW STRAITS TIMES (NATION): MUKA SURAT 6
TARIKH: 2 SEPTEMBER 2018 (AHAD)

Anti-open burning SOP being drafted

KLANG: A new inter-agency standard operating procedure (SOP) is being drawn up to combat open burning nationwide.

Energy, Science, Technology, Environment and Climate Change Minister Yeo Bee Yin said her office was engaging various government agencies to create an SOP which would be first used to tackle persistent peat fires in Johan Setia, which residents claim have caused respiratory illnesses.

"We need an SOP where government agencies will coordinate among themselves to put out fires and solve the issue at the root," she said.

Yeo, who held a dialogue with residents in Klang, said such fires should be tackled without a minister having to *turun padang* (going to the ground).

Yeo said the SOP would include reducing the risk of open burning on peat soil and the effective coordination of all agencies involved.

They include the Fire and Rescue Department, Klang Land Office, Department of Environment, Klang Municipal Council along with state assemblymen.

Based on feedback from residents, Yeo will also be engaging the Agriculture and Agro-based Industry Ministry and Home Ministry because the Johan Setia fires are often started by foreign workers in plantations.

As the haze in Klang reached worrying levels, Yeo on Aug 15 visited Johan Setia and coordinated fire-fighting operations to improve the

"We are solving a national problem where, if there is anything similar happening in other parts of the country, the same SOP can be applied."

Yeo Bee Yin

air quality.

"As a federal minister, I am here not only to solve a local problem. We are solving a national problem where, if there is anything similar happening in other parts of the country, the same SOP can be applied," said the Bakri MP.

The SOP is expected to be ready in a month's time.

On the crackdown on illegal plastic waste recycling factories in Kuala Langat, Yeo said factories that imported plastic waste from January and June had existing stock that could not be processed.

As a result, she said some of these illegal factories had indiscriminately dumped the waste on empty land.

Yeo pointed out that not all recycling plants were illegal.

She said the government would only take action against those that were unlicensed or polluters.



Closer look: Firefighters briefing Yeo during her visit to a fire site in Johan Setia, Klang.

LAMPIRAN 6

THE STAR (FOCUS): MUKA SURAT 16

TARIKH: 2 SEPTEMBER 2018 (AHAD)

My Minister

Yeo Bee Yin



“We will spend money on what the market needs and research that can generate jobs and money for our economy.”

BY SIM LEOI LEOI
sunday@thestar.com.my

IT is hard to imagine Yeo Bee Yin - engineer, Cambridge University graduate and politician extraordinaire - as a “problematic pupil”.

Writing in her personal blog, Yeo has described how as a pupil in SRJK (C) Seg Hiwa, one of the best schools in Segamat then, she used to feign stomach ache and even chased after the school bus once to beg the driver to take her home.

Today, however, any chasing related to her is only that of reporters trying to catch up with the Bakri MP who, as the Energy, Science, Technology Environment and Climate Change Minister, has been very busy in the past two months learning the technical nitty-gritty of her new portfolio.

While Yeo thinks she is fortunate to head a ministry where the “terms, jargons, graphs and calculations” are familiar to her, she does not believe that prior training in a ministry’s particular field to be essential.

“Because what ministers eventually do... is to drive the direction for the ministry.”

“It’s good if you’re an engineer or a scientist to lead a ministry like this but I think I have as much faith in an accountant and anybody (else) to lead, as long as the person can learn quickly and have a direction,” she says.

Indeed, Yeo has shown, through a series of media interviews and press conferences in the past two months, that she is more than capable of driving a new direction for the ministry under the Pakatan Harapan government.

Soon after being sworn in, she told a room full of energy stakeholders that four “hastily awarded” Independent Power Producer contracts under the previous administration have been scrapped, warned them against name-dropping, rallied against the country’s dependence on coal for energy, and even confirmed to the press later that plans for a controversial nuclear plant were off the table.

Clearly, Yeo means - and knows - her business.

However, with a portfolio as extensive as her ministry’s name - Mestec, for short - she is only too keenly aware of the huge challenges she faces.

In a frank 50-minute, fact-filled interview with *The Star*, Yeo confesses to not merely

All acclimatised to the challenge

She may be the youngest female minister but the **Energy, Science, Technology, Environment and Climate Change Minister** is not taking it easy with her wide-ranging portfolio.

having to grapple with the lack of manpower and equipment - the climate change unit only has five people while the Department of Environment has no vehicle to carry out enforcement against open burning - she also has to wrestle with a fixed mindset from the academia and civil service.

An issue, Yeo thinks, is that while many government officers are good and professional, they are not given the opportunity to build up their capacity in a particular field, with “generalists” going to serve in one government department to another. And for those who do actually get to pursue their Masters in a particular field, they are often eventually assigned to another ministry and to a task completely different from their interest or field of study.

“Because my ministry is a technical ministry, a lot of things that we study need to be in-depth and (so they) need to be more than just generalists.”

“You need people with deep capacity in one particular subject and so, it’s difficult at this moment (to find talent),” says Yeo, adding that there are still two or three more vacancies to fill at her ministry.

She is hoping to attract people of top management quality with mid-management pay but admits that “the problem is that the skills level needed is high but the pay is low.”

“What we are looking for is people who have relevant knowledge and yet are willing to do national service,” said Yeo.

In fact, she is hoping to focus on capacity

building within her ministry, pointing out that the previous administration had been too reliant on outside consultants who were paid millions to make policy decisions.

“What happens is that people who execute it are not those who actually come up with the plan themselves.”

“If you’re not the one who actually think the plan will work but it’s the outside consultant who are paid millions and millions of ringgit to tell you what to do, do you think you will do it passionately?”

The challenge now, Yeo feels, is for the ministry to come out with its own plan because it is what the government of the day, the stakeholders and the civil service think is the policy that matters.

“It’s time for us to shift our money paid to consultants to the training and skills development for our civil service,” she says, hoping that this would also get more talented young people to join the Government.

Another uphill task that Yeo is adamant about tackling is the current disconnect between much of the funded research in the country and the industry’s needs.

Researchers in Malaysia, she insists, should actually be solving society’s problems or building up demands of the market, describing any technology that does not create value as “fluff.”

The ministry will be embarking on a reform of its funding for research and development from next year, with half of this having to go to demand and industry

driven areas.

“This is so that we don’t spend money on useless, *syuk sendiri* (self-fulfilling) research. We will spend money on what the market needs and research that can generate jobs and money for our economy,” says Yeo, pointing out that currently, only 8.6% of Malaysia’s research funding goes into experimental research.

On the contrary, that figure is 45% in Singapore and 60% in Japan.

“We cannot afford it. We are a middle-income country,” Yeo notes, stressing that the emphasis has to be on research and development that in the near or medium term would be able to generate jobs, economic growth and wealth for Malaysians.

Another area of concern for Yeo is the severe understaffed unit for climate change, considering Malaysia’s vulnerability to any rise in sea levels and extreme weather patterns.

“We will start with 20 people this year and slowly build up the numbers,” she says, adding that two years after the country signed the Paris Agreement, “nothing much has been done.”

“We really need a plan on mitigation and adaptation,” Yeo stresses, revealing that at the moment, Malaysia neither has a plan nor capacity for proper carbon accounting.

The ministry also lacks negotiators and a team to pitch for international funding, she adds, underlining the ministry’s intention to pitch for international funding for its plan on climate change.

“But first of all, I really need a plan - a data driven plan, not a fluffy one. We have lots of plans but those are not data driven,” she said, adding that most were also not practical at all.

“As a minister, I really want to do this,” says Yeo, assuring the public that the new government remains committed to the Paris Agreement.

Eventually, Yeo hopes to institutionalise the plan on the climate change in the ministry.

“So that this will be carried out, even after I leave, and regardless of the results of the next general election.”

Watch the video
thestartv.com



LAMPIRAN 7
BERITA HARIAN (ISU): MUKA SURAT 8
TARIKH: 1 SEPTEMBER 2018 (SABTU)

SOP baharu tangani pembakaran terbuka

Klang: Kementerian Tenaga, Sains, Teknologi, Alam Sekitar dan Perubahan Iklim akan merangka prosedur operasi standard (SOP) baharu bagi menangani masalah pembakaran terbuka di seluruh negara.

Menterinya, Yeo Bee Yin, berkata kawasan di Kampung Johan Setia di sini, yang menghadapi masalah itu sejak lebih 10 tahun lalu akan dijadikan projek perintis ke arah perangkaan SOP berkenaan yang dijangka mengambil masa dua minggu hingga sebulan untuk disiapkan.

"Dua perkara utama akan diberi perhatian iaitu penyebab kebakaran dan tindakan diambil agensi berkaitan bagi menangani isu terbabit.

SOP baharu lebih teratur

"Permasalahan berlaku sebelum ini akibat tiada penyelarasan agensi berkaitan termasuk Jabatan Alam Sekitar (JAS), Pejabat Tanah Daerah serta Jabatan Bomba dan Penyelamat Malaysia (JBPM) untuk menangani masalah itu.

