

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

Bil	Berita	Media	Capaian Berita Penuh
27 OGOS 2018 (ISNIN)			
1.	<u>Yoursay: Electric cars better bet for environment in long run</u> We have less than 15 years to go with our gas deposits. With our addiction to fossil fuels, the new Energy, Technology, Science, Climate Change and Environment Ministry under Yeo Bee Yin has challenges ahead. The electric car is, in short, a better bet for the environment.	Malaysia Kini	Klik pada tajuk berita
2.	<u>Fenomena gelombang panas</u> Menurut laporan Jabatan Meteorologi Malaysia, fenomena itu berlaku akibat fasa monsun barat daya yang mendominasi keadaan cuaca di negara ini sepanjang tempoh berkenaan.	Utusan Malaysia	Rujuk lampiran 1 atau klik pada tajuk berita
3.	<u>Masalah EIA berkaitan PIL-1, PTMP membimbangkan?</u> Berikutan itu, Penang Forum telah mengutus sepucuk surat kepada Bahagian Penilaian-Sekretariat Laporan Kajian Impak Alam Sekitar (EIA), Jabatan Alam Sekitar di Putrajaya untuk memaklumkan mengenai perkara tersebut semalam.	Utusan Malaysia	Klik pada tajuk berita
4.	<u>Centres become dumpsite/ Recycling most foul</u> They have collectively and individually complained to the relevant authorities, including the Shah Alam City Council (MBSA), the Department of Environment (DoE), as well as to the late Sri Muda assemblyman Shuhaimi Shafiei.	The Star	Rujuk lampiran 2 atau klik pada tajuk berita

5.	<u>Generasi muda perlu kuasai STEM</u> NSC dianjurkan oleh Akademi Sains Malaysia (ASM) dan anak syarikat ExxonMobil di Malaysia, dengan kerjasama Kementerian Pendidikan, Majlis Amanah Raya (Mara) dan The Young Scientist Network – ASM.	Utusan Malaysia	Rujuk lampiran 3
6.	<u>DNA ku gaya hidup efektif</u> Disebabkan itu, Institut Genom Malaysia (MGI) buat julung kalinya memperkenalkan program DNAku dengan memberikan perkhidmatan ujian penyaringan DNA kepada seluruh rakyat Malaysia terutama golongan belia.	Utusan Malaysia	Rujuk lampiran 4
7.	<u>NSC pupuk minat sains, inovasi</u> Pembudayaan sains adalah penting untuk menjamin kelangsungan masa depan negara. Bagi memupuk dan meningkatkan minat pelajar kepada bidang sains, teknologi dan inovasi, Jaringan Saintis Muda (Young Scientist Network) dengan kerjasama Akademi Sains Malaysia (ASM) menganjurkan pertandingan National Science Challenge (NSC) peringkat Kuala Lumpur di Universiti Malaya (UM) baru-baru ini.	Harian Metro	Rujuk lampiran 5
25 OGOS 2018 (SABTU)			
8.	<u>Suruhanjaya Tenaga tumpas kegiatan curi elektrik</u> Suruhanjaya Tenaga (ST) menumpaskan satu sindiket dipercayai melakukan kegiatan curi bekalan elektrik dengan mengusik pemasangan meter milik Tenaga Nasional Berhad (TNB) sehingga mengakibatkan kerugian kira-kira RM2 juta.	Berita Harian	Rujuk lampiran 6

TEMPATAN

Bil	Berita	Media	Capaian Berita Penuh
27 OGOS 2018 (ISNIN)			
9.	<u>Need to master English to become global players</u> This reinforces my belief that we have to get the message across to every Malaysian student and parent of the importance of English in science, technology (including coding), engineering and medicine (STEM); business and commerce; and sports and the Internet – just to name a few areas.	The Star	Klik pada tajuk berita
10.	<u>Let's talk about science</u> “As FameLab alumni, with the support of the British Council, we aim to establish a home-grown Malaysian Science Communication Network to pool our resources and efforts to elevate and sustain the presence and progress of STEM through science communication”, Siti added.	The Sun	Rujuk lampiran 7
11.	<u>Future perfect universities</u> Students preparing to participate and contribute in this technology-driven world need a solid science foundation, of course, but also education in the humanities, arts, and social sciences — what Wood calls “socialtech”.	New Straits Times	Rujuk lampiran 8 atau klik pada tajuk berita
12.	<u>Important to embrace good habits</u> “Malaysia has a lot to offer in terms of flora and fauna, we just have to take care of it,” she said, adding that the country is too relaxed when it comes to environmental conservation.	The Star	Rujuk lampiran 9 atau klik pada tajuk berita
13.	<u>Expert: Planned highway may impact fault lines/ Together as one</u> At least three places along the fault lines of the island will be breached by the planned highway between Gurney Drive and Bayan Lepas, but the stability of the granite bedrock has never been studied.	The Star	Rujuk lampiran 10 atau klik pada tajuk berita

14.	<u>CEPSI 2018: Pakar kongsi pengetahuan tentang ESI</u> Persidangan Industri Perbekalan Elektrik (CEPSI 2018) anjuran Tenaga Nasional Berhad (TNB) akan menghimpunkan pakar bagi berkongsi pengetahuan mengenai bekalan tenaga elektrik (ESI).	Utusan Malaysia	Rujuk lampiran 11
26 OGOS 2018 (AHAD)			
15.	<u>Curtin Malaysia strives for green tech goal</u> “Every year, it gives thousands of visitors an exciting taste of life at our campus, as well as a fun, hands-on learning experience in a festival-like atmosphere,” he said, adding that the carnival continued to focus on attracting future students and also promoting the importance of science, technology, engineering and mathematics (STEM) areas in education today.	The Borneo Post	Klik pada tajuk berita
16.	<u>SEB leverages on green tech to help boost S’wak’s devt</u> Partnering with The Learning Curve for ‘Science by Sarawak Energy’, Ung said it is SEB’s hope to play a significant role in advancing science, technology, engineering and mathematics (STEM) education and also instilling the love for science in the young.	The Borneo Post	Klik pada tajuk berita
17.	<u>Ribut melanda negara bukan petanda fenomena El Nino</u> Kejadian ribut yang melanda negara dalam tempoh dua hari dilihat tiada sebarang kaitan dengan kehadiran fenomena El Nino.	Utusan Malaysia	Rujuk lampiran 12
18.	<u>Open burning not done in decades, says Sime Darby</u> One of Malaysia’s biggest plantation companies reaffirms its zero-burning policy in its operations across Indonesia as haze from hotspots in Sumatra and Kalimantan blows into the country.	The Star	Rujuk lampiran 13 atau klik pada tajuk berita

19.	<u>Mengenali gas asli</u> Gas asli adalah salah satu bahan bakar yang terbentuk daripada fosil tanaman dan haiwan menerusi proses semula jadi dalam tanah sejak kira-kira 100 juta tahun yang lalu.	Berita Harian	Rujuk lampiran 14
25 OGOS 2018 (SABTU)			
20.	<u>SEB to support Sarawak digital economy with green and renewable energy</u> “We want to play a role in advancing science, technology, engineering and mathematics (STEM) education, inspire more students to love science and engineering,” he said.	New Straits Times	Klik pada tajuk berita
21.	<u>3 pelajar kongsi inovasi nuklear di Russia</u> Selepas bergelar juara dunia dalam Persidangan Antarabangsa Sumber Manusia Untuk Program Tenaga Nuklear kali ketiga di Korea Selatan, Mei lalu, tiga pelajar Sekolah Menengah Kebangsaan (SMK) Kuala Besut, disini terus mendapat perhatian dan menerima undangan mengadakan program di luar negara.	Berita Harian	Rujuk lampiran 15
22.	<u>Waste-to-energy plant in Kepong – yes or no?/ Problem of waste disposal still burning</u> Zuraida highlighted several benefits of a WTE plant in Parliament, including long-term cost savings and the construction of sanitary landfills as well as reduction in greenhouse gas.	The Star	Rujuk lampiran 16 atau klik pada tajuk berita

ANTARABANGSA

Bil	Berita	Media	Capaian Berita Penuh
27 OGOS 2018 (ISNIN)			
23.	<u>Man's best robot</u> Aibo owners petting their robot dogs at Sony Corp's Aibo fan meeting in Tokyo, Japan. The 29-cm tall, 2.2kg robot is equipped with deep learning technology to analyse information collected by various sensors and cameras.	The Star	Rujuk lampiran 17
24.	<u>Two dead, 241 injured in Iran quake</u> A strong 6.0-magnitude earthquake struck western Iran near the border with Iraq early yesterday, killing two people and injuring more than 200, officials said.	The Star	Rujuk lampiran 18
25.	<u>An RV in space</u> Lockheed Martin gave a first look at what one of these habitats might look like at the Kennedy Space Centre, where the aerospace giant is under contract with NASA to build a prototype of the living quarters.	The Star	Rujuk lampiran 19
26.	<u>Collecting cardboard to survive</u> Her fingers are bent from 20 years of collecting card-board from Hong Kong's streets, but Au Fung-lan has no desire to give up the gruelling work.	The Star	Rujuk lampiran 20
27.	<u>Rain brings relief to drought-stricken farmers</u> Widespread rain fell across drought-affected parts of eastern Australia over the weekend, bringing relief to farmers struggling to cope with the driest conditions in more than half a century.	The Star	Rujuk lampiran 21

28.	<u>Tropical Strom Lane heads away from Hawaii islands</u> Tropical Storm Lane limped away from the Hawaii islands on Saturday after dumping heavy rain that triggered flash floods but caused no known casualties.	The Star	Rujuk lampiran 22
26 OGOS 2018 (AHAD)			
29.	<u>The Nuclear Power Plant of the Future May Be Floating Near Russia</u> Along the shore of Kola Bay in the far northwest of Russia lie bases for the country's nuclear submarines and icebreakers. Low, rocky hills descend to an industrial waterfront of docks, cranes and railway tracks.	The New York Times	Klik pada tajuk berita
30.	<u>Does the rise of STEM spell the demise of the humanities?</u> Today, we have multitudes of pure science and technology trained people, who lack a grounding in the humanities and possibly the resultant emotional quotient to make sound judgments between right and wrong.	South China Morning Post	Klik pada tajuk berita
31.	<u>Long way to go for Middle East enterprises in cyber security</u> The Middle East, home to some of the fastest growing economies in the world, has made strides in technology adoption but is still vulnerable to cyberattacks, according to experts.	The National	Klik pada tajuk berita
32.	<u>Energy Is An Environmental And Macroeconomic Problem</u> Global warming, in short, remains urgent for the environment and the people who will bear the direct costs. Yet I don't think we should ignore the other case for focusing on "sustainable energy": the macroeconomic benefits.	Forbes	Klik pada tajuk berita

33.	<u>Climate change is real. We must not offer credibility to those who deny it</u> We are no longer willing to lend our credibility to debates over whether or not climate change is real. It is real. We need to act now or the consequences will be catastrophic.	The Guardian	Klik pada tajuk berita
34.	<u>More women needed in Stem jobs: Grace Fu</u> The demand for graduates in science, technology, engineering and mathematics (Stem) is expected to grow as Singapore moves towards becoming a Smart Nation.	The Straits Times	Klik pada tajuk berita
25 OGOS 2018 (SABTU)			
35.	<u>Japan's flying car dream to take wing</u> Japan is making a push to develop flying cars, enlisting companies including Uber Technologies Inc and Airbus SE in a government led-group to bring airborne vehicles to the country in the next decade, said sources.	New Straits Times	Rujuk lampiran 23
36.	<u>Hawaii braces for Hurricane Lane</u> Hurricane Lane drenched Hawaii on Thursday ahead of its arrival in the island state, prompting President Donald Trump to declare a state of emergency as landslides and flash flooding left roads blocked.	New Straits Times	Rujuk lampiran 24
37.	<u>Indonesia guna bom air, benih hujan atasi hujan terbakar</u> Sebanyak 10 helikopter agensi-agensi kerajaan Indonesia telah dikerahkan melakukan pengeboman air bertujuan memadam kebakaran dan tanah yang melanda Kalimantan Barat sejak bulan lalu.	Utusan Malaysia	Rujuk lampiran 25

LAMPIRAN 1 UTUSAN MALAYSIA (UTUSAN KOTA): MUKA SURAT 1 TARIKH: 27 OGOS 2018 (ISNIN)

PENGUNJUNG di Taman KLCC menggunakan payung ekoran cuaca panas.

ORANG ramai dinasihat mengambil jumlah air yang mencukupi bagi tujuan hidrasi badan.

GELOMBANG cuaca panas yang melanda negara dijangka berlarutan sehingga September ini.

Fenomena gelombang panas

■ KUALA LUMPUR 26 OGOS

CUACA kering dan panas di beberapa kawasan dan negeri di Semenanjung Malaysia dijangka berlarutan sehingga pertengahan September ini.

Menurut laporan **Jabatan Meteorologi Malaysia**, fenomena itu berlaku akibat fasa monsun barat daya yang mendominasi keadaan cuaca di negara ini sepanjang tempoh berkenaan.

