

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

Bil	Berita	Media	Capaian Berita Penuh
1.	<u>Lynas' residue storage extension is only until Feb 15 next year</u> The Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC) said the permission was granted to allow the Lynas Advanced Materials Plant (LAMP) executive review committee to carry out its evaluation of the rare earth materials producer's operation and residue storage.	The Star	Klik pada tajuk berita
2.	<u>Lynas can store by-product at plant only until Feb 15</u> Lynas' temporary permission to store one of its by-products at its Gebeng plant is only extended until Feb 15 next year, said the Energy, Science, Technology, Environment and Climate Change Ministry.	The Star	Rujuk lampiran 1 atau klik pada tajuk berita
3.	<u>Gov't clears the air on temporary storage of scheduled waste given to Lynas</u> The Energy, Science, technology, Environment and Climate Change (MESTECC) Ministry issued a statement to clear the air today, saying the extension given was to make way for the Lynas Advance Materials Plant (LAMP) Operations and Residue Management Evaluation Executive Committee to analyse and assess the company's operations and residue storage facility.	New Straits Times	Klik pada tajuk berita
4.	<u>'Tsunami warning system sufficient'</u> Deputy Energy, Science, Technology, Environment and climate change Minister Isnaraissah Munirah Majilis said the system used to tide gauges, coastal cameras and sirens.	New Straits Times	Rujuk lampiran 2
5.	<u>How SIRIM R&D unit can help SMEs</u> Sirim R&D should just concentrate on manufacturing as its research focus.	New Straits Times	Rujuk lampiran 3

6.	<u>TNB's solar project off to bright start</u> The Energy, Science, Technology, Environment and Climate Change Ministry has set a target of 20 per cent of the country's electricity to be generated from renewable energy sources by 2030, a big increase from the current two per cent.	New Straits Times	Rujuk lampiran 4
7.	<u>Creating apps for space exploration</u> National Planetarium senior assistant director Mohd Zamri Shah Mastor gave his closing remarks and presented prizes to the winners at the prize giving ceremony.	New Straits Times	Rujuk lampiran 5
8.	<u>Malaysia's early tsunami warning system sufficient, says deputy minister</u> Deputy Energy, Science, Technology, Environment, and Climate Change Minister Isnaraissah Munirah Majilis said that the system uses tide gauges, coastal cameras, and sirens that is enough to issue early warning to Malaysians.	New Straits Times	Klik pada tajuk berita
9.	<u>Malaysia's early tsunami warning system adequate, Parliament told</u> Deputy Energy, Science, Technology, Environment and Climate Change Minister Isnaraissah Munirah Majilis said there are 77 seismometers, 53 sirens, 17 tide gauges and 15 beach cameras throughout the country.	Malay Mail	Klik pada tajuk berita
10.	<u>Lynas granted extension until Feb 15</u> The government will allow Australian rare earth miner Lynas Corp to store residue at its ore processing plant until Feb 15, the Ministry of Energy, Science, Technology, Environment and Climate Change said today.	The Sun Daily	Rujuk lampiran 6 atau klik pada tajuk berita
11.	<u>National tsunami early warning system adequate</u> Deputy Energy, Science, Technology, Environment and Climate Change Minister Isnaraissah Munirah Majilis said there are 77 seismometers, 53 sirens, 17 tide gauges and 15 beach cameras throughout the country.	The Sun Daily	Klik pada tajuk berita

12.	<u>Projek LSS terbesar TNB bermula/ Projek LSS mula salur tenaga</u> Kementerian Tenaga, Sains, Teknologi, Alam Sekitar dan Perubahan Iklim menetapkan sasaran bahawa 20 peratus daripada tenaga elektrik negara akan dijana menerusi sumber boleh diperbaharui menjelang tahun 2030.	Berita Harian	Rujuk lampiran 7 atau klik pada tajuk berita
13.	<u>Sistem amaran awal tsunami negara mencukupi</u> Timbalan Menteri Tenaga, Sains, Teknologi, Alam Sekitar dan Perubahan Iklim, Isnaraissah Munirah Majilis, berkata sistem merangkumi penggunaan tolok pasang surut, kamera pantai dan siren memadai bagi memberi amaran awal kepada rakyat negara ini.	Berita Harian	Klik pada tajuk berita
14.	<u>Tempoh lanjutan beri peluang Lynas nilai semula operasi</u> Kementerian Tenaga, Sains, Teknologi, Alam Sekitar dan Perubahan Iklim (MESTECC) berkata, tempoh lanjutan diberikan bagi memberi laluan kepada Jawatankuasa Eksekutif Penilaian Operasi dan Pengurusan Residu Lynas Advanced Material Plant (LAMP) untuk mengkaji dan menilai semula operasi dan penstoran residu oleh syarikat itu.	Berita Harian	Rujuk lampiran 8
15.	<u>Cuti pasukan penyelamat dibeku/ Cuti anggota pasukan keselamatan dibekukan</u> “Jabatan Meteorologi Malaysia memaklumkan Monsun Timur Laut sudah bermula pada 27 Oktober lalu dan dijangka berlarutan hingga Mac 2019. Malah, amaran hujan lebat berterusan peringkat waspada (kuning) sudah dikeluarkan bagi Kelantan dan Terengganu Sabtu lalu.	Berita Harian	Rujuk lampiran 9
16.	<u>Projek LSS TNB mula beroperasi</u> Kementerian Tenaga, Sains, Teknologi, Alam Sekitar dan Perubahan Iklim sebelum ini me-nyasarkan 20 peratus daripada penjanaan tenaga negara adalah menerusi sumber boleh diperbaharui menjelang tahun 2030.	Kosmo	Rujuk lampiran 10 atau klik pada tajuk berita

17.	<u>Parlimen: Sistem amaran awal tsunami negara mencukupi</u> Timbalan Menteri Tenaga, Sains, Teknologi, Alam Sekitar dan Perubahan Iklim Isnaraissah Munirah Majilis berkata terdapat 77 seismometer, 53 siren, 17 tolok pasang surut dan 15 kamera pantai di seluruh negara.	Kosmo	Klik pada tajuk berita
18.	<u>Sistem Ramalan Lautan pertama di Malaysia</u> Timbalan Pengarah (Penyelidikan dan Perkhidmatan) Institut Oseanografi dan Sekitaran (Inos) UMT, Prof. Madya Dr. Mohd. Fadzil Mohd. Akhir berkata, pembinaan OFS merupakan usahasama di antara Kementerian Tenaga, Sains, Teknologi, Alam Sekitar dan Perubahan Iklim, UMT serta Institut Pertama Oseanografi (FIO), China.	Kosmo	Klik pada tajuk berita
19.	<u>LSS terbesar Malaysia mula beroperasi</u> Kementerian Tenaga, Sains, Teknologi, Alam Sekitar dan Perubahan Iklim menetapkan sasaran sebanyak 20 peratus daripada tenaga elektrik negara akan dijana menerusi sumber boleh diperbaharui menjelang 2030.	Utusan Malaysia	Klik pada tajuk berita
20.	<u>SMSL, Geenpeace pressure Lynas for permanent disposal facility</u> According to SMSL, under the recommendation of the International Atomic Energy Agency, Lynas Corporation applied and acquired the approval of the Atomic Energy Licensing Board to remove the Flue Gas Desulfurization (FGD) and Neutralization Underflow (NUF) residues from its control list in 2013.	The Borneo Post	Klik pada tajuk berita
21.	<u>Lanjutan permit Lynas hanya sampai 15 Feb</u> Kementerian Tenaga, Sains, Teknologi, Alam Sekitar dan Perubahan Iklim (MESTECC) menegaskan tempoh lanjutan penstoran sementara bahan buangan terjadual yang diberikan kepada Lynas Malaysia Sdn Bhd bukanlah tanpa had tempoh seperti yang diumumkan syarikat itu.	Malaysia Kini	Klik pada tajuk berita

22.	<u>Lynas given until Feb 15 to store rare earth residue</u> Energy, Science, Technology, Environment and Climate Change Ministry said it will allow Australian rare earth miner Lynas Corp to store residue at its ore processing plant until Feb 15.	Malaysia Kini	Klik pada tajuk berita
23.	<u>Graphene products to contribute RM20b to Malaysia's GNI via action plan</u> Deputy Energy, Science, Technology, Environment and Climate Change Minister Isnaraissah Munirah Majilis (picture) said this is because graphene products could bring great opportunity for Malaysia to develop a high-value economic ecosystem within its industries.	The Malaysian Reserve	Klik pada tajuk berita
24.	<u>Ministry corrects Lynas on permit extension date</u> RARE earths miner Lynas Corp's temporary permit to store waste materials at its plant in Gebeng, Pahang, is only up till February 15 and not an open-ended extension, the Energy, Science, Technology, Environment and Climate Change Ministry said today.	The Malaysian Insight	Klik pada tajuk berita

