

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

Bil	Berita	Media	Capaian Berita Penuh
10 NOV 2019 (AHAD)			
1.	<u>Keputusan JAS minggu depan</u>	Harian Metro	Rujuk Lampiran 1
2.	<u>Worried over chemical find</u>	Sunday Star	Rujuk Lampiran 2
09 NOV 2019 (SABTU)			
Tiada berita berkaitan.			



TEMPATAN

Bil	Berita	Media	Capaian Berita Penuh
10 NOV 2019 (AHAD)			
Tiada berita berkaitan.			
09 NOV 2019 (SABTU)			
3.	<u>MARA Corporation, Lynas tarik FDI ke Malaysia</u>	Berita Harian	Rujuk Lampiran 3
4.	<u>MESI boleh kurangkan tariff elektrik pengguna</u>	Berita Harian	Rujuk Lampiran 4
5.	<u>Rewiring TNB</u>	The Star	Rujuk Lampiran 5



ANTARABANGSA

Bil	Berita	Media	Capaian Berita Penuh
10 NOV 2019 (AHAD)			
6.	<u>The case for calling climate change an 'emergency'</u>	The Star	Rujuk Lampiran 6
7.	<u>100,000 flee as Cyclone Bulbul nears Bangladesh</u>	The Star	Rujuk Lampiran 7
09 NOV 2019 (SABTU)			
Tiada berita berkaitan.			

LAMPIRAN 1
HARIAN METRO (METRO AHAD): MUKA SURAT 18
TARIKH: 10 NOVEMBER 2019 (AHAD)

Keputusan JAS minggu depan

Subang Jaya: Keputusan analisis sampel bahan kimia pada 300 tong yang ditemui di kawasan sungai di Kampung Kandan Dalam, Puchong di sini, akan diperoleh minggu depan.

Pengerusi Jawatankuasa Tetap Kerajaan Tempatan, Pengangkutan Awam dan Pembangunan Kampung Baru negeri Ng Sze Han berkata, keputusan akan dikeluarkan Jabatan Alam Sekitar (JAS) yang sudah mengambil sampel bahan berkenaan.

“Sepuluh daripada 300 tong mengandungi bahan

kimia *Glycerin Bottom* didapati kosong dan sudah dialihkan supaya tidak terus tumpah ke Sungai Klang.

“*Glycerin Bottom* sejenis bahan kimia tidak reaktif, bermaksud apabila dicampurkan dengan air, tiada apa-apa reaksi, tetapi ada kemungkinan juga ia akan mencemarkan sungai. Itu perkara yang kami tidak mahu ia berlaku,” katanya selepas mengadakan lawatan hampir sejam ke tapak pencemaran bagi meninjau perkembangan terbaharu pencemaran semalam.

LAMPIRAN 2
SUNDAY STAR: MUKA SURAT 03
TARIKH: 10 NOVEMBER 2019 (AHAD)

Worried over chemical find

Puchong villagers report drums abandoned at river bank

By SQISTYNA IZZAATIE ZAMARI
metro@thestar.com.my

SUBANG JAYA: Residents in Kandan Dalam village, Puchong, have expressed worries after drums of chemicals were found dumped on a river bank near Sungai Klang here.

State local government, public transport and new village development committee chairman Ng Sze Han said he had received phone calls from residents nearby regarding the worrying situation.

"The residents are seeking an immediate solution from the authorities to avoid any pollution or destruction," he said after visiting the area.

A total of 290 drums containing chemicals were found to have been placed at the location, with 10 of them empty. There are worries that the contents might have been thrown into the river.

There are no labels on the drums but a sticker at the bottom pointed to a chemical company.

It was reported that Selangor Department of Environment (DOE) received a complaint from the public on Nov 5 about chemical dumping in the area.

The state DOE team found 300 black, blue and green coloured drums on a palette beside the river.

State DOE had also contacted the Petaling district engineer from Selangor Drainage and Irrigation Department (DID) to inform about the issue.

DID will be in charge of disposing the drums, depending on the result of the sample analysis from the Chemistry Department.

Sample analysis showed that the chemicals found in the drums were



Foul find: Ng visiting the banks of Sungai Klang near Kandan Dalam village where the drums with glycerin bottom (below), a substance used in the food industry generated by oleochemical factories, were dumped. — NORAFIFI EHSAN/The Star.

brownish coloured semi-solid or slurry waste, glycerin bottom, a substance used in the food industry generated by oleochemical factories.

At the site, Selangor Disaster Management chief Ahmad Fairuz Mohd Yusof said that the chemicals were not hazardous and classified as non-reactive and hygroscopic.

"We are currently waiting for the chemical analysis from the Chemistry Department and expect to get the results next week.