"Sepanjang Ogos, kebanyakan tempat di Semenanjung akan menerima hujan pada paras normal dengan jumlah 150 mililiter (mm) hingga 250 mm kecuali di beberapa tempat di Perak (tengah hingga selatan), Selangor, Negeri Sembilan, Melaka, Wilayah Persekutuan Kuala Lumpur dan Putrajaya yang dijangka menerima hujan di bawah paras normal antara 100 mm dan 150 mm.

"Namun hujan lebat, ribut petir berserta angin kencang boleh berlaku di kawasan perairan pantai barat Semenanjung Malaysia pada awal pagi berikutan pem-

ISU RAKYAT

bentukan garis badai yang dikenali sebagai 'Sumatras'," menurut laporan di laman web agensi berkenaan.

Sementara itu pada September, kebanyakan tempat di Semenanjung Malaysia dijangka menerima jumlah hujan pada paras normal antara 150 mm hingga 250 mm.

Menurut laporan itu lagi, beberapa kawasan di pedalaman Semenanjung Malaysia termasuk Perlis, Kedah dan Pulau Pinang pula dijangka menerima hujan antara 250mm hingga 350mm.

Sementara itu pada Oktober, fenomena fasa peralihan monsun diramal bermula dengan keadaan cuaca lembab, hujan dan ribut petir serta angin kencang dijangka berlaku pada lewat petang dan awal malam terutama di negeri pantai barat dan pedalaman Se-

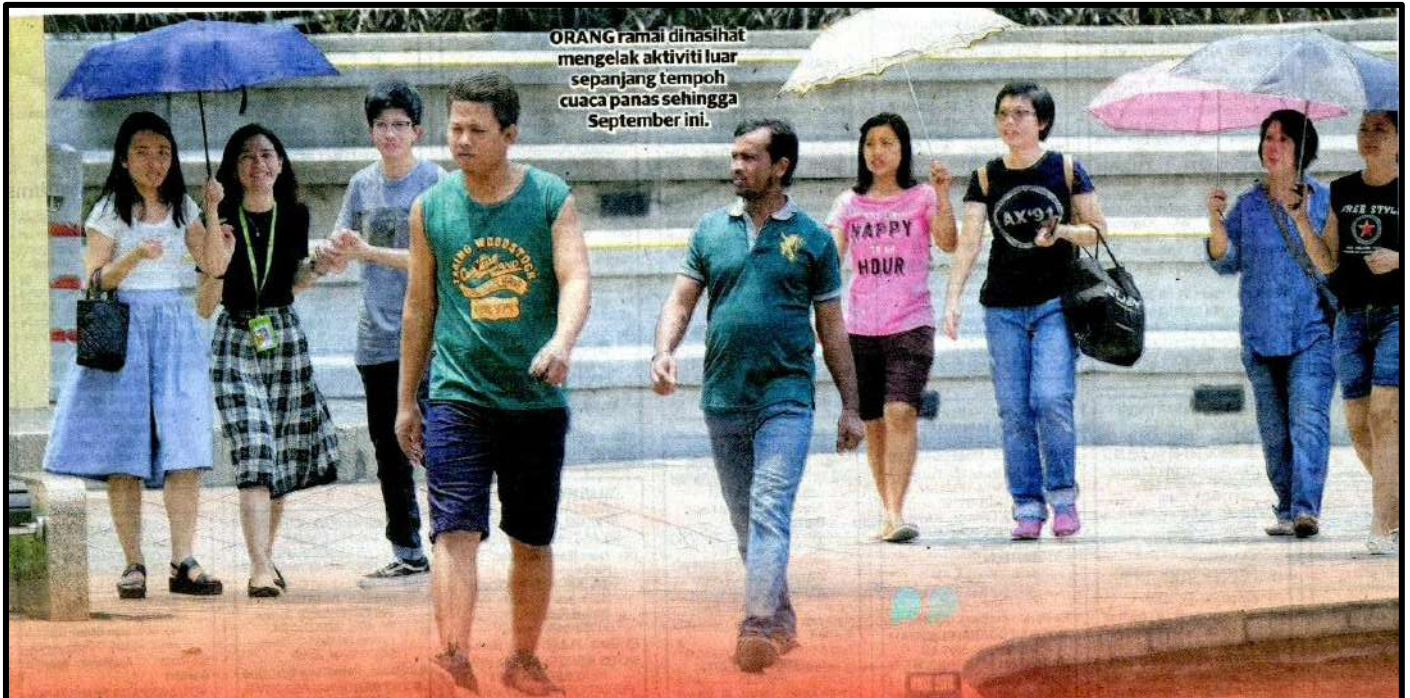
menanjung, pantai barat Sabah serta kawasan barat dan tengah Sarawak.

"Fenomena ini akan menyakikan beberapa tempat di Semenanjung seperti Kedah, Pulau Pinang, utara Perak, pedalaman Kelantan dan Pahang dijangka menerima taburan hujan melebihi paras normal 400 mm," katanya.

Ramalan itu juga merekodkan beberapa siri hujan lebat menyeluruh terutama di negeri pantai timur Semenanjung dan barat Sarawak bermula November hingga Mac 2019 akibat Monsun Timur Laut yang secara konsisten membawa angin dari timur laut dengan kelajuan antara 10 dan 20 kilometer (km) sejam. - **BERNAMA**

PENGUNJUNG menghilangkan haus dengan minum air paip tapisan di Taman KLCC, Kuala Lumpur, baru-baru ini.

LAMPIRAN 1 (SAMBUNGAN)
UTUSAN MALAYSIA (UTUSAN KOTA): MUKA SURAT 1
TARIKH: 27 OGOS 2018 (ISNIN)

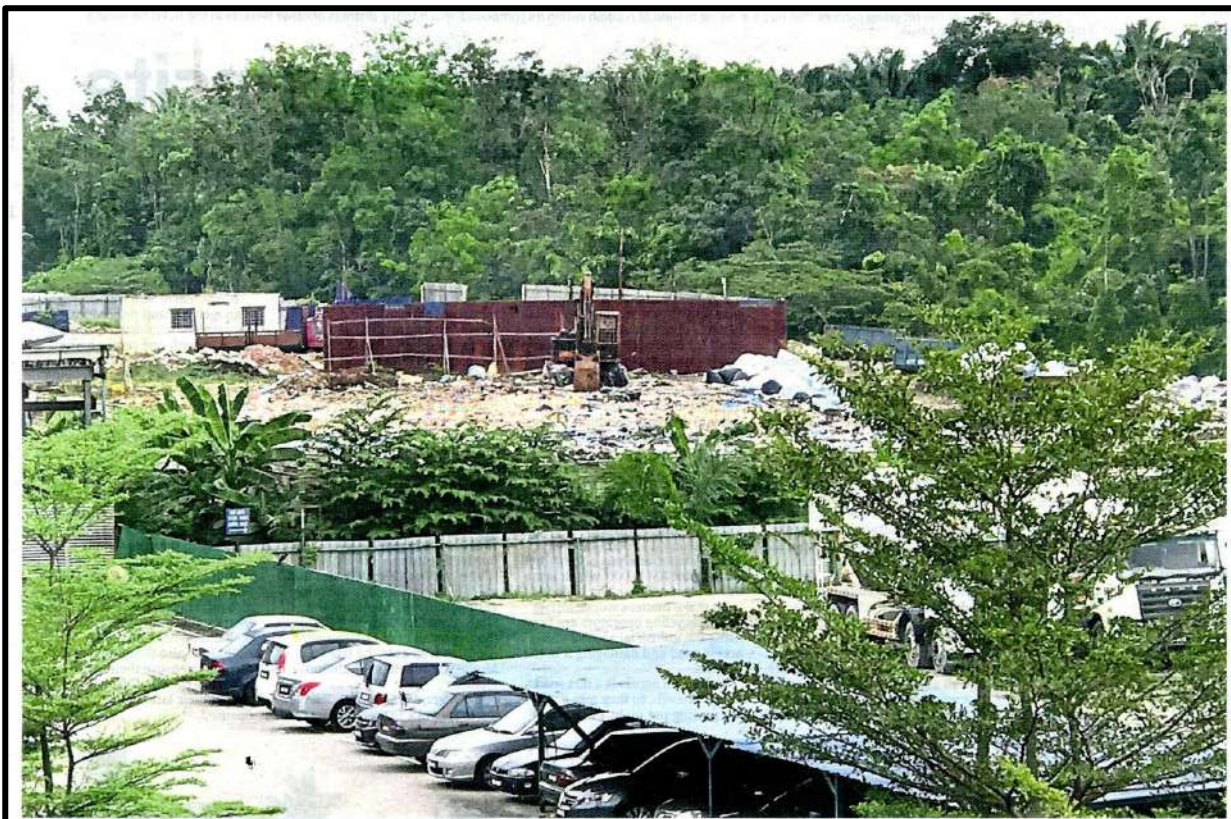


ORANG ramai dinasihat mengelak aktiviti luar sepanjang tempoh cuaca panas sehingga September ini.

PANDUAN PERSEDIAAN MENGHADAPI CUACA PANAS

-  1 Minum minuman isotonik
-  2 Hadkan aktiviti luar
-  3 Memakai topi atau payung
-  4 Minum air kosong dengan banyak
-  5 Kerap berehat dan mandi
-  6 Memakai pakaian ringan, berwarna terang dan longgar

LAMPIRAN 2
THE STAR (NEWS): MUKA SURAT 1
TARIKH: 27 OGOS 2018 (ISNIN)



Source of stink: A view from one of the factory lots in Bukit Kemuning Industrial Park of the bigger recycling plants in the area. — PRIYA MENON/The Star

Recycling most foul

Badly managed recyclable items dumped in four centres in Bukit Kemuning, Shah Alam, brings stench, pests and pollution that plague nearby residential areas. > 2

LAMPIRAN 2 (SAMBUNGAN) THE STAR (NEWS): MUKA SURAT 2 TARIKH: 27 OGOS 2018 (ISNIN)



One of the recycling centres that has a growing mound of rubbish within its compound, much to the distress of other tenants in the Bukit Kemuning Industrial Park.

Centres become dumpsite

MBSA issues notice to landowner and tenant to keep their premises clean or face action

Story and photos by PRIYA MENON
priya@thestar.com.my

BEING neighbours with four recycling centres that emit stench and cause a string of hygiene issues is no walk in the park.

The four centres that do not display any signage are located in Jalan Sungai Jeruh 32/196, Bukit Kemuning, facing the Bukit Kemuning Industrial Park in Shah Alam.

With stench permeating the air daily, the community of the industrial park has likened the place to a giant dumpsite.

Each day, staff from 17 factory lots in the area are greeted by the foul smell ever since the centres started operations a year ago.

The presence of the recycling centres is also affecting about 300 households there, including terrace units and the Kemuning Aman Apartment.

The Bukit Kemuning Industrial Park community said the odour was always horrible in the morning and worse after rain.

On top of that, the area is now infested with termites and rodents as well as crows.

A worker there, who declined to be named, said the community had

to call in a pest control company to treat their factories' wooden structures for termite infestation.

He believed that the infestation was caused by a stack of wood collected by one of the recyclers.

"We even found dead crows in our factory compound. We are not sure why they died, but they usually circle above these centres and scout for food at the place the recyclables are dumped," he added.

The factory owners are also worried that leachate from these dumped items will contaminate the soil and a stream behind the recycling centres, affecting their health in the long run.

One of the businesses there is a company dedicated to environmental sustainability, which has also been observing the activities of the four recycling centres.

"We wanted to do a soil and ground water analysis but that will cost almost RM40,000, which is too much for us to bear," he added.

To make matters worse, lorries of the recycling operators are now using the industrial area's main access road and damaging it in the process.

Their own access is a dirt road that is uneven, so they tore down the fencing put up by the community and now use the main access, which is a tarred road.

The community conceded that they did not dare confront the recycling operators as the actions of their workers were intimidating.

"They are blatant enough to tear down the fences we put up for our industrial park. We are pooling money to ensure all these safety measures are in place but with them, it does not seem to work," he added.

Businesses at the industrial park have also been affected as customers complained about the stench.

Many of them urged the business owners to fix the problem, prompting them to consider relocation.

Moving would be a daunting task as each lot cost them a minimum RM4mil to set up, and relocating would mean an even bigger burden for them.

They have collectively and individually complained to the relevant authorities, including the Shah Alam City Council (MBSA), the Department of Environment (DoE), as well as to the late Sri Muda assemblyman Shuhaimi Shafiee.

However, MBSA and DoE have yet to get back to them on the complaint.

"We do not mind them running their recycling businesses there, but they have to do it professionally and follow environmentally-friendly standards," added the complainant.

It was learnt that MBSA's waste management and public cleansing department conducted a check in the area with one centre being issued a notice under the Local Government Act 1976 for leaving the lot dirty and unmanaged.

MBSA corporate communications head Shahrin Ahmad said another notice was also issued under the Collection, Removal and Disposal of Waste Materials Law (MBSA) 2007 to the operator renting the lot.

"MBSA also ordered the land owner to negotiate with the tenant to clean up the area within 14 days.

"If they fail to fulfil the order within the stipulated time, MBSA will take follow-up action. We have also informed the Klang Land and District office to issue a notice to the land owner," he added.

Shahrin also reminded land owners to ensure their vacant lands are closed off from intruders so that their land would not be misused.