TEMPATAN

Bil	Berita	Media	Capaian Berita Penuh
25.	<u>Program kitar semula perlu diperkasa</u> Kerajaan dicadangkan supaya memperkasakan dan memberi tumpuan terhadap program kitar semula demi memastikan pemeliharaan alam sekitar di negara ini dapat dilaksanakan.	Sinar Harian	Rujuk lampiran 11
26.	<u>Solar pintar jana elektrik</u> Tenaga yang boleh diperbaharui semakin mendapat perhatian sebagai sumber alternatif bagi menggantikan penggunaan bahan api fosil.	Kosmo	Rujuk lampiran 12

ANTARABANGSA

Bil	Berita	Media	Capaian Berita Penuh
27.	<u>Jordanian mosques go green</u> Poking above the bright pink bougainvillea that spills into the street, the lone minaret of the Ta'la Al-Ali mosque towers over the Khalda neighborhood of Amman.	The Star	Rujuk lampiran 13
28.	<u>Bitcoin could nullify climate change efforts, say experts</u> Almost 200 nations agreed in Paris in 2015 on the goal to keep warming to "well below" a rise of 2c above pre-industrial times.	The Star	Rujuk lampiran 14
29.	<u>Dron, teknologi sonar cari bangkai pesawat</u> Dron dan teknologi sonar digunakan, semalam untuk mencari bangkai pesawat Lion Air yang terhempas dalam laut tempoh hari manakala penyelam dikerah membantu misi menyelamatkan yang kini menjadi tumpuan global.	Berita Harian	Rujuk lampiran 15
30.	<u>Manoeuvring a disruptive technology</u> Blockchain is a distributed ledger technology that permits transactions to be gathered into blocks and recorded, and allows multiple copies to be distributed via digital networks across the globe.	New Straits Times	Rujuk lampiran 16
31.	<u>Pusuan ribut ancam perairan Amerika Syarikat</u> Taufan yang melanda perairan Amerika Syarikat pada musim panas lalu dilihat semakin mengganas apabila kelajuan angin yang ditunjukkan melonjak naik dalam masa selang beberapa hari.	Kosmo	Rujuk lampiran 17
32.	<u>Yutu hits Philippines</u> Typhoon Yutu slammed into the Philippines yesterday with fierce winds that sheared off roofs and snapped trees in half, after thousands were evacuated ahead of the powerful storm's arrival.	New Straits Times	Rujuk lampiran 18

33.	<u>Singapore's National Energy Provider Launches Blockchain Marketplace for Green Energy</u> The blockchain is designed and built in-house by the company's own team of digital energy experts to "ensure the security, integrity and traceability" of every renewable energy certificate (REC) transaction, Singapore Power (SP) said in a press release.	CCN	Klik pada tajuk berita
34.	<u>Actis could step up investments in India's green energy space</u> The UK-based firm, which invests out of its global pool of capital, has invested \$450 million in the alternative energy space itself in the past year, and has indicated it will commit more capital to the world's second most populous nation, where power consumption is expected to outpace growth in GDP.	The Economic Times	Klik pada tajuk berita
35.	<u>There are three options in tackling climate change. Only one will work</u> These are the choices. There are no others. Future generations will judge us on what we choose to do in full knowledge – accessories before the fact – of the devastating consequences of continuing with our energy-profligate lifestyles.	The Guardian	Klik pada tajuk berita

LAMPIRAN 1
THE STAR (NATION): MUKA SURAT 14
TARIKH: 31 OKTOBER 2018 (RABU)

Lynas can store by-product at plant only until Feb 15

KUANTAN: Lynas' temporary permission to store one of its by-products at its Gebeng plant is only extended until Feb 15 next year, said the Energy, Science, Technology, Environment and Climate Change Ministry.

The ministry explained that the extension was granted to facilitate the Lynas Advanced Materials Plant (LAMP) executive review committee in carrying out its evaluation of the rare earth materials producer's operation and residue storage.

It said in a statement that the conditional extension took into account the time needed by the review committee to scrutinise in detail and scientifically all information, reports and views of involved parties and to prepare a report and recommendations for the Cabinet.

The extension was also for the Cabinet to consider the committee's recommendations and to make a reasonable and fair decision, it said.

Lynas announced on Monday that it had been granted an extension to store the neutralisation underflow (NUF) by-product on-site at the LAMP.

The company, however, did not specify how long the extension would be.

Lynas previously revealed that its NUF storage permission was set to expire by Oct 31.

The ministry also said that the committee would be holding a public hearing in Kuantan on Nov 11 to get the views of all stakeholders including Lynas Malaysia Sdn Bhd, NGOs, government agencies as well as experts in the fields of environmental management, public health and radioactive safety.

LAMPIRAN 2
NEW STRAITS TIMES (NEWS/ NATION): MUKA SURAT 10
TARIKH: 31 OKTOBER 2018 (RABU)

INSTALLED NATIONWIDE

'Tsunami warning system sufficient'

THE tsunami warning system installed nationwide is sufficient to give early warning of such disasters.

Deputy Energy, Science, Technology, Environment, and Climate Change Minister **Isnaraissah Munirah Majilis** said the system used tide gauges, coastal cameras and sirens.

"There are 77 seismometers, 53 sirens, 17 tide gauges and 15 coastal cameras installed nationwide.

"The weather in Malaysia is hard to predict because we are in a tropical area where weather movements are brief and always changing.

"The weather forecast stations and tsunami warning system are sufficient," she said at the Dewan Rakyat yesterday.

She was answering a supplementary question from Jugah Muiyang (PKR-Lubok Antu) on whether the government would beef up the country's tsunami warning system.

Isnaraissah, in answering his main question on whether the tsunami buoys lost at the South China Sea would be replaced in light of earthquakes and tsunamis in the region, said there were alternatives in place.

"To replace the tsunami buoys, the government has an alternative, which is tide gauges installed at Pulau Layang-Layang, as well as a network of shared international tide gauges, which can give information for issuing tsunami warning to related areas.



Isnaraissah Munirah Majilis

"The tide gauges also give minute-by-minute data and have the function and effectiveness that are equal to tsunami buoys."

On Oct 4, the *New Straits Times* reported that three deep-water buoys worth RM7.2 million — used to gather data as part of an early tsunami warning system — had been written off.

The installation of the Norway-made equipment was done in phases since 2006 at three locations — the Andaman Sea, the Sulu Sea and the South China Sea.

The tsunami buoy project, or tsunametre, was the result of a Malaysia-Indonesia collaboration following the 2004 Aceh earthquake that killed 230,000 people from 14 nations, including Malaysia.

However, one buoy — located 500km from Langkawi and 60km from Banda Aceh in Indonesia in the Andaman Sea, which was installed on Dec 30, 2005 — was recently found to be not transmitting data.

Investigations revealed that the equipment had disappeared.

Another buoy — placed near Pulau Layang-Layang in Sabah, near the South China Sea on March 7, 2006 — suffered the same fate.

The buoys were written off as lost, having been either dragged away by sea currents or destroyed by vandals.

The third tsunami buoy — installed near Pulau Sipadan in Sabah, near the Sulu Sea in 2010 — had exploded during maintenance on the MV *Pendamar* vessel, and was no longer in use.

LAMPIRAN 3
NEW STRAITS TIMES (LETTERS): MUKA SURAT 16
TARIKH: 31 OKTOBER 2018 (RABU)

AUTONOMOUS CENTRE

HOW SIRIM R&D UNIT CAN HELP SMEs

MENTION Sirim, and the first thing that comes to mind is the crash helmet worn by motorcyclists.

This is quite expected because Sirim is renowned as the agency which has always championed quality.

Sirim's mark of quality is prominently displayed on all approved helmets. The helmet is not the only product that has been certified by Sirim for its adherence to quality standards. Thousands of consumer products which meet quality standards bear the Sirim mark.

Most are electrical products where safety is a prime concern. Sirim is known to have provided reliable testing of such products to ensure conformance to international standards.

In fact, when we talk about the growing business of product certification, Sirim has taken the lead in the country.

Under the Sirim group of companies, its certification arm, Sirim SQAS, has done good business not only in product certification, but also in the certification of a growing list of management standards.

These include quality, environment, health and many safety related management systems. As the world business becomes globally linked in terms of the supply chain, the need for certification has grown too.

Many may not be aware that Sirim has also built strong R&D in many technology areas, such as biogas, mould-making, machine-building, materials development, cosmetics, computer-aided engineering and automotive parts.

Its Advanced Materials Research Centre, Amrec, in Kulim, Kedah has, over the years, come out with products which have made some mark in the commercial arena.

I am aware of the synthetic bone material produced by its R&D laboratory, called granumas, which has made some headway in the local market.