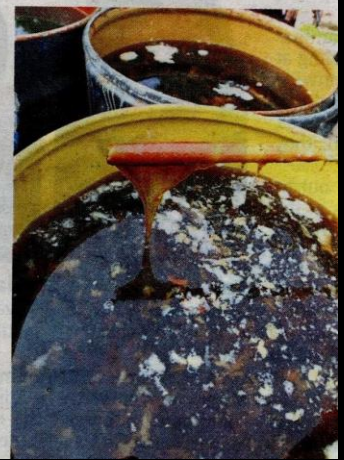
"If the analysis shows that the chemicals are categorised as scheduled waste, they will be disposed by Kualiti Alam Sdn Bhd at designated premises licensed by the state DOE at a cost of RM350,000.

"Otherwise, the chemicals can be disposed at any landfill area or sanitary disposal area approved by the local authority with a lower cost," he said.

DID has moved the chemical drums to a more stable area at the location to avoid any more chemical spills into the river and has also restricted the area.

Future enforcement action and investigation for this case will be implemented by the state DOE and the Selangor Water Management Authority.

The state DOE has carried out investigations into several oleochemical and biodiesel factories in Selangor in order to identify the irresponsible quarters that dumped the chemical drums.





LAMPIRAN 3
BERITA HARIAN: MUKA SURAT 09
TARIKH: 09 NOVEMBER 2019 (SABTU)

MARA Corporation, Lynas tarik FDI ke Malaysia



Pengarah Urusan Lynas, Datuk Mashal Ahmad (tengah) bertukar MoU dengan Akhramsyah sambil disaksikan Ketua Pegawai Eksekutif Lynas, Amanda Lacaze selepas memeterai perjanjian strategik antara MARA Corporation dan Lynas di Kuala Lumpur, Selasa lalu. (Foto Azliah Azmee /BH)

Kuala Lumpur: Pemeteraian perjanjian persefahaman (MoU) antara MARA Corporation Sdn Bhd (MARA Corporation) dan Lynas Malaysia Sdn Bhd (Lynas) perlu dilihat dengan paradigma baharu, yang memangkinkan kerjasama strategik bagi projek bernilai tinggi, sekali gus menarik pelaburan langsung asing (FDI) ke negara ini.

Presiden Pertubuhan Pedagang dan Peniaga Kebangsaan Malaysia (PERDANA), Datuk Seri Erwan Tahir, berkata Lynas adalah pengeluar bahan nadir bumi terbesar di luar China, yang turut memberi kelebihan peluang kepada Malaysia membangunkan sektor industri hiliran itu.

"Ia adalah satu lagi inisiatif yang semestinya diputuskan secara kolektif oleh barisan Lembaga Pengarah dan pengurusan (MARA Corporation), dengan mengambil kira keuntungan bakal dinikmati kedua-dua pihak serta turut mengambil kira kepentingan negara.

"PERDANA selaku badan bujukan kerajaan (NGO) bagi dewan perniagaan mahu memastikan unjuran anjakan ekonomi negara mencapai sasaran.

"Justeru, apa juga inisiatif yang boleh membantu mencapai indeks pertumbuhan perlu diberi perhatian tanpa ada anasir lain yang membantukannya," katanya dalam satu kenyataan, di sini, semalam.

Selasa lalu, MARA Corporation dan Lynas memeterai perjanjian strategik untuk melaksanakan beberapa projek bernilai tinggi bagi menarik FDI ke Malaysia.

Pengerusi MARA Corporation, Akhramsyah Muammar Ubaidah Sanusi, berkata usaha berkenaan antara lain menjadi pemangkin bagi memastikan kehadiran peserta industri dan pelanggan sektor hiliran di negara ini.

Bagaimanapun, MARA melalui satu kenyataan kemudian menegaskan MoU berkenaan dibuat tanpa kelulusan Majlis MARA dan tindakan MARA Corporation

itu tidak selaras dengan ketetapan MARA iaitu sebarang inisiatif baharu perlu mendapat pertimbangan Majlis terbabit.

Akhramsyah seterusnya menafikan dakwaan itu dan memaklumkan pihaknya sudah mendapat persetujuan semua pihak berkepentingan dan mengikut amalan tadbir urus baik, sebelum mengambil keputusan menandatangani MoU berkenaan.

Erwan berkata, PERDANA turut optimis dengan elemen dirangka dalam MoU berkenaan dan Lembaga Pengarah MARA Corporation turut memastikan inisiatif pendidikan dan latihan turut diterapkan, selain mewujudkan ribuan pekerjaan baharu.

"Keperluan Malaysia kepada teknologi akan dapat dimanfaatkan dengan jangkakan sehingga 67 peratus penyertaan rakyat Malaysia melalui siswazah teknikal sedia ada, yang akan membawa kepada penurunan peratusan pengangguran yang tinggi dalam negara," katanya.