Another recycling centre along Jalan Sungai Jeruh 32/196, Bukit Kemuning that causes worry among operators in the industrial park.



Lorries engaged by the recycling centres are seen using the industrial park's tarred access road after tearing down the fencing prohibiting outsiders' use.

LAMPIRAN 3
UTUSAN MALAYSIA (HELLO KAMPUS): MUKA SURAT 1
TARIKH: 27 OGOS 2018 (ISNIN)

Generasi muda perlu kuasai STEM

MALAYSIA perlu mempunyai dan mempersiapkan generasi mudanya supaya memiliki kecekapan dalam bidang Sains, Teknologi, Kejuruteraan dan Matematik (STEM),

Naib Canselor Universiti Malaysia Sabah (UMS), **Datuk Dr. D. Kamarudin D. Mudin** berkata, penguasaan bidang itu oleh generasi muda bertujuan untuk memastikan Malaysia memiliki modal insan berkemahiran tinggi yang dapat membantu membangunkan negara pada depan.

Katanya, sejajar dengan kemunculan revolusi industri keempat, dunia menyaksikan kewujudan pelbagai teknologi baharu yang menggabungkan elemen fizikal, digital dan biologi serta melibatkan semua disiplin, termasuk ekonomi dan industri.

"Pada asasnya, ia mengubah kehidupan kita, cara kita bekerja dan mempunyai kaitan antara satu dengan lain. Perubahan ini akan memerlukan pengetahuan serta kemahiran baharu yang beraneka jenis, di mana pembangunan modal insan



UMS
UNIVERSITI MALAYSIA SABAH

STEM yang berkaitan akan menjadi pemacu utama bagi kita untuk memanfaatkan peluang yang ditawarkan revolusi industri ini," katanya.



D. KAMARUDIN D. MUDIN

Beliau berkata demikian dalam teks ucapan beliau yang dibacakan oleh Dekan Fakulti Sains dan Sumber Asli UMS, Prof. Dr. Baba Mosta pada Program Cabaran Sains Kebangsaan (NSC) 2018 peringkat Negeri Sabah, baru-baru ini.

Sementara itu, D. Kamarudin berkata, UMS menawarkan pendidikan tinggi dalam pelbagai disiplin termasuk sains, teknologi, kejuruteraan dan sains sosial.

"Kami berharap ia dapat membangunkan modal insan yang diperlukan negara kita dan akhirnya menghasilkan lebih banyak inovasi serta produktiviti demi manfaat masyarakat dan negara secara keseluruhannya," katanya.



Kami berharap ia dapat membangunkan modal insan yang diperlukan negara kita dan akhirnya menghasilkan lebih banyak inovasi serta produktiviti demi manfaat masyarakat dan negara secara keseluruhannya."

Menyentuh tentang NSC, beliau berkata, pertandingan itu bertujuan memupuk dan meningkatkan minat generasi muda terhadap sains, teknologi dan inovasi yang mendorong mereka mencintai bidang sains dan akhirnya memilih kerjaya dalam bidang itu.

NSC dianjurkan oleh Akademi Sains Malaysia (ASM) dan anak syarikat ExxonMobil di Malaysia, dengan kerjasama Kementerian Pendidikan, Majlis Amanah Raya (Mara) dan The Young Scientist Network - ASM.

LAMPIRAN 4

UTUSAN MALAYSIA (MEGA SAINS): MUKA SURAT 1

TARIKH: 27 OGOS 2018 (ISNIN)

DNAKU GAYA HIDUP EFEKTIF

SUDAHKAH anda menjalani gaya hidup sihat seperti disarankan oleh Kementerian Kesihatan tetapi masih juga sering sakit-sakit?

Meskipun sering bersenam, mengambil makanan rendah kalori, anda masih dihaui penyakit seperti darah tinggi, diabetes, obesiti dan berasa lemah tidak bermaya.

Hal ini demikian kerana badan kita mempunyai genetik berbeza-beza menyebabkan keperluan dan cara penajangan juga berbeza mengikut individu.

Disebabkan itu, Institut Genom Malaysia (MGI) buat julung kalinya memperkenalkan program DNAku dengan memberikan perkhidmatan ujian penayangan DNA kepada seluruh rakyat Malaysia terutama golongan belia.

Pengarah Eksekutif MGI, Dr. Zulkeflee Zamrod berkata, program ini dijalankan bertujuan untuk mengajak rakyat Malaysia menikmati kehidupan yang lebih baik melalui perubahan ke arah gaya hidup yang lebih sihat dan sejahtera.

DR. ZULKEFLEE ZAMROD

Oleh **INTAN SUHANA CHE OMAR**
intansuhanaomar@gmail.com



Menurutnya, ujian penayangan tersebut hanya membaca Asid Deoksiribonukleik (DNA) sebanyak lima peratus yang diambil daripada air liur individu dan tidak melibatkan keseluruhan pembacaan DNA.

"Tubuh seorang manusia, mempunyai sekitar 20,000 gen iaitu setiapnya berbeza mengikut individu disebabkan faktor keturunan atau persekitaran."

"Oleh itu, air liur

yang diambil ini akan kita baca menggunakan komputer untuk mengetahui genetik seseorang dan kecenderungan sama ada seseorang itu boleh menjadi atlet atau memiliki bakat unik serta mengetahui nutrisi dalam tubuh, alahan, kesihatan dan juga gaya pemakanan yang sesuai," ujarnya.

Ujian penayangan ini dilakukan dengan pengambilan sampel air liur daripada individu dan kemudiannya dianalisis menggunakan *Asian Screening Array (ASA)* yang dilengkapi *Beadchip* untuk penduduk Asia. Setelah itu, *ASA Beadchip* berkenaan diproses menggunakan Iscan dan seterusnya pemrosesan bioinformatik dilakukan untuk laporan genetik.

Selain itu, tambah Dr. Zulkeflee, ujian penayangan ini merupakan yang pertama dilakukan di Malaysia dan disesuaikan dengan gaya hidup Asia.

"Sebelum ini ada juga syarikat insurans yang menjalankan ujian sebegini tetapi ujian hanya dilakukan di luar negara seperti di Amerika Syarikat dan Hong Kong."

"Tetapi di sini kita akan melakukan sendiri ujian saringan tersebut dan setelah keputusan diperolehi, ia



DR. ZULKEFLEE ZAMROD (kanan) diiringi Effrul Ikhwam Ramlan (dua kanan) dan beberapa kakitangan melihat analisis pada mesin penayangan DNA yang digunakan di MGI, Bangi, Selangor baru-baru ini.

akan disertakan sekali dengan kaunselor genetik untuk menerangkan keputusan saringan kepada anda serta memberikan cadangan gaya hidup yang sesuai mengikut gaya hidup orang Asia, jelasnya.

Sementara itu, Pegawai Penyelidikanya, Dr. Effrul Ikhwam Ramlan menjelaskan, penayangan DNA ini membolehkan seseorang individu itu mengetahui keperluan tubuh dengan lebih tepat dan menikmati hidup dengan lebih gembira selain mengatasi penyakit yang sering dihidapi kebanyakan orang seperti diabetes, hipertensi dan serangan jantung.

Katanya, untuk terus kekal sihat dan menjalani hidup yang berkualiti, penjagaan dan

gaya hidup seseorang haruslah berfokuskan kepada jenis genetiknya dan bukan secara am.

"Genetik yang tidak sama menyebabkan seseorang itu perlu mengamalkan gaya hidup yang lebih spesifik kerana ada orang yang tak boleh bersenam kerana otot cepat terluka, ada orang tidak boleh minum manis, tetapi ada genetik yang membolehkan seseorang itu boleh minum yang lebih manis."

"Segala informasi ini direkod dalam DNA dan disebabkan ujian itu penting untuk dilakukan."

"Daripada kita ikut panduan gaya hidup am yang sudah sedia ada, kita boleh menjadi lebih fokus kepada bahagian yang diperlukan oleh tubuh, jadi ada perkara-perkara yang kita boleh menyeronokkan," ujarnya.

Tambahnya, kos yang diperlukan untuk melakukan ujian saringan ini juga lebih murah berbanding yang ditawarkan di luar negara.

"Jika di luar negara, ia menelan kos hampir RM800, tetapi di sini kita menawarkan perkhidmatan yang lebih murah sekitar di antara RM500 hingga RM600 bergantung kepada pakej yang diambil."

"Setakat ini kita ada empat pakej iaitu kesejahteraan, kesihatan, sukan dan trait unik," jelasnya.

Bagi yang berminat untuk melakukan ujian penayangan DNA boleh melayari laman sesawang (web) institut berkenaan di <http://www.mgi-nibm.my> untuk keterangan lanjut.

MGI fokus kajian genetik

SEBAGAI sebuah institut komponen dalam tiga makmal Institut Bioteknologi Kebangsaan Malaysia (NIBM), MGI memfokuskan kepada aktiviti penyelidikan dan pembangunan genom atau DNA bagi aplikasi dalam bioteknologi industri dan penjagaan kesihatan.

Menurut Pengarah Eksekutif MGI, Dr. Zulkeflee Zamrod, antara kajian yang telah dijalankan atau sedang dijalankan oleh MGI ialah membaca, menjujukan dan menganalisis genom dari pelbagai sumber kehidupan seperti beberapa individu termasuk Orang Asli dalam kalangan penduduk Malaysia.

Selain itu, kajian turut dijalankan ke atas pelbagai jenis mikrobiologi seperti bakteria termofilik (*Geobacillus mahadii*), bakteria alkali (*Bacillus lehensis*), yis sikrofilik (*Glaciozyma antarctica*), serta pelbagai spesies kelutut, ikan, kelip-kelip, pokok Rafflesia, pokok getah dan kelapa sawit.

"Gen-gen yang terdapat dari pelbagai spesies mikroba yang mengkod enzim-enzim tertentu

telah diklon, diekspres dan ditulenkan proteinnya. "Beberapa protein talen telah dihablur dan ditentukan struktur tiga dimensi melalui difraksi sinar-X dan enzim-enzim ini juga telah dikaji aktiviti dan berpotensi untuk digunakan dalam bioteknologi industri terutama seperti pemrosesan makanan, minuman dan

sebagainya. "Sebahagian daripada enzim ini mempunyai sifat unik seperti tahan haba, tahan alkali atau aktif pada suhu sejuk," ujarnya.

Tambahnya, di antara tahun 2016 hingga 2017, lima enzim telah ditentukan struktur tiga dimensinya. Selain itu, ia turut menggunakan kaedah



PASUKAN penyelidik Institut Genom Malaysia mengadakan perbincangan mengenai analisis genom dari pelbagai sumber kehidupan.

kejuruteraan genetik terhadap bakteria tertentu untuk menghasilkan ciri-ciri baharu seperti berupaya menggunakan bahan buangan dan menukarkannya kepada bahan bio yang baharu seperti *xylitol*. "Kaedah kejuruteraan genetik berbalik atau *reverse genetic virus Newcastle* dan memasukkan gen tertentu daripada manusia bagi menghasilkan bahan antikanser manusia. Virus rekombinan ini dibuktikan boleh mengurangkan saiz tumor dalam tikus."

"MGI juga menyediakan kepakaran dan perkhidmatan saintifik untuk penyelidik dari institusi penyelidikan, universiti atau syarikat swasta sama ada dari dalam negara atau luar negara. Pengguna perkhidmatan dari luar negara melibatkan Brunei, Thailand dan Sepanyol," jelasnya.

Dalam pada itu, MGI menyediakan latihan teknikal dalam bidang genom seperti penjujukan DNA, bioinformatik, proteomik dan penyediaan serta penulenan protein.



MESIN penayangan DNA yang digunakan oleh Institut Genom Malaysia di ibu pejabatnya di Bangi Selangor.

Cara menyertai program DNAku

- Buka laman web MGI dan dapatkan DNA kit secara dalam talian
- DNA kit akan dihantar secara pos ke rumah anda
- Isi air liur sebanyak 4 milliliter (ml) ke dalam kit
- Pos kembali kit yang berisi sampel air liur kepada MGI
- Hasil analisis akan diperolehi dalam masa empat hingga enam minggu
- Disertakan bersama kaunselor genetik untuk memberi penjelasan keputusan yang diperolehi
- Cadangan gaya hidup dan pemakanan yang sesuai diberikan

LAMPIRAN 5
HARIAN METRO (NUANSA): MUKA SURAT N29
TARIKH: 27 OGOS 2018 (ISNIN)



NSC PUPUK MINAT SAINS, INOVASI

Pembudayaan sains adalah penting untuk menjamin kelangsungan masa depan negara. Bagi memupuk dan meningkatkan minat pelajar kepada bidang sains, teknologi dan inovasi, Jaringan Saintis Muda (Young Scientist Network) dengan kerjasama Akademi Sains Malaysia (ASM) menganjurkan pertandingan National Science Challenge (NSC) peringkat Kuala Lumpur di Universiti Malaya (UM) baru-baru ini.

Pengerusi NSC Dr Phan Chia Wei berkata, enam pasukan terpilih menyertai NSC kali ini iaitu Sekolah Menengah Kebangsaan (SMK) Aminuddin Baki, SMK Seri Bintang Selatan, SMK (Lelaki) Methodist, SMK Sungai Besi, Sekolah Menengah Sains (SMS) Selangor dan SMS Seri Puteri.