"Jadi, menerusi SOP baharu itu



Yeo Bee Yin

nanti, ia lebih teratur dan setiap agensi tahu tindakan sepatutnya mereka lakukan dan berharap dapat menyelesaikan masalah ter-tangguh sejak sekian lama," katanya selepas sesi dialog bersama penduduk mengenai isu pembakaran terbuka dan jerebu di sekitar Kampung Johan Setia di sini, semalam.

Yang turut hadir, Ketua Pengarah JAS, Datuk Dr Ahmad Kamarulnajib Che Ibrahim; Pengarah JBPM Selangor, Azmi Osman dan Ahli Dewan Undangan Negeri (ADUN) Sungai Kandis, Mo-

hd Zawawi Ahmad Mughni.

Sebelum ini, Bee Yin melakukan tinjauan kawasan kebakaran tanah gambut seluas 50 hektar di Kampung Johan Setia dan memberi amaran mengambil tindakan tegas terhadap pemilik kebun yang melakukan pembakaran terbuka bagi tujuan pertanian.

Beliau berkata, sikap mementingkan diri pemilik kebun itu tidak boleh diterima sama sekali kerana ia menjejaskan tahap kesihatan berpuluh ribu penduduk yang tinggal berhampiran kawasan berkenaan.

LAMPIRAN 8

THE STAR (TECHNOLOGY): MUKA SURAT 4

TARIKH: 3 SEPTEMBER 2018 (ISNIN)



Featherstone says NB-IoT could bring the digital intelligence of the Internet to the public's everyday lives by improving the quality and accuracy of a Smart City's static assets like street lights, utility meters, public waste bins, and so on.

By QISHIN TARIQ
bytzt@thestar.com.my

AS INTERNET of Things devices become commonplace, the question of the efficiency of oversharing comes up. Does every device need to share what it's sensing all the time?

Sharing a lot of information requires significant Internet bandwidth and quickly exhausts a device's battery.

Maxis Enterprise business solutions head Claire Featherstone says the company is exploring an alternative called NarrowBand-Internet of Things (NB-IoT), a type of fit-for-purpose mobile network which can support millions of connected things in a single location.

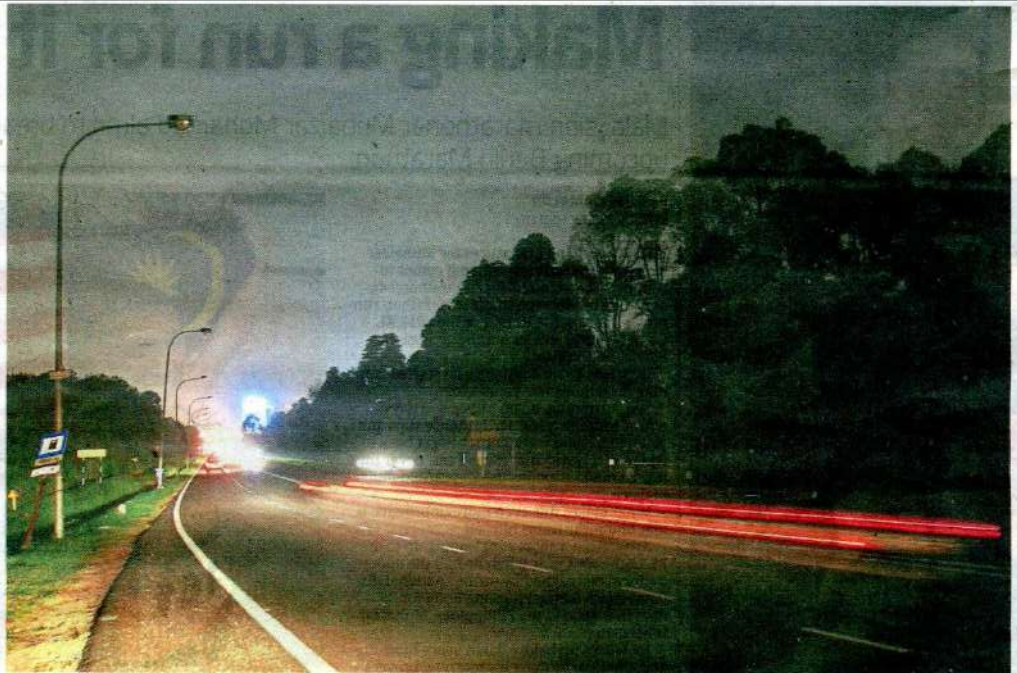
These "things" – embedded computing devices – are integrated into utility meters, smoke detectors and/or parking spaces, and they gather an immense amount of information that was previously not tracked.

This is possible due to how the devices send data on an ad hoc basis and, depending on the sensors used, can also send a more specific set of information.

"The devices could be transmitting singular data points like temperature, humidity, send alerts like 'I'm alive' or 'electricity on'. It all depends on how many sensors these devices have," she explains.

In Malaysia, Maxis is rolling out NB-IoT as an upgrade to its LTE network base stations, deploying these networks on the back of its current network infrastructure.

Featherstone says NB-IoT could bring the digital intelligence of the Internet to the public's everyday lives by improving the quality and accuracy of a Smart City's static assets like street lights, utility



Rather than turning on at a preset time, smart street lights could turn on if it detects the area is dark enough.

Taking IoT to the next level

Maxis has upgraded its network to support narrowband Internet of Things to make cities smarter and industries more productive.

meters, public waste bins, and so on.

"For example street lights, depending on the sensor, can see if the bulb is faulty. Or the light sensor can measure the natural light available, so in a storm or if dawn breaks earlier it can switch on or off, and maybe save that 20 minutes of power daily over the years," she says.

Though this technology might be all around them, it is not necessarily something the general public would buy for themselves. Unlike consumer grade IoT which is meant to allow users to interact with devices around their home, NB-IoT is generally used for industrial scale applications, where companies need to keep track of assets over a large area.

Featherstone reveals that Malaysian businesses interested in NB-IoT solutions are mainly from the utilities and agriculture sectors, for monitoring meters or plantations in remote areas.

"For agriculture, some customers may be worried about flooding and can use environmental sensors to detect a flood coming and send a red alert. The IoT application can identify any anomalies such as more water than usual or drastic changes in temperature," she says, adding that it is more practical than having a person eyeballing for changes.

The main benefits for businesses in adopting NB-IoT are the lower hardware costs and low power network design, which

is essential for widespread networks or devices based out of remote locations that are dependent on battery power.

Instead of replacing a battery every couple of months, an efficiently managed device's battery could possibly run for years.

Featherstone says NB-IoT is able to reach both remote locations and those deep indoors, like in warehouses or parking structures, allowing for new use cases for the technology.

However, the drawback of the technology is that it is more suited for static assets rather than moving ones that require live tracking – like packages or delivery vehicles – as such cases would require a GPS that is constantly updating its location.

LAMPIRAN 9
NEW STRAITS TIMES (OPINION): MUKA SURAT 14
TARIKH: 3 SEPTEMBER 2018 (ISNIN)



ZAKRI ABDUL
HAMID

KOFI ANNAN'S LEGACY

MAN OF THE PEOPLE

Putting people at the centre of everything was the former UN sec-gen's noble calling

A GLOBAL outpouring of well-deserved tributes marked the passing of Kofi Annan, the former United Nations secretary-general and Nobel Peace Prize laureate, who died on Aug 18 following a short illness at age 80.

As his UN successor, Secretary-General Antonio Guterres, said: "In many ways, Kofi Annan was the United Nations."

Annan was sworn into office in 1997 by none other than distinguished Malaysian diplomat, Tan Sri Razali Ismail, when the latter was president of the UN General Assembly. Annan served in the top UN post for nine years.

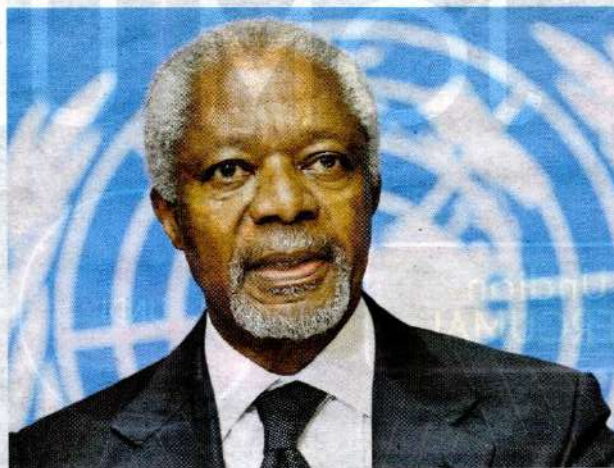
During his distinguished career and leadership of the UN he was an ardent champion of peace, human rights, and the rule of law.

My tribute to Annan relates to his historic legacy as an advocate of sustainable development, a concept first articulated in 1987 as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". Annan's leadership on the issue soared during the Millennium Summit in September 2000 when he issued a report entitled *We the peoples: the role of the United Nations in the 21st century*.

The report called on member states to "put people at the centre of everything we do. No calling is more noble, and no responsibility greater, than that of enabling men, women and children, in cities and villages around the world, to make their lives better".

In the report's final chapter, Annan called to "free our fellow men and women from the abject and dehumanising poverty in which more than one billion of them are currently confined".