There were a few other products which have been quite impactful. But as is true in all R&D ventures, there have also been some disappointments.

Sirim is well positioned to contribute to industry development. And it has done so in testing and certification.

However, in technology development, especially to help industries cope with the growing global competition, it still has some way to go.

In the past, complaints have been raised by some industry players that Sirim, instead of working alongside SMEs to improve their competitiveness and productivity, has become a competitor, but with the unfair backing of the government.

As rightly put by the prime min-



A Sirim-certified gas hose and regulator. Sirim has done well in its traditional core business of certification and testing. FILE PIC

ister in a recent dialogue, a government should not be in the business of making money.

Its business is in collecting money from the business community through the 24 per cent corporate tax.

And government entities such as Sirim are there to make sure the business community grows so that the government can collect more tax.

It was not easy for Sirim to forge strong links with the SMEs, more so when the latter see it as another competitor.

Putting Sirim under the International Trade and Industry Ministry will change things for the better. But Sirim will have to change its ways, especially the R&D arm.

The government should also not impose unrealistic profit-making KPIs on Sirim R&D. Maybe it is time to separate it from the testing and certification arm of Sirim.

Make it an autonomous R&D centre which will cater to the needs of the nation's SMEs. As shown by Germany and Japan, their strong economies are attributed in no small measure to their strong command of manufacturing.

Sirim R&D should just concentrate on manufacturing as its research focus.

PROFESSOR DATUK DR AHMAD IBRAHIM

Fellow, Academy of Sciences Malaysia, UCSI University

LAMPIRAN 4
NEW STRAITS TIMES (BUSINESS): MUKA SURAT 18
TARIKH: 31 OKTOBER 2018 (RABU)



Tenaga Nasional Bhd's large-scale solar project in Kuala Langat, Selangor, which has 230,000 solar panels and 10km of 132kV power and fibre optic underground cable, is Malaysia's largest to date.

RENEWABLE ENERGY

TNB's solar project off to bright start

KUALA LANGAT: Tenaga Nasional Bhd's (TNB) large-scale solar (LSS) project, here, has reached its initial operation date (IOD) with the first generated power transmitted to the national grid.

TNB said work was progressing well, with the solar plant set to generate at its full capacity of 50 megawatt (MW) by year-end.

The plant, which has 230,000 solar panels and 10km of 132kV power and fibre optic underground cable, is Malaysia's first and largest LSS project to date.

The project, which started in

July last year, is developed by TNB's subsidiary, TNB Sepang Solar Sdn Bhd, on a 98ha site in Mukim Tanjung 12.

The engineering, procurement and construction partner for the project is TNB Engineering Corp Sdn Bhd.

"The LSS project is a testament of TNB's aspiration and commitment towards the growth of renewable energy (RE) in Malaysia.

"It displays TNB's competencies and expertise in RE as well as being a reputable developer of

power projects," it said in a statement yesterday.

The Energy, Science, Technology, Environment and Climate Change Ministry has set a target of 20 per cent of the country's electricity to be generated from renewable sources by 2030, a big increase from the current two per cent.

Currently, 53 per cent of Peninsular Malaysia's power generation is from coal, 42 per cent from natural gas and five per cent from hydro, together with other forms of RE.

LAMPIRAN 6

THE SUN DAILY (NEWS WITHOUT BORDERS): MUKA SURAT 05

TARIKH: 31 OKTOBER 2018 (RABU)

Lynas **granted** extension until Feb 15

> Firm to continue storing residue at its ore processing plant, says ministry

PETALING JAYA: The government will allow Australian rare earth miner Lynas Corp to store residue at its ore processing plant until Feb 15, the Ministry of Energy, Science, Technology, Environment and Climate Change said yesterday.

It said the permission was granted to allow the Lynas Advanced Materials Plant

executive review committee to carry out its evaluation of the rare earth materials producer's operation and residue storage.

The ministry, in a statement, said the conditional extension took into account the time needed by the review committee to scrutinise all information, reports and views of involved parties and to prepare a report and recommendations for the Cabinet.

The extension was also to allow the Cabinet time to consider the committee's

recommendations and come to a decision.

The ministry said the committee would be holding a public hearing in Kuantan on Nov 11 to get the views of all stakeholders, including Lynas Malaysia Sdn Bhd, non-governmental organisations, government agencies as well as experts in environmental management, public health and radioactive safety.

"All decisions and evaluation by the government will be done in a professional, objective, transparent and open manner."

LAMPIRAN 7
BERITA HARIAN (BISNES): MUKA SURAT 20
TARIKH: 31 OKTOBER 2018 (RABU)

Projek LSS mula salur tenaga

➔ Loji solar mampu jana kapasiti penuh 50 megawatt sebelum akhir tahun

Oleh Mohd Zaky Zainuddin
zaky@nstp.com.my

Projek tenaga solar berskala besar (LSS) Tenaga Nasional Bhd (TNB) di Mukim Tanjung 12, Kuala Langat, Selangor mencapai tarikh operasi awal (IOD) dengan tenaga pertama yang dijana dihantar ke Grid Nasional minggu lalu.

TNB dalam satu kenyataan berkata, menerusi perkembangan positif loji solar berkenaan, ia mampu menjana kapasiti penuh 50 megawatt (MW) sebelum akhir tahun.

"Loji dengan 230,000 panel solar dan gentian kabel optik sepanjang 10 kilometer (km) dengan kuasa 132kV adalah projek LSS pertama terbesar Malaysia setakat ini," katanya.

Projek LSS yang dimulakan pada Julai tahun lalu itu dibangunkan anak syarikat TNB, iaitu TNB Sepang Solar di atas



Projek solar berskala besar TNB di Kuala Langat.

tanah berkeluasan 98 hektar di Kuala Langat.

Komitmen TNB

TNB Engineering Corporation Sdn Bhd pula adalah rakan kongsi kejuruteraan, perolehan dan pembinaan (EPC) bagi projek itu.

TNB berkata, projek LSS itu menjadi bukti aspirasi dan

komitmennya ke arah pertumbuhan tenaga boleh diperbaharui (RE) di Malaysia.

"Ia juga menterjemahkan kompetensi dan kepakaran TNB dalam RE serta memiliki reputasi sebagai pemaju projek kuasa," katanya.

Kementerian Tenaga, Sains, Teknologi, Alam Sekitar dan Perubahan Iklim menetapkan

sasaran bahawa 20 peratus daripada tenaga elektrik negara akan dijana menerusi sumber boleh diperbaharui menjelang tahun 2030.

Kira-kira 53 peratus janaan kuasa di Semenanjung adalah daripada arang batu, manakala 42 peratus daripada gas asli dan lima peratus adalah hidro dan bentuk RE.

LAMPIRAN 8
BERITA HARIAN (BISNES): MUKA SURAT 12
TARIKH: 31 OKTOBER 2018 (RABU)

Tempoh lanjutan beri peluang Lynas nilai semula operasi

Putrajaya: Tempoh lanjutan untuk penstoran sementara bahan buangan terjadual yang diberikan kepada Lynas Malaysia Sdn Bhd (Lynas) hanya sehingga 15 Februari 2019.

Kementerian Tenaga, Sains, Teknologi, Alam Sekitar dan Perubahan Iklim (MESTEC) berkata, tempoh lanjutan diberikan bagi memberi laluan kepada Jawatankuasa Eksekutif Penilaian Operasi dan Pengurusan Residu Lynas Advanced Material Plant (LAMP) untuk mengkaji dan menilai semula operasi dan penstoran residu oleh syarikat itu.

“Tempoh lanjutan bersyarat itu diberikan dengan mengambil kira jangka masa yang diperlukan oleh jawatankuasa berkenaan untuk meneliti secara terperinci dan saintifik semua maklumat, laporan dan pandangan daripada pihak yang terbabit dan menyediakan laporan berserta syor kepada Kabinet.

Keputusan, penilaian dibuat secara profesional

“Selain itu, ia mengambil kira Kabinet untuk mempertimbangkan syor jawatankuasa berkenaan dan membuat keputusan yang wajar dan adil,” katanya dalam kenyataan, semalam.

Dalam pada itu, Jawatankuasa Eksekutif akan mengadakan sesi pendengaran awam di Kuantan pada 11 November ini bagi mendengar penjelasan daripada semua pihak berkepentingan termasuk Lynas, pertubuhan bukan kerajaan (NGO), agensi kerajaan serta pakar pengurusan alam sekitar, kesihatan awam dan keselamatan sinaran radioaktif.

Semua keputusan dan penilaian oleh kerajaan akan dibuat secara profesional, objektif, telus dan terbuka.