"Sejak penganjuran NSC pada 1999, ia berjaya menarik minat pelajar sekolah menengah dalam bidang sains, teknologi dan inovasi.

"Usaha saintis dan teknokrat tempatan bakal memastikan negara kekal relevan dalam arus pemodenan global yang bertunjangkan teknologi maklumat.

"Pemupukan minat pelajar sekolah dalam bidang sains, teknologi, kejuruteraan dan matematik (STEM) memerlukan sokongan berterusan pelbagai pihak," katanya.

LAMPIRAN 5 (SAMBUNGAN)
HARIAN METRO (NUANSA): MUKA SURAT N32
TARIKH: 27 OGOS 2018 (ISNIN)

CARI IDEA TERBAIK, KREATIF

Selain pertandingan kuiz peserta diminta buat pembentangan secara berkumpulan

DARI MUKA N29

Penganjuran NSC 2018 menerima kerjasama Kementerian Pendidikan dan syarikat petroleum dan gas antarabangsa.

Seramai 200 pelajar sekolah menengah dari seluruh Lembah Klang turut hadir memeriahkan NSC 2018.

Dr Chia Wei berkata, selain pertandingan kuiz peserta turut diminta untuk membentangkan topik berkaitan sains dan inovasi secara berkumpulan.

Katanya, setiap kumpulan memilih tajuk pilihan daripada senarai penganjur merangkumi pelbagai isu penting berkaitan kemajuan teknologi dan inovasi dalam bidang perubatan, astronomi, kejuruteraan dan pengkomputeran.

"Kumpulan yang membuat pembentangan paling kreatif, meliputi pemahaman mengenai topik yang dipilih dan kebolehan idea inovatif dipilih sebagai pemenang.

"Untuk NSC ini, SMK (L) Methodist muncul sebagai juara keseluruhan. Mereka akan mewakili Kuala Lumpur ke NSC peringkat seterusnya yang bakal diadakan di Universiti Teknologi Malaysia (UTM)," katanya.

Pada kali ini, penganjuran NSC mempunyai kelainan dengan adanya 10 reruai (gerai pameran) khas dari pelbagai penyelidik UM yang berupaya menggalakkan minat pelajar sekolah terhadap bidang sains dan inovasi.

Lebih menarik Prof



PELAJAR turut diberi peluang melakukan uji keji.

Madya Dr Nahrizul Adib Kadri dari Jabatan Kejuruteraan Bioperubatan UM, berkongsi teknologi sistem akuaponik berpenderia mini yang dibangunkan menggunakan pemproses mikro yang boleh diprogramkan menurut fungsi dikehendaki.

Sistem akuaponik mini ini boleh digunakan

sebagai asas kepada pelajar untuk mendalami bidang pengaturcaraan melalui kombinasi minat mereka dalam bidang matematik dan sains.

Sistem itu turut ditambah baik untuk menjadi sistem akuaponik sebenar bagi penanaman salad dan pemeliharaan ikan tilapia, yang secara tidak

langsung mendidik pelajar mengenai isu urbanisasi dan kelestarian alam.

Selain itu inovasi pengaturcaraan kit robotik dan ujian DNA oleh pakar dan penyelidik turut menarik perhatian pengunjung untuk melihat pelbagai jenis pergerakan kit robotik. -Fazurawati Che Lah



PEMBENTANGAN idea kreatif.



PELAJAR gembira diberi peluang mencuba peralatan sains.

LAMPIRAN 6
BERITA HARIAN: MUKA SURAT 21
TARIKH: 25 OGOS 2018 (SABTU)



Kakitangan Suruhanjaya Tenaga menggunakan pemotong besi di sebuah premis perniagaan ketika operasi membanteras penggunaan elektrik secara haram di Semenyih, Selangor.

Suruhanjaya Tenaga tumpas kegiatan curi elektrik

➔ Sindiket dipercayai usik pemasangan meter TNB sebabkan kerugian RM2 juta

**Oleh Zanariah
Abd Mutalib**
zanariah_mutalib@
nstp.com.my

✦ Putrajaya

Suruhanjaya Tenaga (ST) menumpaskan satu sindiket dipercayai melakukan kegiatan curi bekalan elektrik dengan mengusik pemasangan meter milik Tenaga Nasional Berhad (TNB) sehingga mengakibatkan kerugian kira-kira RM2 juta.

ST memaklumkan, ia adalah hasil operasi besar-besaran di sekitar Semenyih, Selangor, baru-baru ini, membabitkan 100 kakitangan, terdiri daripada

polis, pegawai TNB dan Polis Bantuan TNB.

"Sebanyak 14 premis perniagaan didapati melakukan kesalahan itu dan siasatan mendapati modus operandi premis terbabit hampir sama dengan premis yang diserbu sebelum ini, iaitu membuat sambungan terus daripada bekalan milik TNB ke beban pengguna.

Siasatan terperinci

"Selain itu, hasil pemeriksaan turut mendapati terdapat beberapa premis yang mengubahsuai pemasangan meter TNB.

"ST sedang menjalankan siasatan terperinci ke atas pemilik akaun TNB dan pemilik premis berkenaan se-

belum mengambil tindakan mahkamah," katanya dalam satu kenyataan, semalam.

ST memaklumkan, perbuatan mengusik pemasangan elektrik menyalahi Akta Bekalan Elektrik 1990 dan jika didapati bersalah boleh dikenakan denda sehingga RM1 juta dan penjara maksimum lima tahun atau kedua-dua sekali.

"ST mengingatkan semua pengguna elektrik sama ada penghuni rumah, perniagaan, kilang atau industri tidak terbabit dengan aktiviti menggunakan tenaga secara haram, yang boleh menyebabkan mereka dikenakan tindakan undang-undang," katanya.

LAMPIRAN 7
THE SUN (MEDIA & MARKETING): MUKA SURAT 10
TARIKH: 27 OGOS 2018 (ISNIN)



Deverall (centre) celebrating the success of FameLab in Malaysia with attendees.

Let's talk about science

> Malaysian is again global champion at FameLab International

THE British Council of Malaysia held an event to celebrate the huge success of FameLab in Malaysia.

The event also provided a platform for partners and stakeholders to discuss science communication with the "World's Best Science Communicators" and the FameLab alumni.

Said British Council Malaysia director Sarah Deverall: "FameLab was first held in Malaysia in 2005 with the purpose of identifying, training and mentoring young scientists to share enthusiasm for their subjects with the public."

Malaysia is the first and only country to have produced two international champions in three years at FameLab International."

Crowned the 2018 FameLab International Champion recently was Dr Siti Khayriyyah Mohd Hanafiah, while Prof Dr Abhimanyu Veerakumarasivam was named "World's Best Science Communicator" in 2016.

According to Abhimanyu, the FameLab experience was crucial in providing him with the necessary skill sets, confidence and platform to communicate science and his research to a wider audience.

"The more I communicate science to the different types of audience, the closer I get to understanding how science can better serve humanity."

Siti was of the same sentiments sharing how FameLab has been a good platform, among many existing channels of science communication, and it has recently captured public imagination.

"As FameLab alumni, with the support of the British Council, we aim to establish a home-grown Malaysian Science Communication Network to pool our resources and efforts to elevate and sustain the presence and progress of STEM through science communication," Siti added.



Siti Khayriyyah giving her three-minute speech on science.

Read more about the British Council Malaysia's efforts as a partner of FameLab on the British Council website or watch the video of the international FameLab finals on <https://www.youtube.com/user/famelab>

LAMPIRAN 8
NEW STRAITS TIMES (OPINION): MUKA SURAT 16
TARIKH: 27 OGOS 2018 (ISNIN)



**ZAKRI ABDUL
HAMID**

PURPOSE OF HIGHER EDUCATION

FUTURE PERFECT UNIVERSITIES

Universities must stay connected with the world beyond the Ivory Tower to build a better place for everyone

TO remain relevant and sustainable, universities must be agile and embrace change in the ever-evolving educational landscape.

Offering guidance at Universiti Teknologi Petronas (UTP) is a special Academic Advisory Council (AAC) comprising several remarkable international personalities. And at a recent AAC meeting, a number of eminent experts offered their thoughts.

Renowned UK-based futurist David Wood, for example, emphasised the importance of nurturing collaborative intelligence, agile intelligence, emotional intelligence, and a futurist mindset.

Collaborative intelligence is a way of saying that when we reason two heads are better than one (and more heads are often better yet). And now human reasoning is being improved also by Artificial Intelligence (AI), and by smart online collaborative tools such as wikis.

Increasingly, Wood predicts, AI will be designed to assist human reasoning even further, and to highlight false claims, faulty arguments and more.

Agile intelligence, meanwhile, means quick learning from failures and rapidly incorporating changes and updates in course materials as new information becomes available.

Emotional intelligence is a key element in teaching and learning. Mindfulness, among other traits, needs to be given greater prominence, Wood contends.

And finally, he says, fostering the futurist mindset to anticipate trends is needed to foresee and evaluate what's likely to be encountered on the road ahead.

In Wood's estimation, four technological areas are shaping the future most profoundly:

NANOTECH (molecular manufacturing, 3D and 4D printing, nanobots and nanosensors, next

generation green energy, and quantum computers);

INFOTECH (machine learning, artificial creativity, wearable computers and augmented reality);

BIOTECH (genetic editing, stem cell therapies, lab-grown meat, enhanced pets, and anti-ageing); and,

COGNOTECH [brain-computer interfaces, next generation virtual reality, smart drugs, mind suspension (cryonics), and consciousness engineering]

Students preparing to participate and contribute in this technology-driven world need a solid science foundation, of course, but also education in the humanities, arts, and social sciences — what Wood calls "socialtech".

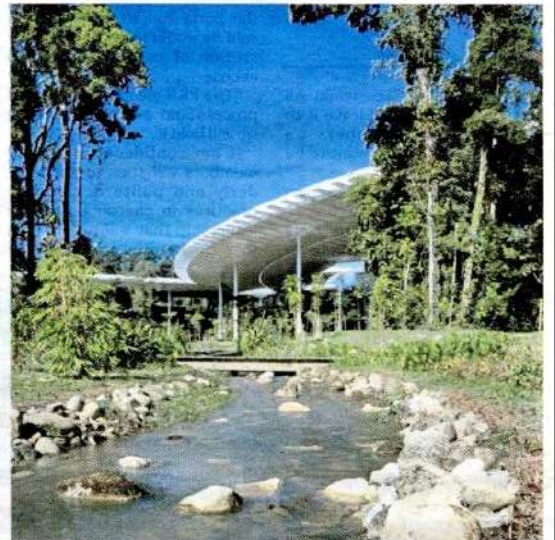
Another AAC member, Rieko Kuroda, with whom I served on former United Nations secretary-general Ban Ki-moon's Scientific Advisory Board, likewise notes that solutions to our complex global problems need to be multidisciplinary, integrated, and holistic.

Kuroda, a former vice-president of the Paris-based International Council of Science and University of Tokyo professor, noted the steep rise in the number of "loss events" between 1980 and 2016. These include uncontrollable geophysical events (such as earthquakes, tsunamis and volcanic eruptions) that impact increasing numbers of people, as well as events the frequency and severity of which are intensified by human activities: meteorological (tropical storms, tornadoes, and other severe weather events), hydrological (flash flood, river flood, storm surge and landslide), and climatological (heatwaves, extreme cold spells, forest fires and drought).

We have the means to mitigate the harm of such disasters. And global leaders have made some admirable mega commitments, such as the 2030 Development Agenda with its 17 Sustainable Development Goals and the 2015 Paris Climate Agreement.

However, it remains to be seen how these lofty commitments will be translated into real actions on the ground.

It has been reported elsewhere that since 2000 alone, forests equivalent in size to the landmass of Germany have been lost, 80



Universiti Teknologi Petronas is the No. 1 private university in Malaysia. PIC COURTESY OF FOSTER AND PARTNERS

per cent of the world's fish stocks have collapsed or are on the brink of collapse, and the Gobi desert is growing by roughly 10,000 square kilometres every year. Lists of such environmental concerns and pressures grow by the day, and there can be little doubt that the unsustainable use of natural resources will be the biggest challenge facing humankind in the 21st century.

Abid Khan, deputy vice-chancellor and leader of the Global Engagement programme at Australia's Monash University, meanwhile, addressing the question of how universities can shape future workforce-ready graduates, noted that broader skills are needed to build the student's portfolio.

These include generic skills (such as intercultural competence; innovative, creative and critical thinking; effective communication; resilience and adaptability; leadership and collaboration); science, technology, engineering and math skills as well as business skills.

The Monash approach includes redesigning the curriculum and courses to the needs of the industries and professions of the future, with an emphasis on cross-disciplinary education and

a healthy dose of co-curricular activities. Every student will have the opportunity to be exposed to industry-based experience and to develop skills that are needed by prospective employers.

The last word belongs to council member Muhammad Yunus, the Bangladeshi social entrepreneur, banker, economist, and civil society leader awarded the Nobel Peace Prize for founding the Grameen Bank and pioneering the concepts of micro-credit and microfinance.