The summit adopted the Millennium Declaration, which was subsequently manifested by the



Former UN secretary-general Kofi Annan died on Aug 18 after a short illness. FILE PIC

UN Secretariat as the Millennium Development Goals in 2001. The initiative contributed to significant gains in health, education and human welfare in many countries around the world. Such was its success, the world adopted a sequel – the even more ambitious Sustainable Development Goals – in 2015.

Similarly, the 2002 United Nations World Summit on Sustainable Development in Johannesburg proved to be one of Annan's defining moments. In a vital speech to world leaders, he further underlined five specific areas where concrete results are both essential and achievable:

WATER AND SANITATION: To provide access to at least one billion people who lack clean drinking water and two billion people who lack proper sanitation

ENERGY: To provide access to more than two billion people who lack modern energy services; promote renewable energy; reduce over-consumption; and ratify the Kyoto protocol to address climate change

HEALTH: To address the effects of toxic and hazardous materials; reduce air pollution which kills three million people each year; and lower the incidence of malaria and African guinea worm, which are linked to polluted water and

poor sanitation

AGRICULTURAL PRODUCTION: To work to reverse land degradation, which affects about two thirds of the world's agricultural production

BIODIVERSITY AND ECOSYSTEM MANAGEMENT: To reverse the processes that have destroyed about half the world's tropical rainforest and mangroves and are threatening 70 per cent of the world's coral reefs and decimating the world's fisheries.

Annan's "WEHAB" agenda (an acronym of the five-point priority list, also given to mean "We inhabit the Earth") was about having safe, clean water to drink, about utilising energy in a sustainable way in our businesses and industries, about enabling people to have heating, and lighting, and to cook in a way much less damaging to the environment, about good health wherever you live, and about meeting humanity's land needs while preserving the biodiversity needed by our planet.

It reinforced a global commitment to development to ensure a sustainable relationship between nature's resources and human needs.

And it resolved to build a humane, equitable and caring global society cognisant of the need for universal human dignity.

Annan has kind words for

Malaysia. In a lecture in Kuala Lumpur in 2007, he said, "Malaysia has been a very fortunate country because of the way it has developed from its inception as a nation."

"Malaysia has, uniquely in the annals of empire, a tranquil and orderly transfer of power. Nationalist passion was channelled through town council elections under colonial supervision rather than down the barrel of a gun. This gift of peace has been carefully nurtured and preserved." His words ring true even today.

In awarding him the Zayed Prize for Global Environmental Leadership in 2005, the jury had this to say about him: "One person has done more than most to catalyse political and public opinion to an understanding that the environment is a fundamental pillar of sustainable development. That person is Mr Kofi Annan."

He truly was a giant of a man. But full of humility and pragmatism as reflected in this simple quote: "To live is to choose. But to choose well, you must know who you are and what you stand for, where you want to go and why you want to get there."

The writer, a former director at the United Nations University in Tokyo, was co-recipient of the 2014 Zayed International Prize for the Environment (science and technology)

As his UN successor, secretary-general Antonio Guterres, said: 'In many ways, Kofi Annan was the United Nations.'

LAMPIRAN 10
UTUSAN MALAYSIA (MYSEKOLAH): MUKA SURAT 20
TARIKH: 3 SEPTEMBER 2018 (ISNIN)



PESERTA Program Kecekapan Tenaga anjuran Persatuan Gas Malaysia diajar membuat pengkodan menggunakan mikro:bit di Petrosains Discovery Centre, Kuala Lumpur, baru-baru ini.

Program Kecekapan Tenaga galak pelajar dalami STEM

PERSATUAN Gas Malaysia (MGA) dengan kerjasama Petrosains dan Kementerian Pendidikan menganjurkan acara tahunan Program Kecekapan Tenaga (EEP) bagi menggalakkan generasi muda mempelajari serta meminati bidang Sains, Teknologi, Kejuruteraan dan Matematik (STEM).

Presiden MGA, Hazli Sham Kassim berkata, sebagai peneraju utama industri gas asli negara, pihaknya menyedari betapa pentingnya untuk meningkatkan kesedaran mengenai tenaga, bukan hanya dalam kalangan pembuat dasar dan badan korporat, tetapi juga pelajar kerana mereka adalah peneraju masa depan negara.

“EEP memberi peluang untuk pelajar belajar, membuka minda dan mencetus idea-idea baharu, khususnya yang berkaitan dengan tenaga yang merupakan

komponen kritikal bagi kemajuan negara,” katanya dalam satu kenyataan menerusi e-mel baru-baru ini.

Dalam EEP selama dua hari di Petrosains Discovery Centre, Kuala Lumpur, baru-baru ini, 240 pelajar dari enam sekolah menengah didedahkan dengan kit pendidikan berasaskan STEM, mikro:bit yang menjadikan pengkodan untuk reka cipta lebih mudah.

Dengan kit itu, peserta dibimbing bagi menghasilkan projek yang praktikal dan cekap tenaga seperti jadual pintar, pengesan asap dan penyiram air automatik.

Dua kumpulan terbaik dari setiap sekolah akan dipilih untuk membentangkan projek mereka kepada panel juri pada Septem-

ber ini.

Pemilihan akan dibuat berdasarkan kreativiti mereka dalam mengatasi masalah serta fungsi dan kecekapan penyelesaian yang dicadangkan.

Sementara itu, guru Sekolah Menengah Kebangsaan (SMK) Keramat Wangsa, Mohd Fahmi memberitahu, EEP bukan sahaja mendedahkan pelajar terhadap penggunaan *coding* bagi menghasilkan penyelesaian digital untuk situasi kehidupan sebenar, tetapi juga memberi peluang kepada murid untuk berinteraksi dengan mentor yang banyak membantu dan berkongsi pengalaman.

Sepanjang pelaksanaannya untuk lima tahun ini, EEP telah melibatkan lebih 4,000 pelajar daripada 60 buah sekolah.

LAMPIRAN 11
SINAR HARIAN (CETUSAN): MUKA SURAT 48
TARIKH: 3 SEPTEMBER 2018 (ISNIN)

Aplikasi teknologi hijau berkesan



Wacana
Hijau

DR MOHD AZMAN
ZAMIL UDDIN

Sama ada kita mengakui atau tidak, membantu mewujudkan bumi yang berkekalan adalah penting untuk setiap individu di planet ini terutamanya di negara kita, Malaysia.

Dengan berusaha mengurangkan bil utiliti, kita juga secara tidak langsung membantu melambatkan kesan pemanasan global dan mewujudkan bumi yang mampan.

Menurut Jabatan Statistik, jumlah penduduk Malaysia pada tahun ini dianggarkan 32 juta, dengan 28.7 juta daripadanya adalah warganegara dan selebihnya bukan warganegara, dan jika separuh dari jumlah tersebut menggunakan aplikasi teknologi hijau di rumah dan di pejabat, ia dapat membantu dalam mengurangkan pelepasan gas rumah hijau.

Sekiranya pelepasan gas karbon dapat dikurangkan dengan jumlah yang ketara, kenaikan suhu per-

kaan purata global juga akan menjadi terhad. Berikut adalah beberapa aplikasi teknologi hijau yang mudah dan berkesan untuk diterima pakai dan digunakan di rumah ataupun di pejabat yang dapat menyumbang kepada pengurangan pelepasan rumah hijau.

1. Gantikan mentol lampu cekap tenaga: Mentol lampu cekap tenaga mungkin lebih mahal daripada mentol lampu pijar tradisional, tetapi terdapat beberapa sebab yang menarik untuk dikongsi.

Mentol lampu penjimatan tenaga menggunakan elektrik kurang daripada mentol lampu tradisional, bermakna ia memberi penjimatan langsung pada bil utiliti. Ia juga dijangka dapat bertahan kira-kira 10 kali lebih lama daripada mentol lampu pijar tradisional dan ini memberikan penjimatan wang dalam jangka masa panjang.

2. Gantikan perkakas elektronik dengan Energy Star: Sama ada berpindah rumah, mengubahsuai rumah, atau hanya mengganti peralatan rosak, ada beberapa perkara harus diberi perhatian dan diambil kira ketika berbelanja agar dapat

menjimatkan wang.

Membeli produk yang memenuhi syarat *Energy Star* dapat membantu menjimatkan wang anda dalam jangka masa panjang melalui penjimatan tenaga.

Energy Star adalah program pelabelan yang disokong kerajaan Malaysia yang dapat membantu isi rumah menjimatkan tenaga dan pengurangan pelepasan gas rumah hijau dengan mengenal pasti produk-produk peralatan rumah dan elektronik yang mempunyai kecekapan tenaga lebih baik. Produk-produk dikenal pasti adalah seperti pembersih udara, pembasuh pakaian, peti sejuk, penghawa dingin dan lain-lain.

3. Memasang Sistem Penuaian Air Hujan (SPAH) di rumah dan di pejabat: Masalah air di Malaysia adalah amat kritikal dan penggunaan air daripada sumber baharu amat diperlukan. SPAH adalah satu sistem terdiri daripada komponen pelbagai peringkat, di mana ia mengumpul air hujan melalui corong bumbung, paip ataupun longkang.