LAMPIRAN 9
BERITA HARIAN (ISU): MUKA SURAT 5
TARIKH: 31 OKTOBER 2018 (RABU)

Cuti pasukan penyelamat dibeku

Arahan berkuat kuasa mulai November hingga Disember bagi persiapan hadapi banjir

Oleh Mohd Husni Mohd Noor
cnews@nstp.com.my

Putrajaya

Cuti anggota pasukan keselamatan dan penyelamat serta pengurusan bencana pelbagai agensi dibekukan mulai November hingga Disember ini sebagai persiapan menghadapi bencana banjir, kata Datuk Seri Dr Wan Azizah Wan Ismail.

Ia membabitkan Jabatan Bomba dan Penyelamat Malaysia; Angka-

tan Pertahanan Awam Malaysia (APM); Polis Diraja Malaysia (PDRM); Angkatan Tentera Malaysia (ATM); Agensi Penguatkuasaan Maritim Malaysia (Maritim Malaysia); pasukan pengurusan bencana peringkat negeri dan pihak berkuasa tempatan (PBT).

Langkah siap siaga

Timbalan Perdana Menteri berkata, arahan pembekuan cuti itu dikeluarkan sebagai langkah siap siaga memandangkan beberapa negeri di Pantai Timur Semenanjung mula menerima taburan hujan yang tinggi susulan ketibaan Monsun Timur Laut.

Katanya, Jabatan Meteorologi Malaysia memaklumkan Monsun Timur Laut sudah bermula sejak Sabtu lalu dan dijangka berlarutan hingga Mac 2019.

"Amaran hujan lebat berterusan peringkat waspada (kuning) dikeluarkan bagi Kelantan dan Terengganu pada Sabtu lalu. Pada hari sama juga, Pusat Kawalan Bencana Negara (NDCC) mengeluarkan no-



Ketua polis di setiap negeri juga perlu dalam keadaan bersedia sepenuhnya mengetuai operasi pemindahan dan menyelamatkan mangsa banjir"

Dr Wan Azizah Wan Ismail,
Timbalan Perdana Menteri

tis kesiapsiagaan kepada agensi berkaitan.

"Selain itu, fenomena air pasang besar juga diramal berlaku di beberapa negeri di Semenanjung, Sabah dan Sarawak," katanya pada sidang media selepas mempengerusikan Mesyuarat Jawatankuasa Tertinggi Bencana Pusat (JKTPBP) kali pertama di sini, semalam.

Dr Wan Azizah berkata, PDRM juga diingatkan supaya mengesahkan aset dan keanggotaan seramai 31,531 di seluruh kontingen negeri di seluruh negara.

Pusat pemindahan banjir

Beliau berkata, ketua polis di setiap negeri juga perlu dalam keadaan bersedia sepenuhnya untuk mengetuai operasi pemindahan dan menyelamatkan mangsa banjir.

"Jabatan Kebajikan Masyarakat (JKM) juga perlu mengatur gerak pusat pemindahan banjir berjumlah 5,448 pusat bagi menampung 1.65 juta mangsa,

"Depoh dan stor makanan di setiap negeri dan daerah juga perlu selesai membuat penambahan dan pemeriksaan stok. Pada masa ini, ada lima depoh simpanan, 365 stor bencana dan 581 pangkalan hadapan disediakan bagi persiapan menghadapi banjir," katanya.

Beliau berkata, Jabatan Perkhidmatan Veterinar (DVS) juga perlu mengatur gerak kesiapsiagaan untuk pemindahan haiwan ketika banjir bagi mengelak kerugian lebih besar.

Dr Wan Azizah berkata, tahap kesiapsiagaan menghadapi banjir perlu dipandang serius semua pihak, termasuk agensi keselamatan dan masyarakat bagi mengelak keadaan bertambah buruk.

Beliau berkata, peruntukan sebanyak RM1.77 juta sudah diluluskan dan sedang diagihkan bagi perbelanjaan selretariat Jawatankuasa Pengurusan Bencana Negeri (JPBN) dan perbelanjaan operasi Jawatankuasa Pengurusan Bencana Daerah (JPBD).

LAMPIRAN 10
KOSMO (NIAGA): MUKA SURAT 52
TARIKH: 31 OKTOBER 2018 (RABU)

Loji solar dijangka menjana kapasiti penuh tenaga 50mW sebelum akhir tahun

Projek LSS TNB mula beroperasi

KUALA LUMPUR – Loji Solar Berskala Besar (LSS) Tenaga Nasional Bhd. (TNB) di Mukim Tanjung 12, Kuala Langat, Selangor kini beroperasi dengan penghantaran tenaga pertama ke Grid Nasional pada minggu lalu.

TNB menerusi satu kenyataan berkata, kerja-kerja bagi loji solar itu berjalan lancar dan dijangka menjana kapasiti penuh 50 megawatt (mW) sebelum akhir tahun ini.

"Loji itu merupakan projek LSS terbesar di Malaysia setakat ini dengan mempunyai 230,000 panel solar dan kabel gentian optik bawah tanah sepanjang 10 kilometer (km) dengan kuasa 132 kilovolt (kV).

"Projek LSS itu membuktikan aspirasi dan komitmen kami ke arah pertumbuhan tenaga boleh diperbaharui (RE) di Malaysia.



"Ia turut menunjukkan keupayaannya dalam keupayaan TNB dalam bidang RE, selain berperanan sebagai pemaju projek tenaga yang berputas," katanya di sini semalam.

Projek LSS yang dimulakan pada Julai 2017 itu dibangunkan oleh subsidiari TNB, TNB Sepang Solar Sdn. Bhd. di atas tanah berkeluasan 98 hektar, manakala TNB Engineering Corporation Sdn. Bhd. adalah rakan kongsi kejuruteraan, perolehan dan pembinaannya.

Kementerian Tenaga, Sains, Teknologi, Alam Sekitar dan Perubahan Iklim sebelum ini me-



PROJEK LSS TNB di Kuala Langat mempunyai 230,000 panel solar dan kabel gentian optik bawah tanah sepanjang 10 kilometer dengan kuasa 132kV.

nyasarkan 20 peratus daripada penjanaan tenaga negara adalah menerusi sumber boleh perba-

harui menjelang tahun 2030.

Pada masa ini kira-kira 68 peratus penjanaan tenaga di

INFO Projek LSS TNB

- Terletak di Mukim Tanjung 12, Kuala Langat, Selangor
- Melibatkan pelaburan berjumlah RM348 juta
- Darkapasti 50mW
- Terdiri daripada 230,000 panel solar dan kabel bawah tanah gentian optik sepanjang 10km dengan kuasa 132kV
- Meningkatkan kapasiti penjanaan tenaga boleh diperbaharui TNB daripada 23.2 mW kepada 73.2 mW

Semenanjung Malaysia adalah daripada arang batu, semantara gas asli (42 peratus), kuasa hidro (5 peratus) serta bentuk RE lain.

LAMPIRAN 11
SINAR HARIAN: MUKA SURAT 12
TARIKH: 31 OKTOBER 2018 (RABU)

Program kitar semula perlu diperkasa

SHAHALAM - Kerajaan dicadangkan supaya memperkasakan dan memberi tumpuan terhadap program kitar semula demi memastikan pemeliharaan alam sekitar di negara ini dapat dilaksanakan.

Rata-rata pelayar laman khas, Belanjawan 2019 mengharapkan kerajaan dapat mempertimbangkan cadangan tersebut dan menyalurkan peruntukan yang secukupnya dalam Bajet 2019 yang akan dibentangkan Jumaat ini.

Menurut salah seorang pelayar, Sani Abdullah, program kitar semula memainkan peranan yang penting dalam menyokong dasar strategik kerajaan bagi pengurusan alam sekitar yang mampan dan lestari.

"Secara spesifik, program ini bertujuan untuk mengurangkan intensiti pencemaran dan sisa daripada aktiviti pambandaran dan perindustrian.

"Amalan kitar semula harus bercambah dan diperkasa di seluruh negara bagi memastikan alam sekitar bersih sekali gus dapat memenuhi keperluan dan aspirasi rakyat," katanya.

Sementara itu, seorang lagi pelayar, Khairol Asuan Md Khalid mencadangkan kerajaan memperkenalkan sistem kitar semula yang komprehensif.

"Di Sweden, mereka galakkan rakyat untuk kitar semula sampah dengan memberi kembali wang kepada pengguna yang mengamalkan kitar semula sisa plastik, kertas, kaca dan sebagainya.

"Sisa sampah pula dilupus dengan menggunakan incinerator yang juga boleh menghasilkan tenaga elektrik kepada pengguna," katanya.



Kerajaan disaran beri tumpuan program kitar semula.