Yunus emphasised that for universities to stay relevant, they must connect with the world outside the Ivory Tower, assisting the global community as we strive to reach critical targets, among them zero poverty, zero unemployment, and zero carbon emissions.

It is up to UTP, the number one private university in Malaysia, to ponder on these wise advice and incorporate them into its strategies and programmes which could propel it into global prominence.

The writer is a member of the Universiti Teknologi Petronas' Academic Advisory Council, and former director of the Institute of Advanced Studies, United Nations University in Tokyo

To remain relevant and sustainable, universities must be agile and embrace change in the ever-evolving educational landscape.

LAMPIRAN 9
THE STAR (NATION): MUKA SURAT 10
TARIKH: 27 OGOS 2018 (ISNIN)

Important to embrace good habits

Maya Karin hopes to see Malaysians doing more for the environment

By NOEL FOO
noelfoo@thestar.com.my

PETALING JAYA: As the country moves to embrace 61 years of independence, award-winning actress Maya Karin hopes to see more Malaysians walk the talk when it comes to good habits.

She said there is much to be proud of in Malaysia, from its celebration of its rich cultures to its incredible food.

"Malaysia is not perfect but it would be nice to see people openly show more pride and appreciation towards our country," she added. Maya also appreciates Malaysia's rich flora and fauna.

Earlier this month, she posted on Instagram a picture of herself roughing it out deep in the jungles of Sabah, in knee-length leech socks.

Maya had joined a conservation project that was checking, replacing and installing camera traps in the Maliau Basin conservation area for ecological research.

"Malaysia has a lot to offer in terms of flora and fauna, we just have to take care of it," she said, adding that the country is too relaxed when it comes to environmental conservation.

Maya's interest in the environment stems back to when she first moved to Malaysia at the age of 17 and recalled seeing litter everywhere in the city.

"I remember thinking to myself – how can I do something about it? When I finally became a recognisable artiste, I realised that I



Express yourself:

Maya wants to see more Malaysians practising the positive habits that they preach.

could now do something," she said.

When asked what ordinary Malaysians could do as a first step towards helping to care for our environment, she said people could start by first being more aware about the environment.

"Take an interest, read an article. Once we're that much more aware, people can

figure out for themselves what they can do," said Maya.

She observed how there are so many campaigns launched to promote good habits, but after the hype dies down, everything slowly goes back to the way it was before.

Besides hoping that more people will walk the talk, Maya also urges Malaysians to show



more love for their country and walk the walk – the #AnakAnakMalaysia 2018 walk, that is.

The registration fee for the #AnakAnakMalaysia 2018 walk is RM40 (Adult), RM20 (Child), RM100 (Family Package 2 Adults, 2 Children).

#AnakAnakMalaysia Walk is a collaboration between Malaysia's well-known property developer Eco World Development Group Bhd and Star Media Group.

Other sponsors for the event include Panasonic (Silver Sponsor) and DRB-HICOM (Car Sponsor).

For details, go to: <https://sites.thestar.com.my/aamwalk/>

LAMPIRAN 10
THE STAR (NATION): MUKA SURAT 3
TARIKH: 27 OGOS 2018 (ISNIN)

Together as one

Like a typhoon, the rains and winds brought about 319 landslides last November. While the damage done to Penang Hill looked like it would take years to correct, things were up and running in just two months – a feat worthy of a book. 'It was the spirit of togetherness that made it possible,' say residents.

> See Page 3 for reports by TAN SIN CHOW, N. TRISHA and R. SEKARAN

Expert: Planned highway may impact fault lines

By ARNOLD LOH
arnold.loh@thestar.com.my

GEORGE TOWN: At least three places along the fault lines of the island will be breached by the planned highway between Gurney Drive and Bayan Lepas, but the stability of the granite bedrock has never been studied.

Scientist Dr Kam Suan Pheng said one of the major fault line crossings was at the valley between the Ayer Itam Dam and Kek Lok Si Temple.

"The detailed environmental impact assessment (DEIA) report on the highway – Pan Island Link (PIL) 1 – stressed that areas that intersect with fault lines are highly fractured and vulnerable, but does not evaluate the impact of the tunnelling."

"It also does not study how PIL 1 can affect the stability of Ayer Itam Dam," she said.

In an exclusive report earlier this month, *The Star* revealed details of

a 300m six-lane elevated highway supported on four piers crossing the valley between the dam and the iconic monastery.

Between this highway, one tunnel portal will lead out from Penang City Park and another will punch into the hill about 300m behind Kek Lok Si and reportedly 500m from the dam.

Dr Kam, a biologist, geographer, soil science and geospatial expert, presented a list of issues regarding the project's DEIA on Saturday to a packed hall of over 200 people organised by Penang Forum, a loose coalition of over 40 Penang NGOs.

Penang Forum listed 14 issues that it claimed lacked emphasis in the DEIA and were sufficient grounds for the Department of Environment (DOE) to reject it.

"The DEIA does not estimate how much rock debris would result from the tunnelling and how the transportation of the debris would

be managed."

"We estimate 2.5 million cubic metres of it. That is equal to 750,000 loads with five-tonne lorries," Dr Kam told the audience.

She also questioned the claim in the DEIA report that PIL 1 would improve travelling speeds on highways in mainland Penang by as much as 27%.

"How on Earth can it improve travelling speeds on the mainland? We asked for the Traffic Impact Assessment, but was told it was not released to the public," she said.

She called on Penangites to submit their feedback to the DOE before the Sept 7 deadline. Penang Forum prepared a template containing the 14 issues for the public to use for writing to the DOE.

Also speaking at the forum were Penang Heritage Trust president Lim Gaik Siang, former city councillor and historian Khoo Salma

Dr Lim Mah Hui. It was moderated by Datuk Dr Sharom Ahmad.

While the NGOs have launched several salvos against PIL 1 and the Penang Transport Master Plan (PTMP), another camp criticising the NGOs seems to be forming.

The latest critic against the NGOs is Penang travel and history blogger Timothy Tye, who posted a scathing piece on his website, *penang-traveltips.com*.

"There is an idealised world of green nature and heritage buildings. Economic competitiveness and creating jobs do not register with them. They are vocal for their own good, but not for that of every body in Penang," Tye wrote.

He said he and many others supported the PTMP because it was a plan to ensure that Penang did not lose out to local competitors such as Taiping, Kulim, Sungai Petani, Alor Setar and Ipoh on top of foreign ones such as Phuket and Medan.

We're committed to getting Penang Hill back in shape, pledges PHC

By TAN SIN CHOW and N. TRISHA
north@thestar.com.my

GEORGE TOWN: Nine months after it was scarred by a massive storm that lashed the state, the iconic Penang Hill is on the mend.

Penang Hill Corporation (PHC) general manager Cheek Lay Leng said three major slope stabilisation projects were expected to begin in mid-September and the tender process was expected to conclude soon.

"We are in the final stages. Unlike on flat surfaces, contractors for our projects have to deal with the constraints of infrastructure and limited workspace on the hill."

"The tender process took slightly longer as these are 'design and build' projects. Plus, there is the complexity of slopes, number of spots and locality involved," said Cheek.

When Penang was inundated by excessive rains and major floods last Nov 4 and 5, its popular highland getaway was not spared. More than 300 landslides occurred.

Huge boulders, fallen trees and debris were everywhere, cutting off access roads. The funicular train service was disrupted for two months.

Cheek said they had to follow the state government's strict open tender process and only consider credible contractors. He said the 14th General Election in May also caused a delay in proceedings.

The major projects will be fully funded by the state government while the others are being handled by PHC and the state government.

Cheek said the three tender projects would cover 16 spots requiring major slope stabilisation works.

Calling last year's storm a "calamity", he said major works would be carried out near the Summit and Upper Tunnel Road areas.

"Once the tenders have closed, we will initiate slope stabilisation projects for Viaduct Road East and West, other segments of Upper Tunnel Road, Lower Tunnel Road and others."

"Smaller projects to be carried out soon may include repairs of Bypass 1 and J as well as affected spots along Bypass A, heritage trails closer to the summit area and more drainage repair work."

"As the hill is huge and there are many landslide spots, PHC has to work systematically according to the priority list," he said.

Cheek added that the restoration and rehabilitation would take at least a year to complete.

"The critical step is to restore the drainage system to ensure that rain water flows through efficiently and to prevent surface water runoff on the slopes. Our drainage project has started," he said.

Asked whether the project took too long to begin, Cheek said the rehabilitation work had in fact started in January.

"We gave priority to quick restoration on key paths and roads to enable access to residents and visitors, including hikers. We needed to first ensure safety of the most commonly used areas," he said.

Cheek said they also needed to repair some of the facilities quickly, carrying out tasks like simple restoration, clearing and landscaping.

'It was like a huge typhoon'

Spirit of teamwork helped Penang Hill folk weather disaster

By TAN SIN CHOW and R. SEKARAN
newsdesk@thestar.com.my

GEORGE TOWN: Residents on Penang Hill said it was the spirit of togetherness that got them through one of the worst storms ever to hit the state in November last year.

Penang Hill Residents' Association chairman M. Arunasalam (pic) remembers it being like a typhoon sweeping through the place and that people rallied together to help.

"We did some of the clearing the traditional way, forming a human chain to move buckets of earth and sand."

"We had to knock the big boulders before removing them from the tracks."

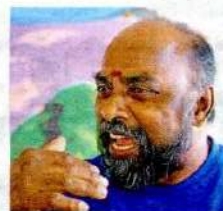
"We also cleared up the roads for the bungalow owners to get home. Steel plates were put on certain stretches so that vehicles could enter the bungalow grounds," Arunasalam, 67, recalled.

Asked if the scale of damage was a result of development taking place on the hilltop, he immediately brushed off the notion.

"There were no massive developments here except for a food and beverage centre. It was a natural disaster," he said.

Arunasalam added that they could not do much until the rain stopped because the extent of the damage was staggering.

Apart from bare slopes and fallen trees, the roads, jeep tracks and



funicular railway tracks were covered in mud and earth.

"It was absolute mayhem," he said. Meanwhile, Penang Fire and

Rescue Services (Operation and Fire Services) head Supt Nafis Ariff Abdullah said they had to walk up the hill through the track road during the rescue operation.

About 40 personnel from the Fire and Rescue Department, Civil Defence Department and police were involved in an eight-hour operation.

"We cut down small trees and branches to clear the hill road on the way up."

"We managed to bring the women and children down in a helicopter as the roads were totally cut off due to landslides."

"It was a tough operation, but we managed to bring down everyone trapped up there," he added.

Inspiring recovery recorded in new book

GEORGE TOWN: The remarkable story of how Penang Hill got back on its feet two months after the havoc brought by the landslides last November is documented in a new book.

Many expected that it would take at least two or three years to recover from the damage caused by over 319 landslides.

Now, the tireless efforts of volunteers, government agencies and the Penang Hill Corporation (PHC) have been recorded in a pictorial book titled *Healing Penang Hill*.

Finance Minister Lim Guan Eng, who launched the book, said it captured the aftermath well with photographs of the landslides along with the restoration and rehabilitation works.

"The book is also aimed at recording PHC's appreciation towards all parties who came forward to provide assistance during the emergency and restoration."

"The book records the progress made over 51 days, from the day of the disaster on Nov 4 till the day the funicular train service restarted operations on Dec 25 last year," he said.

Lim, who is also former Penang chief minister, said the book launch came at an appropriate time as it was held during the maiden Penang Hill Festival.

"With the festival's theme being



Timeless story: Visitors to Penang Hill browsing through a copy of 'Healing Penang Hill' during its launch ceremony.

"See the Nature. Feel the History," it is apt to celebrate Penang Hill's rich history, natural habitat and cultural heritage."

"This pictorial book serves as a reminder to us that our beloved hill must be preserved and conserved for our future generations."

"The extensive reconstruction

work has just begun.

"I hope the healing process will accelerate and that Penang Hill will become fully green once again," he said.

PHC general manager Cheek Lay Leng said the 80-page book featured pictures of those who worked or contributed on-site at various loca-

tions during the recovery process.

"All the photos were taken using handphone cameras and there are over 160 photos of various sizes featured in the book."

"These pictures detail the landslide areas, the rescue mission, recovery work as well as the reopening of the funicular train service," he said.

The book, Cheek added, was not for sale as it was a recording of a disaster on an unprecedented scale and the recovery work that followed involving the corporation and its partners, stakeholders and volunteers.

He said it was also a way to acknowledge all the contributors, including foreign workers who worked extended hours.

"We want this book to serve as a reminder of what happened to Penang Hill in the years to come," he said.

As for the number of visitors to Penang Hill, Cheek said 2016 registered 1.6 million visitors, a figure that was expected to have gone up last year if not for the landslides that resulted in the temporary closure.

Nonetheless, 2017 still notched up a respectable 1.38 million visitors.

"This year, we expect the figure to reach the 1.7 million mark," he said.

LAMPIRAN 11
UTUSAN MALAYSIA (UTUSAN BIZ): MUKA SURAT 16
TARIKH: 27 OGOS 2018 (ISNIN)

CEPSI 2018: Pakar kongsi pengetahuan tentang ESI

KUALA LUMPUR 26

Ogos - Persidangan Industri Perbekalan Elektrik (CEPSI 2018) anjuran Tenaga Nasional Berhad (TNB) akan menghimpunkan pakar bagi berkongsi pengetahuan mengenai bekalan tenaga elektrik (ESI).