Kemudian ia menapis dan seterusnya menyimpan di dalam

tangki untuk digunakan semula. Ia adalah sistem mekanikal yang sangat mudah dan dapat digunakan untuk menyiram pokok, mencuci kereta, kegunaan tandas dan pengairan. Penggunaan SPAH ini dapat membantu menjimatkan bil air setiap bulan dan boleh mengurangkan penggunaan air proses.

4. Menggantikan peralatan kord sambungan elektrik konvensional kepada Jalur Kuasa Pintar: Penggunaan peralatan kord sambungan elektrik adalah amat ketara di hampir setiap isi rumah dan di mana-mana sahaja dan ia tidak mematikan peralatan yang disambungkan secara automatik tetapi jalur kuasa pintar secara automatik mematikan elektrik untuk semua perkakas elektronik yang tidak diperlukan.

Sebagai contoh, apabila anda mematikan TV anda, jalur kuasa pintar akan terus mematikan kuasa kepada komponen teater rumah, kotak kabel, konsol permainan dan sebagainya.

Apabila anda tidak menggunakan komputer anda, jalur kuasa pintar akan mematikan monitor, pembesar suara, dan semua

peralatan lain yang anda tidak perlukan. Penggunaan jalur kuasa pintar dapat membantu dalam penjimatan tenaga, penjimatan wang dan juga keselamatan.

5. Menggunakan Penebat di dinding: Menambah penebat di dinding rumah adalah cara terbaik untuk meningkatkan keselesaan persekitaran ketika di dalam rumah di mana ia dapat mengawal suhu terutamanya di negara kita yang mempunyai cuaca agak panas.

Ia juga dapat meningkatkan kawalan bunyi dan melindungi privasi anda dengan memastikan bunyi dari dalam rumah anda tidak dapat didengar di luar dan bunyi di luar tidak dapat didengar di dalam rumah.

Penebat rumah anda juga mewujudkan halangan kelembapan, menjaga kelembapan yang tidak diingini keluar dari rumah anda. Teknologi Hijau untuk semua.

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LAMPIRAN 12

THE STAR (VIEWS): MUKA SURAT 29

TARIKH: 3 SEPTEMBER 2018 (ISNIN)

> Efficient energy usage

With electricity tariffs set to go up in the near future, it makes good sense to use electricity more efficiently and save money at the same time. More importantly, such savings may mean less need to build more coal-fired power plants in the future. That can only be good for our future generations. Malaysians must commit to adopting an energy-efficient lifestyle to reduce our carbon footprint and save money at the same time. – Mkaur

LAMPIRAN 13

THE STAR (FOCUS): MUKA SURAT 17

TARIKH: 3 SEPTEMBER 2018 (ISNIN)

The Viking survival guide to climate change

POPULAR culture has it that Vikings in their heyday loved to "go Viking" – take to their longships to rove, settle or pillage from North America to Asia.

But a driving force behind those Norse voyagers wasn't just the lust for treasure or power or exploration. In some cases, it may have been climate change.

An international research team is looking into the environmental challenges – and, specifically, a change in sea level – that appear to have pushed some Vikings living in the Lofoten Islands along the northern coast of Norway to abandon their boathouses and relocate to another part of the coast.

"There's a lot of research looking at Viking civilisation and, in particular, their expansion and impacts on other parts of the world," said paleoclimatologist Nick Balascio of the College of William and Mary in Williamsburg. "But our research is really looking at the paleoenvironmental aspects of this – or how environmental changes may have influenced their society and, in particular, during this important period of development."

The period is known as the Viking Age, roughly 800 A.D. to 1050 A.D., which overlaps the tail end of the Iron Age.

Balascio is part of a team of archaeologists, climate scientists and students studying what remains of some of those coastal settlements by extracting core samples from the bottoms of glacial lakes. Their work is an extension of his previous research to understand past natural climate fluctuations.

While climate change today consists of ever-warming average global temperatures and rising sea levels, the Vikings were faced with quite the opposite. Because their land-mass had been much closer to the ancient glaciers, ice melt over previous millennia meant the land, freed from all that weight, was rising. And land rebound meant the shoreline that the seafarers relied on for fishing, trade and transportation was receding. As sea level change began to affect harbor access, Balascio said, Viking chieftains needed to figure out how to adapt. The research team is still working through data collected so far, he said, but there's some evidence that the Norsemen did move toward the sea as it receded.

"In cases where the rebound was occurring at certain harbors, (they were) almost completely abandoning them and moving to significantly different parts of the region for the new harbor locations," Balascio said. "What we're trying to do is look in detail at the timing of those changes to see if we can see any lag between the changing of the locations or what the impact could have been on the people, whether it's culturally or politically."

It's unclear if environmental changes were the primary driver for resettlement, but researchers are fairly certain those changes did have a regional impact. Still, they caution against drawing too straight a line.

At the end of the Iron Age, Vikings living in the rugged Lofoten archipelago, located above the Arctic Circle, were already facing tough environmental challenges, said research partner Stephen Wickler of the Department of

Cultural Sciences at the Tromsø University Museum in Norway.

"Marginal agricultural conditions, with difficulty in obtaining fodder for livestock and crop failures for cereal production," Wickler explained. "Unstable weather patterns exacerbated by the offshore location (and) extreme maritime conditions."

As such, he said, it's extremely difficult to pin down causality attributable to past climate change.

"It seems to be a fashionable trend to single out climate change as a prime mover for the transformation of past societies – something that I find highly speculative and, in many cases, unwarranted," Wickler said.

Still, climate change can be one of many factors contributing to changes in that late Iron Age society, he said, and "there is evidence for environmental factors leading to tipping points where significant change did occur in a short space of time."

Shrinking coastlines stranded valuable harbors and fishing boats. Bays were left isolated, and drainage from rivers formed "freshwater lenses" on the surfaces, allowing the surface water to freeze in winter, said research partner William D'Andrea from the Lamont-Doherty Earth Observatory of Columbia University.

While the island fishermen and farmers were living in an extreme, marginal environment, D'Andrea said, luckily they were also part of a large-scale trading system and likely had "a number of economic strategies that insulated them from feeling the full impacts of the changes in local climate."

According to Balascio, they are looking for evidence of any and all human activity that might have washed in from the watershed – signs of deforestation, slash-and-burn practices, farming, cooking pits – in the sediment the deepest parts of glacial lakes. The data is preliminary so far, he added, but in the next year they hope to have more definitive and detailed evidence of human presence before, during and after the Iron and Viking ages.

D'Andrea cautioned that it's premature to speculate or extrapolate too much about how the island Vikings responded to a changing climate.

"However, remember that in response to climate changes and economic pressure, they would have been able to move into new territory that was often unpopulated or underpopulated – this strategy would not work on our planet today," he said.

"I'll also say that the climate changes that the Iron Age Vikings dealt with were modest compared to those that society is facing now and that we will be facing in the coming decades."

Balascio agreed that the Lofoten Viking experience isn't directly comparable to today, when human activity is changing the climate at an accelerating pace.

But the research does offer a better perspective on how people of the past responded to climate and environmental changes.

"In general," Balascio said, "I'm optimistic that humans are resilient." – Tribune News Service



Valuable lessons: The Viking legacy is not only good for entertainment, like this annual Viking festival in Spain, but it can also teach us how to deal with global warming. — Reuters

LAMPIRAN 14
THE STAR (STAREDUCE): MUKA SURAT 4
TARIKH: 2 SEPTEMBER 2018 (ISNIN)

MALAYSIA is recognised as one of the top 12 mega-biodiversity countries in the world. Our country is home to a great variety of natural resources that provide for the well-being and economic development of its people.

However, the pursuit of growth at the expense of the environment poses many threats to these resources and the people who depend on them. There has been a continuous and alarming decline of forest cover across Malaysia, and this contributes to flooding problems and the pollution of rivers from fine sediment washed from the land surface.

The loss and fragmentation of natural habitats, made worse by poaching and illegal wildlife trade, have caused a collapse of wildlife populations in our country.

Off our coastlines, unsustainable fishing to feed the demand for seafood has caused fish stock depletion while related pollution and bycatch threaten a range of other marine life. The responsibility to protect the one and only planet we have lies within every individual from all walks of life.

We believe that education is the key to ensuring protection of our

planet and its natural resources. Education is the foundation – everything a child sees or learns becomes a part of him or her, and helps shape his or her perceptions and attitudes towards the world. Therefore, an early and well-designed exposure to environmental issues is a critical step towards conservation – it creates good citizens.

Pakatan Harapan's aspiration to be business friendly and to balance economic growth with environmental protection (Promise 39 of Pillar 3), require a holistic Environmental Education (EE).

There should be a focus on young people, but this education should also be directed at parents, teachers, lecturers and administrators. In short, we believe that EE is fundamental to realising the Government's promise.