LAMPIRAN 12
KOSMO (INFINITI): MUKA SURAT 29
TARIKH: 31 OKTOBER 2018 (RABU)



LAMPIRAN 12 (SAMBUNGAN) KOSMO (INFINITI): MUKA SURAT 30 TARIKH: 31 OKTOBER 2018 (RABU)



Senslar jana tenaga solar di permukaan air

Senslar mampu berputar 360 darjah dan mempunyai sistem pintar untuk menggerakkan panel secara automatik mengikut arah pancaran matahari bagi menyerap sebanyak mungkin tenaga.



MUHAMMAD
NUR ADHA



HASSAN

MATAHARI mempunyai manfaat besar dalam kehidupan seperti membantu dalam proses fotosintesis, memberi vitamin D dan tenaga solar untuk menjana elektrik.

Tenaga yang boleh diperbaharui semakin mendapat perhatian sebagai sumber alternatif bagi menggantikan penggunaan bahan api fosil.

Sehubungan itu, pelbagai inovasi dan penyelidikan dilakukan untuk memperluaskan penggunaan tenaga matahari agar dapat dimanfaatkan sepenuhnya.

Menyokong penggunaan tenaga matahari itu, sekumpulan penyelidik dari Universiti Tenaga Nasional (Uniten) telah menghasilkan prototaip Smart and Sensitive Solar Floating Platform (Senslar).

Menurut penasihat kumpulan penyelidik itu, **Dr. Hassan Mohamed**, Senslar dibangunkan untuk kegunaan di tempat terbuka yang banyak menyerap matahari seperti tasik atau lombong terbiar.

"Memandangkan kita kekurangan tanah dan tidak wajar ia digunakan semata-mata untuk menjana tenaga solar maka, kami membangunkan



PRODUK Senslar sesuai digunakan untuk tasik atau lombong dengan kedalaman kurang dari 10 meter dengan arus yang tidak terlalu laju.

platform khas bagi menjana tenaga solar itu di atas permukaan air.

"Kami melihat banyak kawasan tasik di Selangor begitu juga lombong terbiar di Putrajaya dan Cyberjaya yang boleh digunakan untuk tujuan ini," katanya ketika ditemui *Kosmo!* di Uniten, Kajang, Selangor baru-baru ini.

Tambahnya, kehadiran teknologi tersebut dapat menjimatkan tanah yang boleh digunakan untuk perkilangan, kediaman dan pertanian.

Senslar yang mempunyai sistem automasi itu berbeza dengan platform solar sedia ada kerana ia memiliki 'otak' untuk mengawal pergerakan bagi menjana lebih banyak tenaga matahari.

Kehadiran produk itu sangat penting untuk industri pertanian, perikanan, perkilangan bagi menggerakkan mesin yang menggunakan tenaga elektrik dan yang paling utama adalah untuk penjanaan tenaga elektrik secara besar-besaran bagi menggantikan penggunaan bahan api fosil seperti gas asli dan arang batu.

Sistem pintar itu akan menggerakkan panel secara automatik mengikut arah pancaran matahari yang paling banyak bagi memastikan tenaga itu diserap sebanyak mungkin.

"Pergerakannya sangat perlahan dan

sekitar lapan kali sahaja dalam sehari.

"Bagi melakukan pergerakan tersebut, ia hanya mengambil sedikit sahaja tenaga iaitu kurang 20 peratus daripada tenaga yang diserap daripada tenaga matahari itu," ujarnya yang juga merupakan Penasarah Kanan, Jabatan Kejuruteraan Mekanikal, Uniten.

Jelas Hassan, pancaran matahari paling banyak ialah selitar pukul 12 tengah hari hingga 2 petang.

Idea

Kecemerlangan Senslar yang dibangunkan bersama tujuh orang penyelidik itu telah melayakkannya memenangi *National Winner James Dyson Award* pada Ogos lalu.

"Prototaip Senslar mengambil masa empat bulan untuk disiapkan.

"Saiz sebenar bagi satu platform ialah 2x2 meter yang boleh memuatkan dua atau tiga panel solar," tutur bapa kepada tiga orang cahaya mata itu yang juga bekas graduan Massachusetts Institute of Technology (MIT) dan University of Cambridge, Britain.

Sementara itu, salah seorang penyelidik **Muhammad Nur Adha Arimi**, 22, berkata, idea menghasilkan Senslar itu bermula pada tahun lepas apabila dia dan empat orang ahli



TEKNOLOGI solar boleh membantu menjana tenaga elektrik untuk kegunaan industri pertanian.

LAMPIRAN 12 (SAMBUNGAN) KOSMO (INFINITI): MUKA SURAT 31 TARIKH: 31 OKTOBER 2018 (RABU)



CONTOH panel solar yang dipasang di atas tanah.



EMPAT daripada tujuh penyelidik membuat pertubuhan ketika membangunkan prototip Senslar.

kumpulan menyertai pertandingan *Mini Capstone Design* anjuran Uniten.

"Pertandingan tersebut khas untuk rekaan automasi dan kebetulan kami berlima meminati bidang robotik.

"Hasil perbincangan bersama ahli kumpulan, kami bersepatat untuk menghasilkan sistem solar terapan dengan ciri-ciri lebih baharu dan berteknologi tinggi memandangkan Malaysia mempunyai banyak tasik," cerita pemegang ijazah Sarjana Muda Kejuruteraan Mekanikal, Uniten.



IRWAN NIZAM

keistimewaan Senslar, anak ketiga daripada lima

beradik itu, memberitahu, Senslar mempunyai 'otak pintar' yang membuat keputusan untuk bergerak.

Selain itu, Senslar juga boleh condong 45 darjah satu arah dan 45 darjah pada arah yang satu lagi.

"Alat ini boleh berputar 360 darjah dan berpaut pada satu tiang yang tidak memerlukan tambahan struktur lain.

"Semua sistem boleh bergerak atas dan bawah untuk mengatasi gelombang kecil di permukaan air kerana tiupan angin," jelasnya.

Ia turut mempunyai kod yang optimum untuk memastikan pergerakan adalah tepat dan cepat bagi mendapatkan kedudukan matahari yang betul tanpa perlu menggunakan tenaga yang banyak.

Seorang lagi penyelidik, **Irwan Nizam Ismail**, 23, berkata, kini pihaknya dalam proses perbincangan untuk mengkomersialkan produk itu dengan beberapa buah syarikat dalam dan luar negara serta agensi kerajaan dan ia bakal dipasarkan pada tahun hadapan.

Irwan Nizam berkata, walaupun ia masih prototip tetapi keputusan kajian yang diterima sangat tepat dan bersedia untuk dipasarkan pada bila-bila masa sahaja.

Rekaan baharu

Dia yang juga merupakan pemegang Ijazah Sarjana Muda Kejuruteraan Mekanikal, Uniten memberitahu, Senslar turut mendapat perhatian daripada syarikat solar, agensi kerajaan dan pejabat daerah untuk penajaan tenaga elektrik dan juga aplikasi mudah seperti sistem pam.

"Pada lima tahun akan datang, kami berharap dapat mengaplikasikan Senslar di seluruh tasik sekitar Selangor, Cyberjaya dan Putrajaya, bekas lombong serta kawasan-kawasan empangan.

"Kami juga telah menghasilkan beberapa rekaan baharu untuk digunakan di lautan dalam dan kawasan lebih luas bagi kegunaan di pelantar-pelantar minyak," terang anak kelahiran Pulau Pinang itu.

Harga bagi Senslar berdasarkan kapasiti iaitu sekitar RM8,000 bagi setiap satu kilowatt. Harga kasar yang dianggarkan tinggi buat masa kini kerana ia termasuk dengan harga penyelidikan dan penambahbaikan.

Bagaimanapun, harga berkenaan dijangka turun setanding harga pasaran terkini iaitu sekitar RM3,500 ke RM6,000 per kilowatt.

Lebih menarik, ekoran pergerakan motornya yang sedikit, maka penyelenggaraan bulanan tidak perlu dilakukan banyak kali.

INFO Senslar

■ Mempunyai sistem pintar yang akan menggerakkan panel secara automatik mengikut arah pancaran matahari paling banyak.

■ Senslar sesuai untuk tasik yang mempunyai kedalaman kurang dari 10 meter dengan aras tidak terlalu laju.

■ Saiz sebenar bagi satu platform ialah 2x2 meter yang boleh memuatkan dua atau tiga panel solar.

■ Boleh berputar 360 darjah dan berpaut pada satu tiang yang tidak memerlukan tambahan struktur lain.

Malaysia pengeluar terbesar panel solar dunia

TENAGA boleh diperbaharui seperti cahaya matahari, angin, hujan, pasang surut air laut dan geotermia yang boleh diganti secara semula jadi sangat penting untuk menggantikan bahan api fosil.

Sabun hari tenaga daripada bahan api ini semakin berkurangan apatah lagi ia memerlukan ratusan tahun untuk terhasil.