Menurut TNB, sebanyak 15 individu berprofil tinggi akan membincangkan tentang lima topik utama pada lima sesi ucapatama persidangan itu yang akan berlangsung di Kuala Lumpur dari 17 hingga 22 September ini.

Katanya, sesi ucapatama pertama bertemakan 'Trend Global dan Perubahan Besar dalam Elektrik & Tenaga' bakal menyaksikan ahli panel berbincang



tentang pelbagai trend perubahan mega yang berlaku dalam industri dan dunia.

"Sesi kedua dengan tema 'Utiliti Masa Depan dan Pembangunan Mampan' akan memberi gambaran mengenai utiliti

masa depan, menangani isu akibat perubahan ekonomi, peraturan dan teknologi di samping memastikan pembangunan kukuh.

"Sesi ketiga bertema 'Pendigitalan ESI dan Revolusi Perindustrian 4.0' meliputi penerangan ke dalam pelbagai inisiatif digital sedang berlaku dalam industri," katanya dalam kenyataan di sini hari ini.

Sesi keempat dengan tema 'Inovasi ESI & Sinopsis Penye-

lesaian Pintar' akan meneroka bagaimana ESI dilihat sebagai inovasi dari dalam dan luar industri untuk membentuk, mengubah dan mengukur kemajuan.

Sesi terakhir, 'Pembangunan Hijau & Transformasi dalam ESI' meliputi perbincangan tentang memelihara keselamatan tenaga dan melindungi ekuiti tenaga dengan pembangunan hijau juga transformasi.

TNB menganjurkan CEPSI 2018 bagi pihak Persatuan Industri Bekalan Elektrik Asia Timur dan Pasifik Barat (AESIEAP).

Kali terakhir TNB menganjurkan persidangan itu adalah pada 1996.

Lebih 1,500 delegasi yang terdiri daripada pemimpin, eksekutif kanan, pegawai kerajaan dan profesional dari seluruh dunia akan mengambil bahagian pada persidangan kali ini.

LAMPIRAN 12
UTUSAN MALAYSIA (DALAM NEGERI): MUKA SURAT 13
TARIKH: 26 OGOS 2018 (AHAD)

Ribut melanda negara bukan petanda fenomena El Nino

KUALA LUMPUR 25 Ogos - Kejadian ribut yang melanda negara dalam tempoh dua hari dilihat tiada sebarang kaitan dengan kehadiran fenomena El Nino.

Timbalan Naib Canselor Hal Ehwal Penyelidikan dan Inovasi Universiti Kebangsaan Malaysia (UKM), Profesor Dr. Mohd. Ekhwani Toriman berkata, fenomena ribut yang melanda Pantai Barat Semenanjung khususnya di Lembah Klang adalah berpunca

daripada luruan angin yang kuat akibat ketidakstabilan udara.

Biasanya, ujar beliau, pada bulan Ogos, pembentukan awan membawa hujan berintensiti tinggi dan keadaan itu menyebabkan berlakunya angin kencang atau ribut.

"Lazimnya, angin yang membadai pada bulan Ogos adalah sekitar kelajuan antara 49 hingga 73 kilometer sejam. Bagaimanapun, pembentukan luruan angin boleh menyebabkan impak lebih

besar seperti yang berlaku di Plaza Tol Bukit Raja, Klang, semalam.

"Kaitan hujan ribut dengan kejadian El Nino, tidak ada perkaitan jelas. Monsun Barat Daya lazimnya mendominasi cuaca pada bulan Ogos hingga pertengahan September. Sepanjang tempoh berkenaan, cuaca akan menjadi panas serta kering dan keadaan tersebut boleh membentuk garis badai yang mengakibatkan kejadian ribut

dan angin kencang," katanya ketika dihubungi *Mingguan Malaysia*, hari ini.

Kelmarin, kejadian ribut melanda Kampung Kuala Melaka di Langkawi mengakibatkan 24 rumah, 10 kereta dan dua motosikal rosak manakala keesokan harinya pula, ribut melanda Plaza Tol Bukit Raja menyebabkan sebahagian besar bumbung, palang dan papan tanda diterbangkan.

LAMPIRAN 13
THE STAR (NATION): MUKA SURAT 11
TARIKH: 26 OGOS 2018 (AHAD)

Open burning not done in decades, says Sime Darby

PETALING JAYA: One of Malaysia's biggest plantation companies reaffirms its zero-burning policy in its operations across Indonesia as haze from hotspots in Sumatra and Kalimantan blows into the country.

Sime Darby Plantation (SDP), which has operations in nine provinces in Kalimantan, Sumatra and Sulawesi and with a total oil palm-planted area of more than 202,000ha, said it did not practise burning to clear land at all.

"Our oil palm estates are mainly located in south, west and central Kalimantan; Riau and south Sumatra.

"Hotspots in our operations are being monitored constantly with the use of a satellite system.

"In making our zero-burning initiative more transparent, SDP has launched its online Hotspot Dashboard in 2015 so that members of the public are aware of any hotspots and fire occurrences within our operations," it said in an e-mail.

SDP was responding to queries on its commitment to zero-burning policy at its estates in Indonesia, where local authorities in the past blamed Malaysian companies for the

open burning.

SDP said it had also extended its zero-burning policy to its neighbours and helped them monitor and put out fires in areas within a 5km radius of its estates' boundaries.

"As part of this commitment, all our estates maintain their own firefighting teams who are fully equipped.

"Our operations also engage the neighbouring local communities to help them set up their own fire-prevention initiative, otherwise known as Masyarakat Peduli Api.

"We also establish co-operation with other companies within the vicinity of our operations to monitor hotspots," it said.

It added that its Sustainable Community-based Fire Prevention Programme was implemented in partnership with local universities to educate local communities in fire-prone villages surrounding its operations.

"To date, it has covered 19 villages or about 40,000ha comprising areas surrounding our operations in Sumatra and south Kalimantan," it said.

It maintained that SDP did not practise burning to clear land and had not done so for more than three decades.

LAMPIRAN 14

BERITA HARIAN (SUMBER ASLI): MUKA SURAT 17

TARIKH: 26 OGOS 2018 (SELASA)

KENAPA GUNA GAS ASLI?



GRAFIK

Mengenali gas asli

➔ Kesinambungan sumber tenaga yang lebih bersih

Oleh Nor Affizar Ibrahim
affizar@bh.com.my

Gas asli adalah salah satu bahan bakar yang terbentuk daripada fosil tanaman dan haiwan menerusi proses semula jadi dalam tanah sejak kira-kira 100 juta tahun yang lalu.

Proses pembentukan gas asli bermula apabila fosil tanaman dan haiwan terpendap ke dalam lapisan magma bumi di bawah tekanan batu dan tanah pada kedalaman sekitar ribuan meter.

Fosil yang mengalami tekanan haba selama berjuta-juta tahun kemudian berubah menjadi gas asli.

Struktur utama gas asli terdiri daripada metana (CH_4) dan juga mengandungi hidrokarbon lain seperti etana, butana, propana dan naphtha.

Ia adalah bahan api fosil yang rendah karbon berbanding dengan arang batu dan petroleum.

Gas asli juga tidak berbau, tidak berwarna, mudah terbakar dan

tidak mengandungi bahan toksik serta lebih ringan daripada udara.

Oleh kerana sifat semula jadi gas asli yang tidak berbau, syarikat utiliti menambahkan merkaptan, iaitu molekul kimia berbau yang tidak berbahaya.

Merkaptan mengeluarkan bau seakan-akan telur busuk yang boleh memberikan amaran awal sekiranya berlaku kebocoran gas.

Gas asli dikatakan kali pertama ditemui di Asia Barat antara 6,000 dan 2,000 (Sebelum Masihi, SM) apabila berlakunya nyalaan gas asli yang meresap keluar dari tanah akibat pancaran kilat.

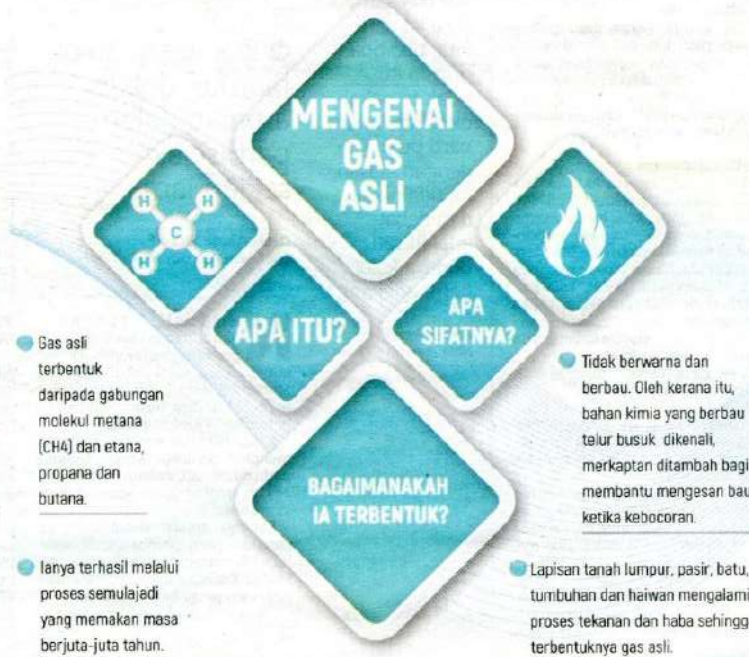
Saluran paip pertama di dunia dibina di China sekitar 500 SM yang diperbuat daripada buluh. Ia menyalurkan gas untuk digunakan dalam proses penghasilan sejatan larutan garam.

Gas asli yang diukur dalam Unit Termal British (BTU), adalah berdasarkan pengukuran kandungan haba, di mana nyalaan sebatang mancis contohnya boleh menghasilkan kira-kira satu BTU haba.

Apabila gas asli dimampatkan kepada 260 darjah di bawah sifar, ia berubah sifat semulajadi kepada cecair.

Tenaga lebih bersih

Gas asli yang dibayangi oleh bahan api petroleum sejak beberapa dekad lalu, kini dilihat berperanan lebih



GRAFIK

besar dalam menawarkan penyelesaian tenaga lebih bersih pada masa depan dengan pembebasan karbon yang rendah.

Gas asli mengeluarkan separuh daripada jumlah karbon dioksida dalam penjanaan tenaga elektrik berbanding arang batu dan sekurang-kurangnya 75 peratus kurang nitrogen oksida serta unsur-unsur lain yang boleh menjejaskan kesihatan.

Ciri-ciri yang ada pada bahan

api ini sememangnya seiring dalam pendekatan teknologi hijau serta kesedaran terhadap perubahan iklim.

Gas asli merupakan sumber asli Malaysia yang wujud dalam kuantiti yang banyak, sekaligus dapat menjamin bekalan tenaga negara yang mencukupi dalam jangka masa yang panjang. Ia adalah bahan api berkarbon rendah yang boleh wujud seiringan dengan tenaga boleh diperbaharui pada

masa hadapan.

Tenaga boleh diperbaharui berkala, contohnya solar dan angin bergantung sepenuhnya kepada keadaan cuaca. Di sinilah gas asli berperanan memastikan bekalan tenaga yang mencukupi serta berterusan dapat dicapai.

Sumber gas asli yang mencukupi dapat menjamin bekalan tenaga negara yang berterusan bagi memanfaatkan penduduk dalam dan luar bandar.

LAMPIRAN 15
BERITA HARIAN (INSPIRASI): MUKA SURAT 59
TARIKH: 25 OGOS 2018 (SABTU)

3 pelajar kongsi inovasi nuklear di Russia

➔ Penuntut SMK Besut dinobatkan juara dunia bentang laporan sempena Kongres Belia Rosatom

Oleh Mohammad Ishak
cnews@nstp.com.my

► Jertih

Selepas bergelar juara dunia dalam Persidangan Antarabangsa Sumber Manusia Untuk Program Tenaga Nuklear kali ketiga di Korea Selatan, Mei lalu, tiga pelajar Sekolah Menengah Kebangsaan (SMK) Kuala Besut, di sini, terus mendapat perhatian dan menerima undangan mengadakan program di luar negara.

Tiga pelajar terbabit, Muhammad Syazwan Mat Sidek, 17; Muhammad Anuar Ab Ghani 17; dan Safiyyah Muhammad Nasir, 16, kini menerima jemputan bagi satu program Kongres Belia Rosatom di Saint Petersburg, Russia, pada Isnin dan Selasa ini.

Ketua Bahagian Sains dan Matematik SMK Kuala Besut, Faizul Abd Rahman yang juga Ketua Projek Pasukan KuBest Smart Innovation SMK Kuala Besut, berkata beliau dihubungi Rosatom Corporate Academy di Moscow yang menjemput tiga pelajar terbabit ke kongres berkenaan.

Persiapan terakhir

Beliau berkata, selepas mendapat kebenaran Kementerian Pendidikan Malaysia dan Jabatan Pendidikan negeri (JPNT), pelajar kini menjalani latihan dan membuat persiapan terakhir untuk ke Russia.