There are four recommendations that we feel strongly about and which could shift the paradigm of EE. Firstly, the formulation and introduction of a policy on Education for Sustainable Development. This will help

emphasise that EE plays an integral part of the education system and it needs to be addressed in a holistic manner across all discipline areas. Currently there is no systematic approach to the integration of EE in the classroom – it is taught ad hoc and very much left to the personal efforts, priorities or time available to those involved in teaching and education.

Secondly, we advocate the ministry to establish smart partnership with students, parents, teachers, education advisers, private organisations, research institutions, environmental and social NGOs and business regulators, as well as local communities. This will allow all partners to advance their common interests and learn from each other's expertise in order to provide mutual support, and to increase commitment to a particular set of decisions they all consider important.

Thirdly, we call on the ministry to harness the network of higher learning institutions, research institutes, environmental and social

NGOs to capitalise on their technical expertise and capacity for leadership. Currently, many research outcomes related to EE are not integrated within either curricula or approaches to teaching and learning. Harnessing the expertise available to us is crucial in designing curricula for all levels of education, adopting best practice in teaching and educational approaches.

Finally, we are aware that funding is an essential part of the implementation process; hence, we encourage the ministry to make available the resources necessary for successful delivery of EE, as well as ongoing monitoring of this education so that its success can be evaluated.

It is both imperative and timely that we realise EE is more than information about the environment. EE inspires students to consider and balance environmental issues along with others. It develops their critical thinking and reasoning skills that will in turn enhance their problem-solving and decision-making abilities through-

out life.

This is in line with the ministry's aspiration to instil Love, Happiness and Mutual Respect among students.

This open letter to Education Minister Dr Maszlee Malik has been prepared on behalf of our members and supporters, who believe that education is fundamental to developing the next generation of leaders for Malaysia – leaders who will push for sustainable development as the country's main agenda.

We urge you to make Environmental Education a priority.

We thank you for taking the time to read this letter and look forward to your considered response.

Malaysian Environmental NGOs (MENGO) coalition members offer our full support to the development and implementation of a comprehensive Environmental Education system in Malaysia.

LS SHANMUGARAJ
Chairman
MENGO

Education, key to protecting our planet

LAMPIRAN 15

THE STAR (FEATURE): MUKA SURAT 7

TARIKH: 31 AUGUST 2018 (JUMAAT)



Modern sewage treatment plants nowadays can serve larger areas. In the case of IWK's Pantar 2 regional sewage treatment plant, it serves 1.4 million people.



IWK aims to be the premier waste water management company by 2020, says Faizal.

TRANSFORMING WASTE MANAGEMENT

Sewerage company reflects on efforts to keep Malaysian waters clean

By ERIC QUAH

ericq@thestar.com.my

SINCE the early days of the nation's birth, Malaysians have always placed hygiene as a top priority. From the 1900s, the use of the bucket system to remove human wastes gave way to more hygienic systems that today has evolved.

Along the way, there is a growing recognition that wastewater treatment is the solution to community sanitation by properly treating wastes into safer forms that is then released into the environment.

As Indah Water Konsortium (IWK) celebrates the country's independence, the company reflects on the evolution of sewage processing and plans to expand its role to be the premier wastewater company.

According to IWK CEO Faizal Oduman, as the population grew and villages became towns and then cities, the need for more efficient wastewater management arose.

He said today's mechanised sewage treatment plants service larger areas and impart a positive impact on the environment.

Modern processes separate the wastes into effluent, which when treated, yields cleaner water that can be used in industries or released to the environment. The second component – the sludge – is further processed for safe disposal or even recycled.

These functions become a form of resource protection that helps rivers become cleaner and provides a positive effect on the water supply.

"It actually has the function of cleaning the river," said Faizal.

Such large plants cater to larger populations: for example, the Pantar 2 regional sewage treatment plant serves 1.4 million people, while another is the upcoming Larkat plant which is built with certain unique features.

IWK is thus poised to ensure public hygiene, sanitation, environment protection, resource protection and now even resource recovery.

Clean-up initiatives

As part of the National Day and Malaysia Day celebrations, IWK will implement several initiatives from Aug 27 to Sept 14.

To celebrate 61 years of independence, IWK will desludge septic tanks at 61 selected areas such as charitable homes and places of worship – institutions that normally find it difficult to engage IWK's services.

Unconnected systems in the form of septic tanks amount to about 1.2 million tanks, as well as an equal number of the pour-flush system, mostly used in the *kampung*. These are not connected to IWK's system and septic tanks should be emptied periodically – at least every two years.

"As of today, out of about 2.5 million septic tanks and pour-flush types, less than 10% are serviced regularly and 90% do not receive adequate treatment services, and this contributes to river pollution," said Faizal.

To assist, IWK ensures the B40 segment of society receives the same level of service, while providing assistance to this segment when it comes to paying for the services.

Along the way, it is eager to share the importance of treating such wastes via programmes that engage the public.

River revival

Faizal also mentioned the "Friends Of The Rivers" programme which identified 21 strategic rivers located within the vicinity of its 21 unit offices all over the country to receive cleanups.

IWK works together with universities, communities and other major companies with a similar vision and uses its river project to engage in educating these parties.

Through the "Friends Of The Rivers" initiative, IWK aims to also identify the root causes for problems resulting from direct discharges.

These problems could be due to factories, commercial areas, restaurants and houses that are not served with proper treatment services. When they discharge their wastes within an area, these collect and compound into a larger problem further down river.

In IWK's programmes, customer engagement programmes conduct evaluations to monitor how the public views its services. In that way, the community helps IWK meet its objectives.

There is also an ongoing programme that provides 30% to 50% of the treated water to industries that only require industrial-grade standard water supply, in line with the UN Sustainable Development Goals.

Through that, IWK hopes to utilise 30% of the treated effluent by year 2030.

As IWK envisions to be the premier waste water management company by 2020, it builds its objective to go beyond managing sewage, expanding towards managing industrial wastes from factories, markets and food outlets.

Faizal said IWK is also looking into managing wetlands – a concept of waterways that offer the opportunity to instal treatment before the water gets released into the rivers.

Into the future

IWK developed a four-year plan starting with manpower excellence and optimisation via Transformasi IWK 2020 which was initiated last year to create a culture of innovation and continuous improvement.

Competitions among the employees to create innovations that help the company be

more efficient and cost-saving in its processes was an outcome of the plan.

This year became one of innovation and technology, the next year is for business diversification, while 2020 will look into assessing the progress.

IWK's engagement with the community will also be transformational and progressive as it desludges and processes wastes

within an area, as well as educate and raise awareness in the community of wastewater treatment benefits.

Following its theme of *IWK Sayang Malaysia*, IWK will be eliciting pledges from its employees on how they plan to pledge for Malaysia as individuals. It also invites customers to respond with their expectations of the company.

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LAMPIRAN 16
HARIAN METRO (SETEMPAT): MUKA SURAT 50
TARIKH: 31 OGOS 2018 (JUMAAT)

50 setempat

31-08-2018

Nor Afzan Mohamad Yusof
cnews@nstp.com.my

Serdang

Teknologi Penyerap Getaran Struktur untuk elak risiko akibat gempa bumi dihasilkan kumpulan penyelidik dari Universiti Putra Malaysia (UPM) menarik minat syarikat kejuruteraan dan binaan, Hercules Engineering (SEA) Sdn Bhd berganding bahu mengkomersialkannya ke peringkat antarabangsa.

Produk inovasi itu adalah reka bentuk keselamatan struktur binaan yang berupaya mengelakkan kemalangan jiwa akibat gempa bumi, gegaran, pergerakan tanah dan angin kuat.

Penyelidikan yang dijalankan sejak 2006 itu diketuai Koordinator Penyelidik dari Jabatan Kejuruteraan Sivil, UPM, Prof Madya Dr Farzad Hejazi.

Ia bermula sebagai pembelajaran asas sebelum pembinaan protaip dilakukan pada 2012 dan ujian berskala penuh tahun ini.

Geran penyelidikan produk dibiayai UPM menerusi Geran UPM dan Skim Dana Sains, Kementerian Sains, Teknologi dan Inovasi (MOSTI).

Objektif produk ialah menyelamatkan nyawa dan harta benda susulan bencana

Inovasi serap gempa

Penyelidik UPM rancang pasar produk ke peringkat antarabangsa



alam menerusi teknologi penyerapan.

"Walaupun Malaysia, bebas daripada bencana alam, tetapi kejadian gempa bumi di Sabah baru-baru ini, adalah peringatan kepada kita bahawa tidak mustahil sesuatu bencana itu melanda dan kita harus bersedia.

"Dalam usaha itu, perlu kita tingkatkan kestabilan dan kekuatan struktur binaan untuk menampung beban dan tenaga yang bergerak melalui lapisan bumi yang berlaku berpunca daripada bencana alam," katanya.

Beliau berkata demikian selepas Majlis Menandatangani Perjanjian Perlesenan (MoA) antara UPM dan Hercules Engineering (SEA) Sdn Bhd membabitkan kos RM300,000 untuk tempoh lima tahun di sini semalam.

UPM diwakili Naib Canselor, Prof Datin Paduka Dr Aini Ideris manakala Hercules Engineering (SEA) Sdn Bhd, diwakili Pengarah, Datuk Thomas Seng Shia Chong.