Sehubungan itu, penggunaan tenaga yang boleh diperbaharui semakin mendapat tempat bagi memberi penyelesaian kepada

krisis tenaga pada masa akan datang.

Apatah lagi, ia tidak membebaskan pencemaran dan bersifat mesra alam.

Menurut Pensyarah Institut Tenaga Lestari, Universiti Tenaga Nasional (Uniten), Dr. Ahmad Wafi Mahmood Zuhdi, penggunaan tenaga yang boleh diperbaharui termasuk solar hanya dua peratus di negara ini.

"Justeru, kerajaan berhasrat untuk meningkatkan penggunaan

tenaga itu kepada 20 peratus pada masa akan datang.

"Kini, Malaysia tersenarai sebagai salah sebuah negara pengeluar panel solar terbesar dunia," katanya ketika dihubungi *Kosmo* baru-baru ini.

Memandangkan negara ini terletak di garisan Khatulistiwa, ia memberi kelebihan bagi menjana tenaga solar kerana menerima banyak cahaya matahari.

Mengulas mengenai



AHMAD WAFI

penggunaan tenaga solar di negara ini, Ahmad Wafi berkata, kita masih bergantung pada sumber bahan api fosil untuk menjana elektrik.

"Namun, kita sedang mengorak langkah ke hadapan dalam memperluaskan teknologi dan penggunaan tenaga solar dalam usaha mengurangkan kebergantungan kepada tenaga fosil.

"Kerajaan juga turut memperkenalkan inisiatif-inisiatif penting untuk mencapai hasrat tersebut," terangnya.

LAMPIRAN 13
THE STAR (WORLD): MUKA SURAT 26
TARIKH: 31 OKTOBER 2018 (RABU)

Jordanian mosques go green

Amman looks to solar power to save costs, environment

AMMAN: Poking above the bright pink bougainvillea that spills into the street, the lone minaret of the Ta'la Al-Ali mosque towers over the Khaldi neighbourhood of Amman.

Aside from its colourful stained-glass windows and ornate calligraphy, this mosque stands out for another reason: its roof is covered with shining solar panels that make the building's carbon emissions close to zero.

The structure is part of a wider effort by mosques – and many other buildings in the city – to capitalise on Jordan's plentiful sunshine and shift towards renewable energy, in a bid to achieve Amman's goal of becoming a carbon neutral city by 2050.

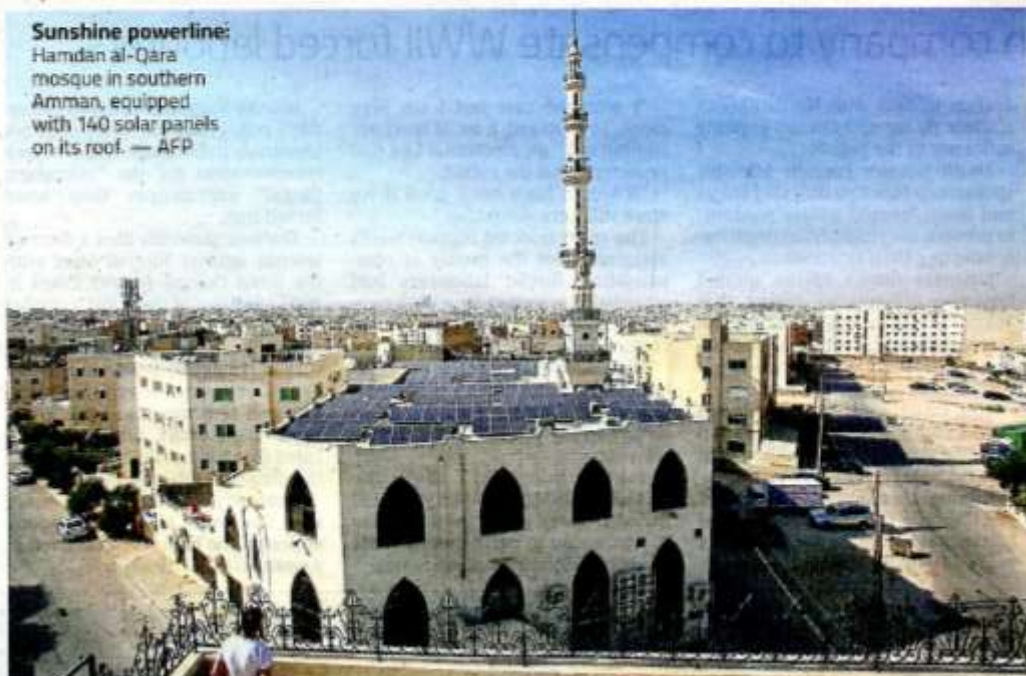
"Almost all the mosques here in Jordan now cover 100% of their energy needs" with renewable power, said Yazan Ismail, an energy auditor at ETA-max Energy and Environmental Solutions, a green consultancy in Jordan.

Amman is one of more than 70 cities worldwide that are aiming to become "carbon neutral" by 2050, meaning they will produce no more climate-changing emissions than they can offset, such as by planting carbon-absorbing trees.

Each is going about achieving the goal in its own way.

But because cities account for about three-quarters of carbon dioxide emissions, according to the

Sunshine powerline:
Hamdan al-Qara mosque in southern Amman, equipped with 140 solar panels on its roof. — AFP



United Nations, and consume more than two-thirds of the world's energy, whether they succeed or fail will have a huge impact on if the world's climate goals are met.

In Amman, the push to make mosques greener – which began in 2014, with backing from the Ministry of Religious Affairs – has been so successful that many are now selling excess energy back to the national grid, Ismail said.

For the Ta'la Al-Ali mosque's imam, who speaks to the faithful in his Friday sermons about protecting the climate, the decision to adopt clean energy coincides with wider religious values.

"The main reason for the use of

solar energy is religious duty," said Ahmad Al Rawashdeh.

Islam urges conservation of nature's resources, he said, and "warns against extravagance".

But the use of solar energy, and power-saving LED lightbulbs, also is helping the mosque financially, he admitted.

Amman, where temperatures already soar above 40°C in the summer, has clear incentives to try to hold the line on global warming.

But renewables are far from the norm in most of the country.

Jordan imports close to 96% of its energy, most of it fossil fuels from its neighbours, according to the World Bank.

Government officials say they are going to change that.

"We are committed to reducing our greenhouse gas emissions by 40% by 2030," Minister of Environment Nayef Hmeidi Al-Fayez said.

The country aims to generate 20% of its energy from renewable sources by 2022, Al-Fayez said.

It's a target he thinks will be met early, in part as solar panels go up on the city's homes, businesses and government buildings.

Earlier this year the Abu Dhabi Future Energy Company put US\$188mil to develop Jordan's largest solar power plant for the state electric power company. — Reuters

LAMPIRAN 14
THE STAR (WORLD): MUKA SURAT 26
TARIKH: 31 OKTOBER 2018 (RABU)

Bitcoin could nullify climate change efforts, say experts

NEW YORK: Demand for bitcoin could single-handedly derail efforts to limit global warming because the increasingly popular digital currency takes huge amounts of energy to produce, scientists said.

Producing bitcoin at a pace with growing demand could by 2033 defeat the aim of limiting global warming to 2°C, according to US research published in the journal *Nature Climate Change*.

Almost 200 nations agreed in Paris in 2015 on the goal to keep warming to "well below" a rise of 2°C above pre-industrial times.

But mining, the process of producing bitcoins by solving mathematical equations, uses high-powered computers and a lot of electricity, the researchers said.

"Currently, the emissions from transportation, housing and food are considered the main contribu-

tors to ongoing climate change," said study co-author Katie Taladay in a statement on Monday.

"This research illustrates that bitcoin should be added to this list."

Mining is a lucrative business, with one bitcoin currently selling for about US\$46,500 (RM226,340).

In 2017, bitcoin production and usage emitted an estimated 69 million metric tons of carbon dioxide equivalent, the researchers said.

That year, bitcoin was part of less than half a per cent of the world's cashless transactions, they said.

Researchers said the currency could use enough electricity to emit about 250 gigatonnes of carbon within a decade and a half.

One gigatonne is equal to one billion metric tons of carbon.

"No matter how you slice it, that thing is using a lot of electricity."

"That means bad business for the

environment," Camilo Mora, another co-author, said.

But bitcoin mining is becoming more energy efficient, said Katrina Kelly-Pitso, research associate at the University of Pittsburgh.

She said bitcoin miners are moving away from sites such as China, with coal-generated electricity, to more environmentally friendly utilities in Iceland and the United States. — Reuters

LAMPIRAN 15
BERITA HARIAN (DUNIA): MUKA SURAT 40
TARIKH: 31 OKTOBER 2018 (RABU)

Dron, teknologi sonar cari bangkai pesawat

➔ Cebisan mayat ditemui, 15 pakar forensik buat ujian DNA

► Jakarta

Dron dan teknologi sonar digunakan, semalam untuk mencari bangkai pesawat Lion Air yang terhemas dalam laut tempoh hari manakala penyelam dikerah membantu misi menyelamat yang kini menjadi tumpuan global.