Katanya, beliau sendiri akan mengetuai pasukan itu bersama pembantunya, guru pembimbing Bahasa Inggeris, Siti Azrina Mustaffar dan Penolong Pegawai Pendidikan



[FOTO MOHAMMAD ISHAK / BEI]

Muhammad Syazwan, Muhammad Anuar dan Safiyyah berlepas ke Russia bagi memenuhi undangan Kongres Belia Rosatom di Saint Petersburg pada Isnin dan Selasa ini.

Daerah Besut, Norwahidah Othman, berlepas menerusi penerbangan ke Shanghai, China, Ahad ini, sebelum ke Saint Petersburg.

"Kongres itu dihadiri 400 belia dari 40 negara dan mereka ber-

minat melihat sendiri kebolehan tiga pelajar terbabit membentang dan berkongsi pengalaman dalam projek inovasi berkaitan kesedaran awam mengenai kepentingan tenaga nuklear dalam kehidupan.

"Ketiga-tiga pelajar berharap pembentangan mereka dalam kongres itu nanti dapat memberi kefahaman kepada belia dari seluruh dunia mengenai kepentingan tenaga nuklear," katanya kepada NSTP.

LAMPIRAN 16
THE STAR (COMMENT): MUKA SURAT 6
TARIKH: 25 OGOS 2018 (SABTU)



We need to find a more eco-friendly and energy-efficient solution to our growing waste problem. — filepic

Problem of waste disposal still burning

Ministry needs to find effective alternative to incinerators soon

WHEN the incinerator project in Taman Beringin in Kepong was first mooted, residents there were understandably not pleased.

The proposed 1,000-tonne capacity incinerator costing between RM700mil and RM900mil was planned to be built on a 1.62ha plot next to the existing transfer station.

A group of residents formed the Kuala Lumpur Tak Nak Insinerator (KTI) action group to lobby against the project.

Last year, the National Solid Waste Management Department (JPSPN) rebranded the project into a waste-to-energy (WTE) plant which would process solid waste into energy.

The change of government in the 14th general election gave residents hope that the project would be scrapped.

They would have cheered after Housing and Local Government Minister Zuraida Kamaruddin announced the suspension of the project while the ministry looks at alternative and more eco-friendly ways to dispose of waste.

"We want to identify the best method in waste processing and converting it into energy.

"We want the most suitable, cost-effective and convenient way to manage rubbish," she said.

Zuraida highlighted several benefits of a WTE plant in Parliament, including long-term cost savings and the construction of sanitary landfills as well as reduction in greenhouse gas.

The question remains: do we need a WTE plant?

The answer is yes, simply because WTE is the future for waste management.

We need a holistic plan to address the country's waste problem.

Solid waste generation in Malaysia is expected to increase



because of the rise in population and growth of cities.

Last year, Malaysia generated an estimated 42,672 tonnes of waste daily and this is expected to increase to 44,888 tonnes per day this year.

Klang Valley remains the highest generator of waste in Malaysia with Kuala Lumpur alone generating 2,300 tonnes of solid waste a day; food waste being the 'highest' contributor.

KTI chairman Lee Choong Tek said they were against any burning of rubbish as it would harm the environment.

"There will definitely be increased emissions of carbon monoxide and carbon dioxide into the surroundings.

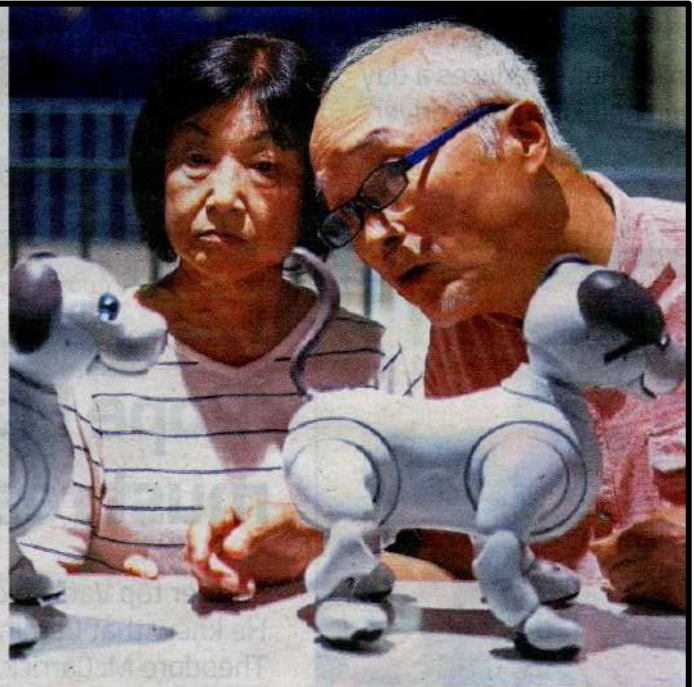
"We hope the Housing and Local Government Ministry can find an alternative solution that does not involve the burning of waste. It will be a challenge for the minister to address public concerns," said Lee.

Poor implementation of mini incinerators in Langkawi, Cameron Highlands and Pangkor by the previous government had cast doubt on whether they were the right solutions for the types of waste generated in Malaysia.

However, any alternative solution to thermal waste management that the ministry may propose should be cost-effective and environmentally friendly.

In the meantime, the authorities need to enhance existing programmes such as reduce, reuse, recycle (3R) and separation at source to deal with Malaysia's mounting waste generation problem.

LAMPIRAN 17
THE STAR (WORLD): MUKA SURAT 20
TARIKH: 27 OGOS 2018 (ISNIN)



Man's best robot

Aibo owners petting their robot dogs at Sony Corp's Aibo fan meeting in Tokyo, Japan. The 29cm-tall, 2.2kg robot is equipped with deep learning technology to analyse information collected by various sensors and cameras. It recognises owners' faces and reacts differently depending on how deeply they have communicated over time. Such communication data is stored in a cloud-based service. — Reuters

LAMPIRAN 18
MALAY MAIL (WORLD): MUKA SURAT 11
TARIKH: 27 OGOS 2018 (ISNIN)

Two dead, 241 injured in Iran quake

TEHRAN — A strong 6.0-magnitude earthquake struck western Iran near the border with Iraq early yesterday, killing two people and injuring more than 200, officials said.

The shallow quake hit 26km southwest of the city of Javanrud in Kermanshah province, the US Geological Survey said, near the site of a powerful quake last year that killed hundreds.

The head of the emergency department at Kermanshah University of Medical Sciences, Saeb Sharidari, told state news agency IRNA two people were killed and 241 injured, six critically.

Sharidari said the two dead were a pregnant woman and a 70-year-old man who suffered a heart attack.

IRNA quoted local officials saying electricity had been cut to 70 villages but that it was restored to at least 50 by dawn.

The provincial head of the Red Crescent, Mohammad Reza Amirian, said there had been at least 21 aftershocks.

He said there were potential problems with drinking water due to damaged infrastructure in villages, but it had not yet been necessary to distribute food and tents.

Kermanshah governor Houshang Bazvand told the Tasnim news agency electricity had been temporarily cut to several villages.

A crisis centre was set up, with hospitals and relief organisations placed on alert.

But the local director of crisis management, Reza Mahmoudian, told the Mehr news agency "the situation was under control" and no request for help had been sent to neighbouring provinces.

There were reports the quake was felt far across the border into Iraq.

Images on social media showed people being rushed to hospitals, but suggested relatively light damage to infrastructure.

Iran sits on top of two major tectonic plates and sees frequent seismic activity.

Kermanshah is still recovering from a devastating 7.3-magnitude quake that struck last November, killing 620 people

in the province and another eight people in Iraq.

That quake left more than 12,000 people injured and damaged some 30,000 houses, leaving huge numbers homeless at the start of the cold season in the mountainous region.

There was criticism that much of the new social housing built as part of a scheme championed by ex-president Mahmoud Ahmadinejad had failed to withstand the tremor.

President Hassan Rouhani said those responsible would be held to account.

Iran's deadliest quake in recent years was a 6.6-magnitude tremor that struck the southeast in 2003, decimating the ancient mud-brick city of Bam and killing at least 31,000 people.

In 1990, a 7.4-magnitude quake in northern Iran killed 40,000 people, injured 300,000 and left half a million homeless, reducing dozens of towns and nearly 2,000 villages to rubble. — AFP

LAMPIRAN 19

THE STAR (SCIENCE): MUKA SURAT 7

TARIKH: 27 OGOS 2018 (ISNIN)

By CHABELI HERRERA

A MASSIVE cylindrical habitat may one day house up to four astronauts as they make the trek to deep space.

Lockheed Martin gave a first look at what one of these habitats might look like at the Kennedy Space Center, where the aerospace giant is under contract with Nasa to build a prototype of the living quarters.

Lockheed is one of six contractors – the others are Boeing, Sierra Nevada Corp.'s Space Systems, Orbital ATK, NanoRacks and Bigelow Aerospace – that Nasa awarded a combined US\$65mil (RM266mil) to build a habitat prototype by the end of the year. The agency will then review the proposals to reach a better understanding of the systems and interfaces that need to be in place to facilitate living in deep space.

Lockheed's design uses the Donatello Multi-Purpose Logistics Module, a refurbished module dating back to the space shuttle era that was once destined to transfer cargo to the International Space Station. But Donatello was never sent into space, and the module has now instead been transformed into Lockheed's prototype.

At about 4.5mx6.7m (15ft wide and nearly 22ft long), the cylindrical capsule is roughly the size of a small bus. But it'll be a tight fit if

An RV in space

Lockheed Martin gives first look into where astronauts may live on missions to deep space.

four astronauts reside in it for 30 to 60 days, as Bethesda, Maryland-based Lockheed envisions.

The capsule is designed to house racks for science, life support systems, sleep stations, exercise machines and robotic work stations, said Bill Pratt, the program's manager.

"You think of it as an RV in deep space," he said during a tour of the prototype. "When you're in an RV, your table becomes your bed and things are always moving around, so you have to be really efficient with the space. That's a lot of what we are testing here."

The team used augmented reality headsets, which overlay real hardware with simulations, to visualize the layout of the capsule – saving time and helping Lockheed catch errors early on.

Another cost-saving measure: the reuse of Donatello.

"We want to get to the moon and to Mars as quickly as possible, and we feel like we actually have a lot of stuff that we can use to do that," Pratt said, adding that repurposing materials has become a big theme

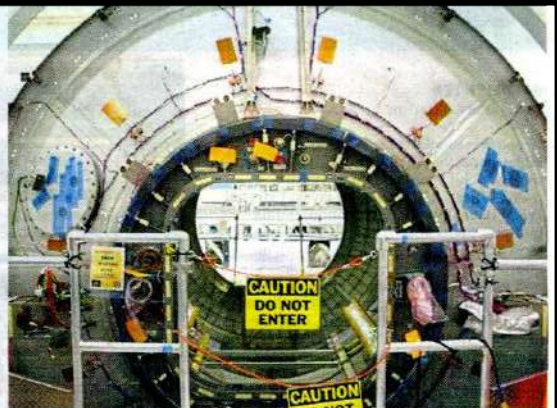
at Lockheed.

The habitat is part of the larger mission to take crews to the moon and Mars. The final version of the capsule will attach to the planned Deep Space Gateway, a space port that will orbit the moon and act as a jumping-off point for deep space exploration missions.

Astronauts would launch on the deep-space designed, still-in-progress Orion spacecraft – with the help of the Space Launch System, which Nasa bills as the "most powerful rocket" it's ever built. The Gateway would be considerably smaller than the 450-ton International Space Station. At 75 tons, the spaceport would include the habitat, an airlock, a propulsion module, a docking port and a power bus.

Production is moving forward on Orion, which is expected to make an uncrewed mission (Exploration Mission-1) to orbit the moon by 2020. Exploration Mission-2 is scheduled to take a crew into lunar orbit in mid-2022.

At the Kennedy Space Center, the heat shields are now in place on



Lockheed Martin's deep space habitat prototype could house up to four astronauts for 30 to 60 days. — TNS

Orion. The spacecraft has been in development on and off since 2004.

The long development time is due largely to the demands of a deep-space spacecraft and the punishing conditions the spacecraft will face when it takes the 1,000-day trip to Mars. For instance, Nasa requires that the Orion crew module have zero weld defects, whereas the Apollo mission specifications had an allowable number of defects per inch.

"This is the infrastructure for sustained human space exploration and so you have to account for every scenario that could come up, that's why the requirements are so stringent," said Lisa Callahan, vice president and general manager of

Lockheed Martin's commercial civil space division.

Lockheed now has its eyes on the finish line. Next month, the European Space Agency will deliver the European Service Module that will sit below the crew module on Orion, kicking off the final stretch of development before the spacecraft is integrated into the Space Launch System, said Mike Hawes, vice president and programme manager for Orion at Lockheed Martin.

"It's all burned into our brains that we have 404 days of activity ... before we hand over to the Kennedy ground (operations) team," Hawes said. – Tribune News Service

LAMPIRAN 20
THE STAR (WORLD): MUKA SURAT 27
TARIKH: 27 OGOS 2018 (ISNIN)

Collecting cardboard to survive

Livelihood of HK elderly threatened by govt's policy on solid waste

HONG KONG: Her fingers are bent from 20 years of collecting cardboard from Hong Kong's streets, but Au Fung-lan has no desire to give up the gruelling work.