Majlis disaksikan Ketua Setiausaha Kementerian Pembangunan Usahawan, Wan Suraya Wan Mohd Radzi.

MoA itu membabitkan penghasilan protaip dan ujian alatan termasuk menyelesaikan produk bagi pengeluaran besar-besaran termasuk melaksanakan projek sebenar.

Dr Farzad berkata, produk berkenaan tidak terhad kepada binaan bangunan tetapi mencakupi pelbagai struktur termasuk jambatan, cerun dan lokasi terdedah kepada getaran.

Katanya, Penyerap Getaran Struktur memiliki empat teknologi membabitkan dinding perendam (damper) getah, perendam viskos pelbagai guna, pendakap perendam viskoelastik dan pendakap mempatan volumetrik yang dijadikan sebagai sistem kawalan getaran serta alat perendam untuk menyerap getaran dalam struktur binaan dan bangunan.

Ia berperanan mengurangkan kesan pergerakan struktur disebabkan beban seismik dengan meningkat-

kan keupayaan rintangan keseluruhan sisi dan ciri rendaman struktur bangunan.

"Perendam akan bertindak apabila dipasang pada struktur yang mengalami getaran ketika berlakunya pergerakan tanah dan ia akan menyerap getaran secara efisien," katanya.

Selain Dr Farzad, penyelidikan itu turut membabitkan ahli penyelidikan dari Fakulti Kejuruteraan iaitu Prof Datuk Ir Dr Mohd Saleh Jaafar, Mohd Azmi Mohd

Zain, Mehdi Mohammadi dan Esmaeil Ebrahimi.

Ciptaan berkenaan menang banyak anugerah dengan terkini, Very Best Awards pada Ekspo Teknologi Malaysia 2014.

Sementara itu, Seng Shia berkata, kerjasama itu adalah yang pertama kali membabitkan UPM.

Katanya, alatan berasaskan getah tempatan itu, berupaya menjimatkan hingga 60 peratus kos berbanding alatan import berkapasiti sama terdapat di pasaran.

DR Farzad (kiri) menerangkan projek terbaru UPM kepada Wan Suraya. Turut hadir, Dr Aini (dua dari kanan) di Fakulti Kejuruteraan UPM.

FAKTA
Produk tidak terhad kepada binaan bangunan tetapi termasuk jambatan, cerun dan lokasi terdedah kepada getaran

LAMPIRAN 17
UTUSAN MALAYSIA (UTUSAN BIZ): MUKA SURAT 16
TARIKH: 31 OGOS 2018 (JUMAAT)

Pendapatan TNB RM24.77 bilion

Oleh NABILA YASMIN RAZIB

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KUALA LUMPUR 30 Ogos - Tenaga Nasional Bhd. (TNB) mencatatkan pendapatan sebanyak RM24.77 bilion manakala perbelanjaan operasi berjumlah RM17.37 bilion untuk separuh pertama tahun kewangan berakhir 31 Disember 2018.

Presiden dan Ketua Pegawai Eksekutif TNB, Datuk Seri Ir. Azman Mohd. berkata, kumpulan merekodkan keuntungan sebelum cukai, faedah, susut nilai dan pelunasan (EBITDA) sebanyak RM7.79 bilion dengan Margin EBITDA pada 31.4 peratus.

Beliau berkata, keuntungan selepas cukai kumpulan stabil pada RM3.39 bilion, yang mana 61.9 peratus adalah daripada perni-

gaan yang dikawal selia.

"Pengumuman semakan semula Pelepasan Kos Tidak Seimbang (ICPT) bagi tempoh Julai hingga Disember 2018 yang dibuat pada 29 Jun 2018 menyaksikan surcuj ICPT sebanyak 1.35 sen/kwj.



AZMAN MOHD.

"Ini adalah kali pertama surcuj disalurkan kepada pelanggan, membuktikan keberhasilan pelaksanaan dan kelangsungan rangka kerja Kawal Selia Berasaskan Insentif (IBR). Walau bagaimanapun, kerajaan telah memutuskan bahawa surcuj bagi pelanggan domestik atau kediaman bagi tempoh Julai hingga Disember 2018 dibiayai melalui Kumpulan Wang Industri Elektrik (KWIE) agar tidak membebankan rakyat," katanya dalam kenyataan di sini hari ini.

Tambahnya, rangka kerja IBR

memaparkan ketelusan dalam penetapan tarif untuk pelanggan.

Ujarnya, pada setiap enam bulan, mekanisme ICPT, iaitu sebahagian daripada rangka kerja, menentukan sama ada surcuj atau rebat dilepaskan kepada pelanggan, bergantung terutamanya pada harga pasaran arang batu yang menjadi bahan api utama dalam menjana elektrik.

"Mekanisme ICPT dirancang untuk mencerminkan harga elektrik sebenar bagi menggalakkan kelestarian ekonomi, sosial dan alam sekitar untuk negara," jelasnya.

Dalam pada itu Azman berkata, lembaga pengarah telah meluluskan nisbah pembayaran dividen 50 peratus daripada keuntungan selepas cukai dan kepentingan minoriti (PATAMI) kumpulan, yang berada di peringkat lebih tinggi daripada 30 hingga 60 peratus polisi dividen syarikat.

LAMPIRAN 18
THE STAR (TECHNOLOGY): MUKA SURAT 5
TARIKH: 3 SEPTEMBER 2018 (ISNIN)

Good time to beef up cybersecurity

As more companies come under attack from hackers, it's more crucial than ever to make sure everyone in an organisation is sensitive to the need for computer security.

By JOYCE M. ROSENBERG

COMING back to work after a long break? It's as good a time as any to make sure you and your staff are on the same page when it comes to cybersecurity.

Here are some basics that owners should emphasise to their staffers:

Passwords

Start with creating a strong password. It's probably a good idea for the company to have minimum requirements for

passwords used to access its systems. Those requirements should include a mix of upper- and lowercase letters, numbers and symbols.

Many businesses are using two-factor authentication, which requires people to enter a code in addition to the login/password combination. They may also require staffers to periodically change their passwords.

Phishing alerts

Bosses should remind everyone to be vigilant about

phishing scams, which can plant malicious software on a computer or phone. Everyone should understand that they shouldn't click on any link or attachment in an email unless they're sure it's legitimate. It should be standard operating procedure to check a sender's email address to be sure it's correct and not suspicious, and the body of an email should be checked for any oddities that can be hallmarks of phishing scams.

As new staffers are trained, they should learn about the kinds of emails

they can expect to receive. The more familiar they are with a company's customers, vendors and other contacts, the better they'll be at spotting suspicious emails.

Locking phones and laptops

Staffers who can access the company's systems including its email via smartphones and laptops – whether they're personal or company-provided – should be required to lock their devices with codes or passwords.

Downloading updates

If the company has an information technology staffer or department, it should be aware of security and other updates issued by Microsoft and other companies. Each company device should be updated. If there isn't a dedicated IT staffer, the owner or another manager needs to be sure that all updates are downloaded.

The owner's responsibility

A survey issued earlier this year by insurer Hiscox found that only half of small businesses said they had a clear cybersecurity strategy. Making systems as secure as possible often gets put on the back burner while an owner works with customers and staffers.

Companies without IT staffers should consider bringing in a consultant who can assess what's needed to increase security. Among the items companies need are anti-virus and anti-malware software, firewalls, encryption software and offsite storage that continually creates new versions of all of a company's data.

Those versions will be critical if a company's computers are victims of ransomware attacks that render files and documents unusable. – AP



Businesses should have a clear cybersecurity strategy and bosses must remind their staff members to be vigilant at all times. — 123rf.com

LAMPIRAN 19
THE STAR (LIVING): MUKA SURAT 11
TARIKH: 3 SEPTEMBER 2018 (ISNIN)

How to buy less plastic when you shop at the supermarket

By SIMONE A MAYER

MOST of us would like to reduce the amount of plastic we consume – but with practically everything we buy from the supermarket packed in the stuff, it's hard to avoid.

That means tons of plastic gets used one time, only to be thrown away. It's a disaster for the environment – and it's also mostly unnecessary. Follow these simple tips to lower your grocery plastic consumption:

> **Choose paper bags:** Instead of environmentally damaging plastic bags, many retailers offer bags made of paper, or even corn starch or sugar cane. While these are not ideal alternatives, emphasises Germany's Federal Center for Nutrition (BZfE), they're more biodegradable than plastic. However, in their life cycle from manufacture to disposal, these alternatives still release many climate-damaging gases.

> **Bring reusable bags:** So why not bypass disposable bags altogether and bring your own fabric bags for shopping? Or, if you forget your reusable bag one time and end up having to take some plastic bags home, reuse them



Chile made history on Aug 3 when it became the first country in South America to ban the commercial use of plastic bags. — AFP

instead. Also, since making a single fabric bag is actually more harmful to the environment than making one disposable bag, you should wash fabric bags regularly to keep them clean and useable for longer.

> **Use crochet bags for fruit:** Lots of supermarkets supply small cellophane bags for fruit and vegetables. These, too, can be replaced quite easily. The BZfE

recommends bringing along extra linen or crocheted bags for packing fresh produce. That way, you won't have to bring out all the tomatoes individually at the cash register.