Ketika sama, polis menjalankan ujian DNA (asid deoksiribonukleik) untuk mengenal pasti identiti mangsa nahas

pesawat Lion Air JT610 yang ditemui dan mengumpul sampel daripada 152 saudara mara di Hospital Polis Bhayangkara di Kramat Jati, Timur Jakarta.

Timbalan Ketua Polis Negara, Jeneral Komrad Ari Dono Sukamto berkata, sekurang-kurangnya 15 pakar forensik dan DNA bertugas untuk mengenal pasti cebisan mayat yang ditemui Agensi Mencari dan Menyelamat Nasional (Basarnas) dari Laut Jawa.

Sementara itu, syarikat insurans milik kerajaan, Jasa Raharja memberi jaminan, semua penumpang yang menaiki pesawat itu atau waris terdekat akan diberi pampasan mengikut undang-undang sedia ada dan peraturan Kementerian Kewangan 2017.

"Jasa Raharja bersedia memberi pampasan sebanyak

Rp 50 juta (RM13,733.94) untuk mangsa yang maut manakala Rp 25 juta (RM6,866.97) untuk menampung kos hospital mangsa yang cedera," kata pengarah syarikat, Budi Rahardjo dalam satu kenyataan dipetik laman web Jakarta Post semalam.

Kumpul cebisan mayat

"Difahamkan, petugas penyelamat setakat ini sudah mengumpul 24 beg mayat, sesetengahnya mengandungi cebisan tubuh, bukan tubuh bersambung," kata Ari dalam sidang media hari ini.

Ketua Basarnas, Muhammad Syaugi berkata, 10 beg mayat mengandungi cebisan tubuh dan baki 14 beg mengandungi serpihan pesawat dan barangan peribadi dianggap milik mangsa nahas.

Keadaan sayu dan menyayat hati dilihat di kemudahan hos-

pital ketika keluarga menangis sambil memegang diploma, kad pengenalan keluarga dan dokumen lain yang mungkin membantu mengenal pasti mangsa.

Pesawat yang membawa 189 orang itu membabitkan 178 dewasa, tiga kanak-kanak, dua juruterbang dan enam kru kabin.

Secara berasingan, Ketua Polis Jawa Barat, Inspektor Jeneral Agung Budi Maryoto menggesa penduduk tempatan membantu pihak berkuasa dalam operasi mencari dan menyelamat (SAR) untuk mengesan kru dan penumpang pesawat malang itu.

"Saya meminta penduduk dan nelayan menyertai rondaan pantai di sepanjang garisan pantai kerana ombak datang ke arah ini (Pantai Pakisjaya)," kata Agung dipetik agensi Antara. **AGENCI**

LAMPIRAN 16
NEW STRAITS TIMES (HIGHER ED): MUKA SURAT 25
TARIKH: 31 OKTOBER 2018 (RABU)



Manoeuvring a disruptive technology

ROZANA SANI
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BLOCKCHAIN technology is a buzzword, especially in business. What exactly is it and how is it affecting various industries?

Blockchain is a distributed ledger technology that permits transactions to be gathered into blocks and recorded, and allows multiple copies to be distributed via digital networks across the globe.

Its advantages include decentralisation, cryptographic security, transparency and immutability where a complete history of every transaction is preserved, allowing informa-

tion to be verified and value to be exchanged without having to rely on a third-party authority.

Malaysia Digital Economy Corporation talent director, Siti Norliza Sahar said that when deployed in the right context, blockchain has the power to bring unique and possibly disruptive changes to certain business problems.

"A properly designed blockchain has the properties of immutability and traceability, which are particularly useful in applications requiring a high level of trust that the records are correct and all updates have a complete audit trail," she added.

Land and property ownership registries are use case examples. "The technology of-

fers a sufficiently high trust level to replace land and property titles, and maintain a complete record of previous owners."

The prospects are endless. There is the possibility of replacing everything — from clearing and settlement systems, passports and land deeds registries to supply chains that are paper-based — with a new software structure that will reconcile and manage everything without human intervention.

For those in academia and students at higher institutions of education, perhaps the more pertinent questions are the impact of blockchain technology on the workforce, the expertise needed and the professions

in demand.

University of Oxford Saïd Business School are among institutions taking the lead by offering an online programme on blockchain for business leaders and innovators.

The Sloan School of Management at Massachusetts Institute of Technology is also offering blockchain technology programmes, exploring longer term implications for business and its relationship with other emerging technologies, including artificial intelligence and the Internet of Things.

Local tertiary institutions are taking note of the rise of blockchain technology and are responding to its possibilities.

MORE ON PAGES 26&27

LAMPIRAN 16 (SAMBUNGAN)
NEW STRAITS TIMES (HIGHER ED): MUKA SURAT 26
TARIKH: 31 OKTOBER 2018 (RABU)

Blockchain strategies in academia

FROM PAGE 25

AS blockchain technology has the potential to disrupt all industries, the work force will have to adapt to the changing environment where third-party intermediary services may potentially become obsolete.

Lance Cheang, Southeast Asia project director of blockchain platform provider NEM Foundation, said that businesses must realise that blockchain can either reduce their operating costs or provide services to previously unreachable customers.

It also means the masses will have the opportunity to participate in economic activities previously unavailable to them, without going through traditional middlemen.

"The key to this scenario is education. Business owners must understand the concepts of blockchain to be applied in their business, and software developers have to translate those concepts into systems," added Cheang.

He stressed that the academia must focus on blockchain technology as "this will be the way we transact globally in the future".

"Schools and universities must prepare students with the necessary skills and information to conceptualise business use cases and produce technically-inclined graduates to build these systems."

Incorporated in Singapore, NEM Foundation has a presence in Kuala Lumpur through the NEM Blockchain Centre, which serves as its headquarters for regional op-

erations while acting as a learning centre, incubator and accelerator for blockchain-related startups.

NEM is partnering with universities to train and teach lecturers and students blockchain technology to better equip them for future employment.

Tee Wee Jing, senior lecturer at Taylor's University School of Computing and Information Technology (SOCIT), said that based on the varsity's research, blockchain technology will disrupt various industries.

"The impact of blockchain on diverse industries and businesses will be significant, as blockchain is the next evolution of a trust network that provides a distributed, immutable, continuously growing list of transactional records, called blocks, which are linked and secured using cryptography," he added.

"With the emergence of blockchain, our nation needs graduates trained in the technology to meet demand in the industry. Currently, we need expertise in blockchain development and blockchain specialists in various blockchain platforms."

SOCIT is planning to offer blockchain as a specialisation for computer science students.

"We are working with NEM to provide support and training in blockchain for our students."

Dr Fakhru'l Hazman Yusoff, senior lecturer at Universiti Teknologi Mara (UTM) Faculty of Computer and Mathematical



The NEM Blockchain Centre is among the independent facilities that provide blockchain-related training programmes to education and business sectors in the country.

Sciences, observed that there is a need for computer scientists with knowledge of blockchain who are well-versed in the financial and banking sector.

"Knowledge in statistics and actuarial science is also desired as blockchain is the new technology in fintech (financial technology) industry."

"Blockchain requires the use of encryption. Mathematicians have to devise the best encryption for an application," he said.

"Blockchain technology should be included in the syllabus at university. People may closely associate blockchain with crypto-currency but the technology can be utilised in other areas such as the smart contract, a feature in blockchain that enables online agreements to be devised hence reducing dependence on legal firms."

KNOWLEDGE GAP

Malaysia Digital Economy Corporation (MDEC) talent director Siti Norliza Sahar said blockchain does not introduce many new demands on the workforce.

"Essentially it is a new component in a system, similar to cloud, OS (operating system), networking, databases, visualisation and data analytics."

"Solutions architects for IT-based systems essentially have a new tool to use in their designs; programmers now have a new set of toolkits, libraries and APIs (application programming interfaces) to learn in order to interact with a blockchain system."

However, a knowledge gap has to be bridged. Solutions developers need to understand how to apply blockchain technology — in contrast with traditional solutions — to solve existing business problems.

"They need to envision novel use cases for blockchain technology and code programmes, including smart contracts les-



The transparency and immutability of blockchain technology make it useful for voter registration and electronic voting.



This (blockchain) will be the way we transact globally in the future.

LANCE CHEANG
NEM Foundation
Southeast Asia
project director

LAMPIRAN 17

KOSMO (INFINITI): MUKA SURAT 32

TARIKH: 31 OKTOBER 2018 (RABU)



TAUFAN yang melanda Amerika Syarikat memaksa penduduk berpindah ke perairan Pasifik Mexico.