At 67, she is one of around 2,900 collectors – mainly women over the age of 60 – whose frail figures are a familiar sight, guiding trolleys loaded with cardboard through a city clogged with traffic and people.

They pick up discarded packing boxes from shops, markets and residential buildings, selling them for a few dollars to recycling depots, where cardboard is more valuable than plastic.

The depots then ship it abroad – up to 95% of it to mainland China in 2016, according to local authorities – as Hong Kong has no recycling plants of its own to convert it into usable materials.

But as China closes the door to imported rubbish, even from semi-autonomous regions such as Hong Kong, Au's livelihood is under threat.

Beijing no longer wants the country to be a global trash can and has already started phasing out taking solid waste – a process it expects to complete by 2020.

Pragmatic Au says she tries not to think too much about her work drying up. She puts in 14-hour days so that she can afford a carer for herself and her 77-year-old husband, also a cardboard collector, when they finally decide to give up work.

"Some people think our work is arduous and look down on us. They say: 'You are so old, go home and enjoy life. Why collect cardboard?' But if I can still work, I don't want to rely on others," she said.

Au turned to cardboard collecting after being laid off as a factory worker and courier. She has three grown-up children with jobs but does not want to depend on them for help.

By working from pre-dawn until dusk, she earns up to HK\$300



Strenuous work: Au tying down her trolley full of cardboard before making her way to a recycling depot in the Kwai Fong district of Hong Kong. — AFP

(RM156) daily, selling 300kg of cardboard at HK\$1 (RM0.52) per kilo.

It is a phenomenal work rate and much higher than the average collector who makes around HK\$47.30 (RM24.65) a day, according to concern group Waste Pickers Platform (WPP).

Au attributes her bent fingers to years of tearing cardboard with her hands to flatten it.

She has been hit by a car twice, injuring her shoulders and feet as she pushes her trolley along a busy road to the local depot in the residential neighbourhood of Kwai Fong.

Her trolley and cardboard have also been confiscated several times by government hygiene inspectors.

But she enjoys what she calls the freedom of working for herself, adding: "I'm not afraid. I do it every day."

As unofficial freelance workers, collectors like Au have no legal recognition or employment rights.

China's imminent waste ban could wipe out this informal economy, which NGO workers say is key to some of the city's elderly.

Around 80% of the collectors are over 60, with the oldest in their 90s. Eighty percent are also women and around a third work at least an eight-hour day, according to WPP.

Many are doing it to supplement their pensions and savings in a city where the wealth gap is growing –

the cost of living in Hong Kong ranked fourth highest in the world in 2018, according to the Economist Intelligence Unit.

WPP estimates that at least 193 tonnes of waste paper is delivered to recycling depots by the elderly collectors each day.

Jacky Lau, director of a local business association for the waste and recycling industry, said the China ban could not only wipe out work for collectors like Au, but would be devastating for the cities' depots too.

If those businesses were forced to close, there could be a "waste paper crisis" in Hong Kong as rubbish piles up, eventually ending up in landfill sites, he said. — AFP

LAMPIRAN 21
THE STAR (WORLD): MUKA SURAT 23
TARIKH: 27 OGOS 2018 (ISNIN)

Rain brings relief to drought-stricken farmers

SYDNEY: Widespread rain fell across drought-affected parts of eastern Australia over the weekend, bringing relief to farmers struggling to cope with the driest conditions in more than half a century.

Graziers have had to hand-feed sheep and cattle, sell down stock – and in some cases even shoot them to end their suffering – as they run out of hay and grain in the severe conditions affecting Queensland and New South Wales states.

The wet weather was the first farmers in some areas had seen for more than a year, and even included hail.

But locals cautioned the ground had become so dry in recent months that more downpours over the next few weeks and months would be needed to make a difference.

“Those rains will be far from drought breaking,” National Farmers’ Federation president Fiona Simson told the Australian Broadcasting Corporation yesterday.

“What we need is 20 (mm) next week, 20 the next week, 20 the next week, and... (in the) next few months... to aptly build up those depleted soil and moisture reserves in the soil.”

The respite came as new Prime Minister

Scott Morrison said he would make addressing the drought the top priority of his government.

“It was pleasing to see the report on the rain yesterday in the last 24 hours,” Morrison, who will visit stricken areas with the deputy PM this week, told ABC radio early yesterday.

“That is encouraging, but we know that is nowhere near what is obviously needed.”

The government under previous PM Malcolm Turnbull, who was ousted in a party coup on Friday, had pledged A\$1.8bil (RM5.3bil) in financial aid for graziers and local communities.

The Labor opposition called on Morrison to factor the battle against climate change into his drought policies, amid a push by the right wing of his Liberal Party to ditch an emissions mitigation policy which contributed to Turnbull’s ousting.

“If he is not prepared to stand up and say ‘this is a consequence of climate change and I am going to commit to both mitigation and adaptation’, then he will fail farmers,” shadow agriculture minister Joel Fitzgibbon said.

While droughts are not uncommon in Australia, the length and severity of the dry conditions have strained farmers’ efforts to stay afloat. — AFP

LAMPIRAN 22
THE STAR (WORLD): MUKA SURAT 22
TARIKH: 27 OGOS 2018 (ISNIN)

Tropical Storm Lane heads away from Hawaii islands

HONOLULU: Tropical Storm Lane limped away from the Hawaii islands after dumping heavy rain that triggered flash floods but caused no known casualties.

Lane, a powerful Category Five hurricane that weakened into a tropical storm as it approached Hawaii, was located about 310km southwest of Honolulu, the Central Pacific Hurricane Center said in its Sunday bulletin.

Lane had maximum sustained winds of 85kph, and was moving west into the open Pacific at nine 15kph.

The National Weather Service dropped all warnings for Lane, but a local flash-flood warning remained in effect.

By Saturday afternoon all Hawaii airports and sea ports were back to normal operations, officials said.

Lane dumped enough rain to trigger landslides – several of which

blocked the main island's Highway 19, a major thoroughfare – and cause severe flooding in many areas.

The storm may have moved on, but its effects will be felt for several more days.

"Lingering moisture associated with Tropical Storm Lane will produce excessive rainfall over the main Hawaiian Islands, which could lead to additional flash flooding and landslides," the Hurricane Center warned.

Governor David Ige said that several school and college campuses had been flooded and were expected to reopen on Tuesday.

Wet conditions will continue through much of next week, bringing up to 25cm of additional rain in already saturated lower areas and twice that much at higher elevations, Federal Emergency Management Agency officials said.

Chaos after the storm:

Fallen tree branches and floodwaters surrounding a baseball scoreboard during flooding from Storm Lane in Hilo, Hawaii. — AFP



Emergency planners however noted that there were no large-scale power outages, and food and water supplies remained sufficient.

At the height of the storm rain

was so heavy that authorities closed the iconic Waikiki Beach, and hoteliers and store owners piled sandbags outside their businesses.

The last major storm to strike

Hawaii was nearly three decades ago, when Hurricane Iniki hit the island of Kauai, leaving six dead and causing billions of dollars in damage. — AFP

LAMPIRAN 23
NEW STRAITS TIMES (BUSINESS): MUKA SURAT B7
TARIKH: 25 OGOS 2018 (SABTU)

NEW FORM OF TRANSPORTATION

JAPAN'S FLYING CAR DREAM TO TAKE WING

Government-led group has enlisted Uber, Airbus, Boeing and Toyota, among others, in new push

TOKYO

JAPAN is making a push to develop flying cars, enlisting companies including Uber Technologies Inc and Airbus SE in a government-led group to bring airborne vehicles to the country in the next decade, said sources.

The group will initially comprise about 20 companies, including Boeing Co, NEC Corp, a Toyota Motor Corp-backed startup called Cartivator, ANA Holdings Inc, Japan Airlines Co, and Yamato Holdings Co.

Delegates would gather next Wednesday for the first of their monthly meetings, said sources.

The Economy, Trade and Industry Ministry and the Trans-

port Ministry planned to draft a road map this year, they said.

An Uber spokesman confirmed the firm's participation, but declined to comment further.

Flying cars that can zoom over congested roads are closer to reality than many people think.

Startups around the world are pursuing small aircraft, which were until recently only in the realm of science fiction.

With Japanese firms already trailing their global peers in electric vehicles and self-driving cars, the government is showing urgency on the aircraft technology, stepping in to facilitate legislation and infrastructure to help gain leadership.

Many have already had a head start in the race. Uber, which will

invest €20 million (RM95.1 million) over the next five years to develop flying car services in a new facility in Paris, has set a goal of starting commercial operations of its air-taxi business by 2023.

Kitty Hawk, the Mountain View, California-based startup founded and backed by Google's Larry Page, in June offered a glimpse of an aircraft prototype: a single-person recreational vehicle.

Other global companies envisioning this new form of transportation include Volkswagen AG, Daimler AG and Chinese carmaker Geely Automobile Holdings Ltd.

Japanese carmakers have not yet announced their plans to develop flying cars. **Bloomberg**

LAMPIRAN 24
NEW STRAITS TIMES (WORLD): MUKA SURAT 25
TARIKH: 25 OGOS 2018 (SABTU)



A woman taking photos of floodwater from Hurricane Lane rainfall on the Big Island on Thursday in Hilo, Hawaii.
AFP PIC

LANDSLIDES, FLASH FLOODS

Hawaii braces for Hurricane Lane

HAWAIIAN OCEAN VIEW: Hurricane Lane drenched Hawaii on Thursday ahead of its arrival in the island state, prompting President Donald Trump to declare a state of emergency as landslides and flash flooding left roads blocked.

The National Weather Service said Lane — located about 320km south of Hawaii — remained a powerful hurricane, packing winds in excess of 209kph, although it was downgraded to cat-

egory three mid-afternoon local time.

The eye was expected to sweep very close to or over the islands, 3,218km southwest of the mainland.

Up to 30cm of rain had fallen before dawn, according to federal authorities, with 76cm expected in the worst-hit areas over the coming four to five days.

“Someone once told me it wasn’t raining when Noah built the Ark,” American Red Cross

vice-president Brad Kieserman said in Washington, DC.

“That means that readiness is important — readiness to make sure we can fulfil our responsibility and the critical infrastructure lifelines.”

Emergency teams have set up 16 evacuation centres, with a further 19 due to open throughout the day, authorities said, as Trump urged Hawaiians to hunker down and prepare for the worst. **AFP**

LAMPIRAN 25
UTUSAN MALAYSIA: MUKA SURAT 11
TARIKH: 25 OGOS 2018 (SABTU)

Indonesia guna bom air, benih hujan atasi hutan terbakar

JAKARTA 24 Ogos - Sebanyak 10 helikopter agensi-agensi kerajaan Indonesia telah dikerahkan melakukan pengeboman air bertujuan memadam kebakaran dan tanah yang melanda Kalimantan Barat sejak bulan lalu.

Jurucakap Agensi Pencegahan Bencana (BNPB), Sutopo Purwo Nugroho berkata, usaha bersama pasukan berkenaan kini bergelut untuk memadamkan kebakaran berkenaan.

Selain penggunaan helikopter, BNPB juga bekerjasama dengan Badan Penilaian dan Penggunaan Teknologi (BPPT) dan Tentera Nasional Indonesia (TNI) untuk mewujudkan hujan tiruan menerusi kaedah pembenihan awan menggunakan natrium klorida.

Sutopo yang dipetik *Jakarta Post* berkata, hujan yang tidak sekata turun sejak beberapa hari lalu membantu mengurangkan kebakaran di wilayah itu.

Setakat semalam, satelit Badan Meteorologi, Klimatologi dan Geofisika Indonesia (BMKG) mengesan sebanyak 885 titik panas di Kalimantan Barat, lebih banyak daripada wilayah-wilayah lain.

Sebanyak empat orang meninggal dunia akibat kebakaran hutan



SEBUAH helikopter membuat persiapan untuk memadam kebakaran di Kalimantan Barat. - AGENSI

di wilayah itu sejak bulan lalu.

Sutopo berkata, kebakaran itu diburukkan lagi dengan aktiviti penduduk tempatan membakar sawah padi untuk pembersihan tanah semasa musim kering.

"Penduduk daerah Sanggau, Sambas, Ketapang, dan Kubu Raya mempunyai tradisi dipanggil gawai serentak di mana mereka

mempersiapkan musim tanaman baharu dengan membakar.

"Kerajaan daerah telah melarang aktiviti itu tetapi ia masih diamalkan di banyak tempat," katanya.

Sutopo menambah, polis tempatan akan meneruskan peman-tauan untuk menghentikan pembakaran yang disengajakan itu.

BMKG turut mengeluarkan ama-



DUA anggota bomba memadam kebakaran hutan di Sungai Raya, Kalimantan Barat pada 18 Ogos lalu. - AGENSI

ran bahawa peningkatan cuaca yang semakin kering boleh mence-tuskan lebih banyak kebakaran se-masa kemuncak musim kering dari Ogos hingga September.

Sementara itu, portal *Republika* melaporkan, sebanyak 12 individu yang dipercayai membakar hutan dan tanah di Kalimantan Barat berjaya diberkas polis setakat ini.