> **At the deli counter:** Often, hygiene regulations mean supermarkets will refuse to put deli sausages or cheeses in containers customers bring from home. This is because nothing that the cus-



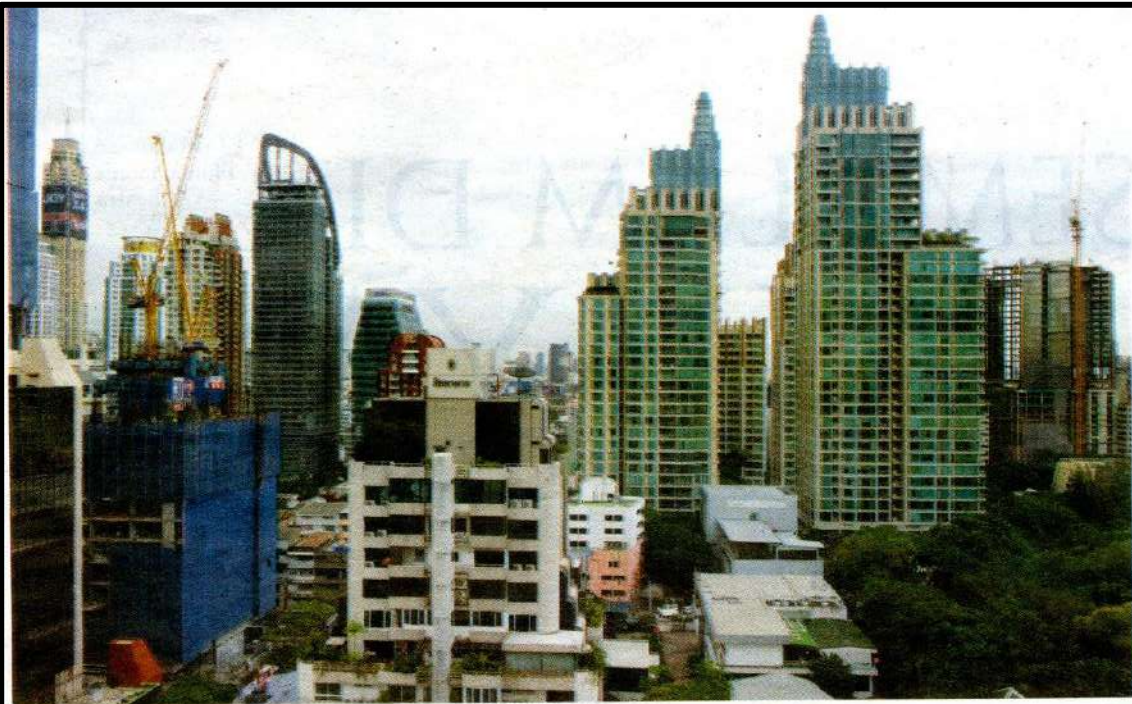
A sign, seen in a Coles supermarket in Sydney, advises its customers of its plastic bag-free policy. — AFP

tomers brings may enter the area behind the counter. There is, however, a solution: The BZfE advises customers to put a plastic container on top of the counter and ask the seller to put the goods into it. Alternatively, you can suggest putting the container on a tray, so that only the buyer has actually touched it.

> **Set an example:** Many groceries in the supermarket are

packed in plastic. If it is not possible to avoid wrapped food, or at least to choose packaging made of glass, paper or cardboard, the Federation for the Environment and Nature Conservation Germany (BUND) recommends deliberately leaving the outer packaging behind in the shop. Supermarkets must provide appropriate collection boxes for this purpose. — dpa

LAMPIRAN 20
MALAY MAIL (WORLD): MUKA SURAT 12
TARIKH: 3 SEPTEMBER 2018 (ISNIN)



Bangkok could be partially submerged in just over a decade, climate experts warn. — Picture by AFP

Bangkok risks 'massive flooding' near future

BANGKOK — As Bangkok prepares to host climate-change talks, the sprawling city of more than 10 million is itself under siege from the environment, with dire forecasts warning it could be partially submerged in just over a decade.

A preparatory meeting begins tomorrow in Thailand's capital for the next UN climate conference and a crunch summit in Poland will be held at the end of the year to set rules on reducing greenhouse emissions and providing aid to vulnerable countries.

As temperatures rise, abnormal weather patterns — like more powerful cyclones, erratic rainfall, and intense droughts and floods — are predicted to worsen over time, adding pressure on governments tasked with bringing the 2015 Paris climate treaty to life.

Bangkok, built on once-marshy land about 1.5m above sea level, is projected to be one of the world's hardest hit urban areas, alongside fellow Southeast Asian behemoths Jakarta and Manila.

"Nearly 40 per cent" of Bangkok will be inundated by as early as 2030 due to extreme rainfall and changes in weather patterns, according to a World Bank report.

Currently, the capital "is sinking one to two centimetres a year and there is a risk of massive flooding in the near future", said Tara Buakamsri of Greenpeace.

Seas in the nearby Gulf of Thailand are rising by 4mm a year, above the global average.

"The city is already largely under sea level," said Buakamsri.

In 2011, when the monsoon season brought the worst floods in decades, a fifth of the city was under water. The business district was spared thanks to hastily constructed dikes.

But the rest of Thailand was not so fortunate and the death toll passed 500 by the end of the season.

Experts say unchecked urbanisation and eroding shorelines will leave Bangkok and its residents in a critical situation.

With the weight of skyscrapers contributing to the city's gradual descent into water, Bangkok has become a victim of its own frenetic development.

Making things worse, the canals which used to traverse the city have now been replaced by intricate road networks, said

Suppakorn Chinvanho, a climate expert at Chulalongkorn University in Bangkok.

"They had contributed to a natural drainage system," he said, adding the water pathways earned the city the nickname "Venice of the East".

Shrimp farms and other aquacultural development — sometimes replacing mangrove forests that protected against storm surges — have also caused significant erosion to the coastline nearest the capital.

This means Bangkok could be penned in by flooding from the sea in the south and monsoon floods from the north, said Chinvanho.

Last year, Chulalongkorn University built an 4.45ha park in central Bangkok specially designed to drain several million litres of rain and redirect it so surrounding neighbourhoods are not flooded.

But these ad-hoc fixes may not be enough. "We need a clear policy of land management," said Greenpeace's Buakamsri, adding the need for increased green spaces is outweighed by developers' interests.

"The high price of land in Bangkok makes economic interests a priority." — AFP

LAMPIRAN 21
MALAY MAIL (WORLD): MUKA SURAT 14
TARIKH: 3 SEPTEMBER 2018 (ISNIN)



IN BRIEF

Japan braces for 'very strong' typhoon

TOKYO — Japan yesterday braced for a “very strong” typhoon, with authorities warning of high waves, floods and landslides, including in areas hit by deadly flooding earlier this year. Typhoon Jebi, packing winds of up to 252kph, is expected to make landfall on the country’s main island tomorrow, according to Japan’s Meteorological Agency.

“Maintaining its very strong power, the typhoon is forecast to approach western and eastern Japan,” the agency said. The path of the typhoon appeared to cover the western Chugoku region, where record rainfall in July unleashed flooding and landslides, killing about 220 people in Japan’s worst weather-related disaster in decades. Local media said the typhoon, which is still hundreds of kilometres away from Japan in the Pacific, could be the strongest storm to hit the nation this year.

— AFP

LAMPIRAN 22
NEW STRAITS TIMES (WORLD): MUKA SURAT 40
TARIKH: 3 SEPTEMBER 2018 (ISNIN)



Kanak-kanak mangsa gempa mandi guna air tangki berhampiran kem penempatan sementara di perkampungan Sugian.

Lagi gempa baharu gegar Lombok

DENPASA - Pulau Lombok sekali lagi digegarkan gempa bumi berukuran 5.3 pada skala Richter awal pagi semalam.

Gempa pada 8.15 pagi (waktu tempatan) itu dilaporkan berpusat 38 kilometer ke arah timur laut Lombok, dengan kedalaman 14 kilometer di bawah tanah.

Lapor media tempatan, gempa bumi tersebut tidak mencetuskan amaran tsunami.

Kelmarin, empat gegaran susulan melanda dua daerah di Nusa Tenggara Timur.

Pengarah Stesen Geofizik Kampung Baru Kupang, Robert Owen Wahyu dipetik Kompas.com berkata, gegaran pertama

berlaku pada jam 5.53 pagi dengan kekuatan 4.7 magnitud.

Tambah, Robert, lokasi gempa berpusat 72 kilometer ke arah tenggara Kupang dengan kedalaman 11 kilometer.

"Gegaran kedua dapat dirasakan pada jam 9.09 pagi dengan kekuatan 4.1 magnitud. Pada 10.25 pagi, Kupang sekali lagi digegarkan dengan gempa bumi berkekuatan 3.1 magnitud.

"Gempa bumi terakhir berlaku pada jam 9.10 malam dengan kekuatan 4.5 magnitud yang menggegar daerah Manggarai Barat," ujar Robert.