KEROSAKAN jalan raya akibat pusuan ribut.

Pusuan ribut ancam perairan Amerika Syarikat

TAUFAN yang melanda perairan Amerika Syarikat pada musim panas lalu dilihat semakin mengancam apabila kelajuan angin yang ditunjukkan melonjak naik dalam masa selang beberapa hari.

In direkodkan menerusi pusuan ribut taufan Michael awal bulan lalu, Florence pada September dan bencana taufan Harvey, selain Irma, Jose serta Maria.

Taufan Michael berubah dari Kategori 1 kepada Kategori 5 dalam masa kira-kira dua hari sahaja.

Begitu juga yang ditunjukkan taufan Florence apabila kategori bencana

yang dicatatkan berubah daripada Kategori 2 kepada Kategori 4 dengan cepat.

Sama seperti taufan Michael dan Florence di Lautan Atlantik, taufan Wilma mengancam sehingga ke bencana Kategori 5 dalam masa dua hari sahaja baru-baru ini dengan kelajuan angin yang dicatatkan daripada 40 meter sejam sehingga 160 meter sejam.

Kerosakan yang ditunjukkan itu menurun ke Kategori 3 tidak lama kemudian dengan mengakibatkan tanah runtuh dan kerosakan yang menyeluruh.

Ini juga menyebabkan terputusnya bekalan kuasa sambil memaksa

penduduk berpindah ke perairan Pasifik Mexico.

Perubahan mendadak itu membuntakan pemilik rumah di kawasan berhampiran perairan tidak memiliki masa mencukupi untuk melakukan persiapan.

Menurut ahli oseanografi National Oceanic and Atmospheric Administration (NOAA), perubahan kelajuan angin yang mendadak itu sukar untuk diramal.

Pemanasan

Katanya, pemanasan suhu laut sebenarnya mengakibatkan intensifikasi deras iaitu terma digunakan bagi melihat purata kelajuan angin daripada sekurang-kurangnya 29 meter sejam dalam masa 24 jam.

"Setelah mengamati analisis data satelit berkenaan tahun sejak lebih

30 tahun, memang terdapat trend peningkatan signifikan dalam magnitud intensifikasi deras taufan.

"Bagaimanapun, pusuan ribut jarang berlaku dalam sesetengah taufan tetapi apabila intensifikasi deras itu berlaku, bencana yang ditunjukkan cukup dahsyat.

"Punca utama berlakunya intensifikasi deras itu disebabkan perubahan cuaca selain bencana alam lain yang menyebabkannya semakin serius," jelasnya.

Tambah Foltz, sekiranya teori itu berlarutan sehingga 50 tahun lagi, paras air laut di Atlantika Utara akan semakin tinggi dan mengalir ke bahagian selatan.

Sekiranya suhu air itu meningkat, ia akan naik ke permukaan dan kembali ke utara.

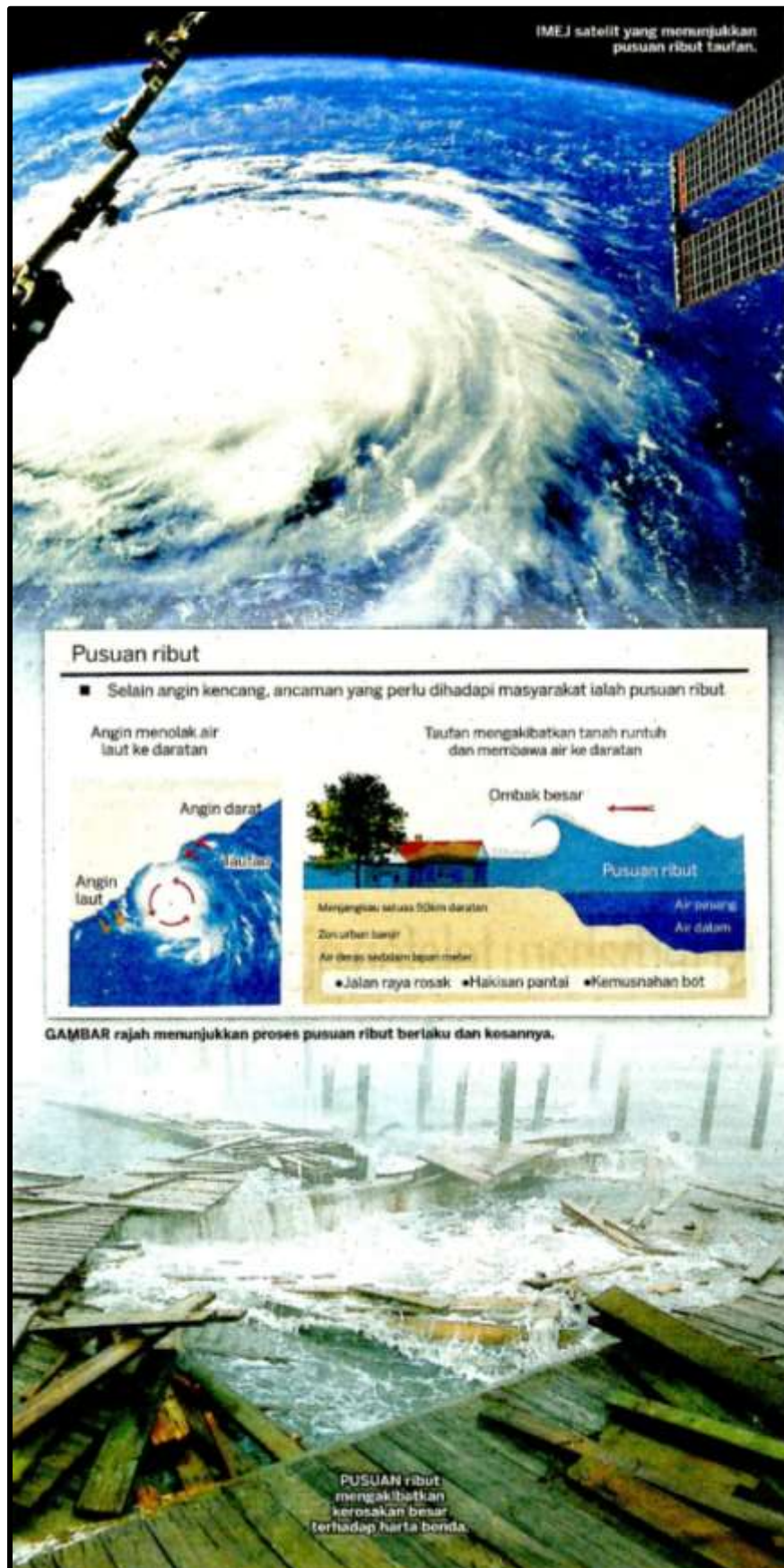
Penyelidik berpendapat, perubahan cuaca yang didorong oleh suhu air laut akan terus berlarutan, sekali gus menyebabkan bencana taufan semakin dahsyat saban hari.

Ia berkemungkinan menyebabkan intensifikasi deras itu trend kekal dalam fenomena alam semula jadi.



BENCANA taufan yang melanda Amerika Syarikat semakin dahsyat.

LAMPIRAN 17 (SAMBUNGAN)
KOSMO (INFINITI): MUKA SURAT 33
TARIKH: 31 OKTOBER 2018 (RABU)



LAMPIRAN 18
NEW STRAITS TIMES (WORLD): MUKA SURAT 88
TARIKH: 31 OKTOBER 2018 (RABU)

TYPHOON

YUTU HITS PHILIPPINES

Thousands evacuate as it makes landfall with sustained winds of 150kph

MANILA

TYPHOON Yutu slammed into the Philippines yesterday with fierce winds that sheared off roofs and snapped trees in half, after thousands were evacuated ahead of the powerful storm's arrival.

Cutting a path just south of last month's Typhoon Mangkhut, which killed more than 100 people, Yutu tore across the Philippines' most populous island and dumped heavy rains along the way.

Search crews were just beginning to assess damage wrought by Yutu, which made landfall with sustained winds of 150kph and gusts up to 210kph.

Authorities said they were probing reports of one person missing after a boat capsized as the storm was barreling towards



A scavenger collecting recyclables along the breakwater amid strong waves at Manila Bay yesterday. AFP PIC

the disaster-prone nation.

"We see some branches on the roads and so on, but it is the flooding that is destroying houses," International Federation of the Red Cross spokesman Caroline Haga said from Nueva Vizcaya province. "People are needing to be rescued."

Nearly 10,000 people fled their

homes ahead of Yutu's arrival because they live in low-lying areas susceptible to flooding and rivers tend to overflow their banks.

The high winds flattened flimsy homes, tore roofs off others and downed power poles and trees.

Disaster officials said the storm was less powerful than Mangkhut, which struck six weeks ago. **AFP**