Katanya, tiada kecederaan mahupun kerosakan harta benda dilaporkan. - Tribunnews

LAMPIRAN 23
UTUSAN MALAYSIA (LUAR NEGARA): MUKA SURAT 12
TARIKH: 3 SEPTEMBER 2018 (ISNIN)

MagicScroll, tablet PC gulung pertama dunia

OTTAWA 2 Sept. - Sekumpulan saintis berjaya mencipta tablet komputer peribadi (PC) gulung pertama di dunia dikenali sebagai *MagicScroll*.

MagicScroll berkenaan memaparkan skrin sentuh fleksibel yang boleh berputar melalui bentuknya yang silinder atau bertukar kepada paparan rata.

Prototaip tablet itu dibangunkan oleh sekumpulan penyelidik dari Makmal Human Lab di Universiti Queen, Kanada, lapor portal *Daily Mail*.

MagicScroll dibentuk menyerupai skrol purba yang ditampal pada silinder dan dibuka menjadi tablet PC sepenuhnya berukuran 19.05 sentimeter.

Bukan skrol itu sa-

haja yang mempunyai inspirasi zaman purba malah tablet berkenaan dipasang dengan dua roda pada setiap hujungnya seperti alat pemegang kad zaman dahulu yang dikenali sebagai *Rolodex*.

Ini bagi membolehkan pengguna skrol nama-nama kenalan menerusi paparan digital melalui putaran roda berkenaan.

Jika pengguna mahu membuat panggilan, mereka hanya perlu memutar skrin belakang kepada bentuk silinder.

"Sebagai telefon, bentuk silinder itu amat mudah dipegang menggunakan sebelah tangan sahaja," jelas para penyelidik.

Jika pengguna mahu melihat dengan lebih dekat

seperti *Google Street View*, skrin tablet dengan mudah akan memaparkan pemandangan kawasan seperti dalam laman sesawang.

Skrin berkenaan mempunyai 2K resolusi imej dan video yang tepat.

"Apabila dilebarkan, *MagicScroll* menghasilkan paparan penuh 19.05 sentimeter, resolusi tinggi, paparan pelbagai sentuh yang membolehkan pengguna untuk melihat imej dengan lebih nyata," kata mereka.

Menurut pencipta *MagicScroll*, alat prototaip itu adalah kecil dan boleh disimpan dalam poket dan mudah untuk dipegang dengan sebelah tangan sahaja berbanding tablet biasa selain boleh digunakan sebagai alat pengesan.

Pengarah Makmal Human Media, Roel Vertegaal berkata, penciptaan alat itu yang diinspirasi daripada skrol purba kerana bentuknya yang lebih semula jadi, tidak diganggu oleh had masa visual yang panjang.

Pada masa hadapan, para penyelidik itu berharap dapat mencipta alat berkenaan yang lebih kecil daripada sebatang pen dan boleh disimpan dalam poket baju.

"Projek *MagicScroll* ini membuka minda bahawa skrin tidak semestinya rata dan apa juga boleh menjadi skrin," kata Vertegaal.



MAGICSCROLL
menyerupai skrol purba
yang ditampal pada
silinder. - AGENSI

LAMPIRAN 24
UTUSAN MALAYSIA (LUAR NEGARA): MUKA SURAT 14
TARIKH: 31 OGOS 2018 (JUMAAT)



BEBOLA api muncul di langit Perth, Australia pada kira-kira pukul 7.40 malam waktu tempatan. - AGENSI

Penduduk Perth rakam imej bebola api 'tahi bintang'

■ SYDNEY 30 OGOS

PENDUDUK Perth merakamkan imej bebola api dipercayai tahi bintang menerangi ruang angkasa ibu negeri Australia Barat itu semasa terhempas ke Bumi, malam semalam.

Seorang penduduk tempatan, Bejay Walker yang berjaya merakam fenomena itu dengan kamera litar tertutup (CCTV) rumahnya berkata, objek terbakar itu muncul di langit pada kira-kira pukul 7.40 malam waktu tempatan.

Bagus Sugiono juga cukup bertuah apabila melihat sepintas lalu bebola api itu semasa sedang memandu di Jandakot di pinggir selatan Perth.

ABC News melaporkan, bebola api itu dipercayai tahi bintang yang memasuki atmosfera Bumi.

Kebanyakan penduduk Perth turut memuat naik fenomena itu di media sosial bagi menyuarakan kekaguman mereka dan bertanya jika ada pengguna internet lain turut sama melihat objek berkenaan.

Pihak Perth Observatory dalam pada itu menerima berpuluh-puluh rakaman video dari orang ramai yang merakam bebola api melintasi langit daripada CCTV rumah mereka dan dash cam kenderaan masing-masing.

Jabatan Perkhidmatan Kecemasan dan Kebakaran turut dibanjiri dengan panggilan telefon daripada saksi yang mendakwa melihat bebola api tersebut.

Sementara itu, saintis dari Universiti Curtin sedang cuba menyiasat sama ada tahi bintang itu jatuh ke Bumi serta lokasinya.

Menurut Pengarah Desert Fireball Network, Profesor Phil Bland, terdapat kemungkinan objek itu jatuh ke Bumi.

"Ia juga kelihatan seperti kita melihatnya pada pelbagai kamera yang bermaksud kita mampu untuk menganggarkan dengan tepat bagaimana ia datang melalui atmosfera, kedudukannya, kelajuannya, saiz dan menyelesaikan daripada sistem solar mana tahi bintang itu berasal dan jika ia jatuh ke Bumi," katanya.

- REUTERS

LAMPIRAN 25
NEW STRAITS TIMES (WORLD): MUKA SURAT 42
TARIKH: 31 OGOS 2018 (JUMAAT)

WORSENING

AUSSIE DRY SEASON 'TO LAST 3 MONTHS'

Drought has
wilted crops, left
farmers struggling

SYDNEY

AUSTRALIA'S east coast will experience dry weather for at least the next three months, the country's meteorological bureau said yesterday, intensifying a drought that has wilted crops and left farmers struggling to stay in business.

The Meteorology Bureau said there was only a 30 per cent chance rainfall would exceed average levels over much of the east coast during spring, which runs from next month to November.

If the drought worsens, the agricultural sector would suffer further crop losses, while farmers would be forced to slaughter livestock in greater numbers as they struggle to find enough food or water to keep them alive.

The bureau raised the prospect of dry weather in the country's west, which had escaped drought conditions, raising new concerns



A paddock containing a crop of canola near Mallala, north of Adelaide, recently. REUTERS PIC

for food manufacturers.

Unable to source enough grain from the east coast, some food producers have started to import supplies from western Australia, where recent favourable weather had encouraged farmers to sell leftover supplies.

But the bureau said the west coast, the country's largest agricultural producing region, would also experience drier than average weather over the next three months, tightening national supply yet further.

"East coast farmers have largely written off wheat crops this year, but the issue could be the situation in the west," said Phin Ziebell, agribusiness economist with the National Australia Bank.

"Some had been calling for a crop in excess of 10 million tonnes (in western Australia), but if the forecast materialises, the figure will be under threat."

Production of wheat from the world's fourth-largest exporter is already expected to hit a decade low this year. **Reuters**

LAMPIRAN 26
NEW STRAITS TIMES (WORLD): MUKA SURAT 40
TARIKH: 31 OGOS 2018 (JUMAAT)

INFRASTRUCTURE DAMAGE

MYANMAR DAM BREACH FLOODS 85 VILLAGES

Spillway displaces 63,000 people,
submerges a section of major highway

SWAR CREEK DAM

AS many as 85 villages were flooded in Myanmar after a dam failed, unleashing waters that blocked a major highway and forced more than 63,000 people from their homes, a state-run newspaper said yesterday.

The disaster spotlights safety

concerns about dams in South-east Asia after last month's collapse of a hydroelectric dam in Laos displaced thousands of people and killed at least 27.

Firefighters, troops and officials launched a desperate rescue effort on Wednesday after the spillway of an irrigation dam burst at Swar creek in central Myanmar, sending a torrent of water through

villages and the nearby towns of Swar and Yedashe.

By yesterday morning, the water was receding, but two people remained missing and were feared to have been washed away, said Min Thu, deputy administrator of Yedashe.

"People whose villages are on higher ground are preparing to go back to their villages."

The spillway flooded 85 villages, affecting more than 63,000 people and submerging a section of highway, the *Global New Light of Myanmar* newspaper said.



Soldiers assisting residents to cross a flooded area in Swar town, Bago region, yesterday. AFP PIC

Traffic between the cities of Yangon and Mandalay and the capital, Naypyidaw, was disrupted after the flood damaged a bridge on the highway linking the cities.

Work was underway yesterday to repair the dam, where the water level had dropped by several metres, exposing sandy banks.

A priority was to get as much water into the reservoir as pos-

sible before the dry season when it would be needed for irrigation, said Kaung Myat Thein, an irrigation official at the Agriculture, Livestock and Irrigation Ministry.

He said a probe would determine the cause of the dam breach.

Days before the breach, authorities had given the all-clear to the dam, which can hold 267 million cubic metres of water. **Reuters**