LAMPIRAN 4
 BERITA HARIAN: MUKA SURAT 02
 TARIKH: 09 NOVEMBER 2019 (SABTU)

MESI boleh kurangkan tarif elektrik pengguna

Cadangan kerajaan beri insentif mampu tingkat kecekapan kos operasi

Oleh Kamarulzaidi Kamis dan Che Wan Badrul Alias
 bhbiz@bh.com.my

Kuala Lumpur: Perubahan ekosistem industri pembekalan elektrik di bawah Dasar Industri Bekalan Elektrik Malaysia (MESI) 2.0 (2019-2025) berpotensi mengurangkan tarif elektrik pengguna. Bagaimanapun, ia bergantung

kepada turun naik harga bahan api di pasaran global.

Presiden dan Ketua Pegawai Eksekutif Tenaga Nasional Bhd (TNB), Datuk Seri Amir Hamzah Azizan, berkata kos bahan api kini menjadi komponen terbesar keseluruhan kos operasi penjana tenaga TNB, iaitu 70 peratus.

Katanya, cadangan kerajaan untuk memberi insentif kepada pengeluar tenaga supaya mencari jalan mendapatkan bahan api pada kos paling rendah mampu meningkatkan kecekapan kos operasi secara optimum.

"Dalam tarif elektrik, elemen paling asas adalah bahan api, namun harganya bukan dalam kawalan kita kerana apabila harganya naik maka tarif akan naik kerana surcaj dikenakan dan begitu sebaliknya apabila harga bahan api turun.

"Maka insentif itu adalah peluang untuk mengurangkan kos penjana tenaga supaya kami menguruskan penambahbaikan, mencuba inovasi dan mencapai kecekapan bagi mendapatkan bahan api.

"Ya, tarif mungkin lebih rendah (di bawah MESI 2.0) berbanding tidak melaksanakan MESI 2.0 kerana insentif ini dapat membantu kami mengoptimalkan usaha mengurangkan kos penjana tenaga supaya kadar terbaik dapat disalurkan kepada pengguna," katanya dalam temubual eksklusif di sini, baru-baru ini.

Amir Hamzah berkata, TNB menjangkakan rizab margin industri elektrik negara akan melonjak seketika susulan pengoperasian janakuasa Jimah, SPG dan EDRA sebelum kembali ke paras lebih seimbang dalam tempoh dua hingga tiga tahun.

Katanya, penurunan ke paras lebih seimbang itu disebabkan peralihan daripada perjanjian pembelian kuasa (PPA) pengeluar tenaga bebas (IPP) di bawah MESI 2.0.

"MESI 2.0 akan meningkatkan penggunaan RE (tenaga boleh diperbaharui) di negara ini, maka pada masa depan janakuasa lama akan diganti oleh tenaga yang dijana daripada RE secara beransur-ansur.

"Saya juga meletakkan harapan tinggi kepada inisiatif Grid Tenaga ASEAN antara Laos, Thailand, Malaysia dan Singapura (LTMS) dan kelak dengan penyertaan Indonesia. Inisiatif ini dapat menurunkan rizab tenaga dalam negara pada masa yang sama menjamin kestabilan bekalan tenaga di rantau ini.

"Kita boleh bergantung kepada negara lain atau meminjam tenaga daripada grid dan bagi negara yang boleh menghasilkan elektrik pada kos lebih murah boleh berkongsi manfaat tenaga kos lebih rendah dalam liputan lebih meluas kepada negara jiran," katanya.



Cadangan kerajaan untuk memberi insentif kepada pengeluar tenaga supaya mencari jalan mendapatkan bahan api pada kos paling rendah mampu meningkatkan kecekapan kos operasi secara optimum. Dalam tarif elektrik, elemen paling asas adalah bahan api, namun harganya bukan dalam kawalan kita kerana apabila harganya naik maka tarif akan naik kerana surcaj dikenakan dan begitu sebaliknya apabila harga bahan api turun.

Amir Hamzah Azizan, Presiden dan Ketua Pegawai Eksekutif TNB

Ibadat & Fadilat

Daripada Abdullah Amru al-'As, berkata Rasulullah SAW bersabda: "Antara dosa besar adalah menyekutukan Allah, menderhakai ibu bapa, membunuh orang dan bersumpah bohong." (HR bukhari)

KAWASAN	SUBUH	ZUHUR	ASAR	MAGHRIB	ISYAK
Kangar	5:48	1:05	4:25	7:00	8:11
Alor Setar	5:47	1:05	4:25	6:59	8:11
P. Pinang	5:46	1:05	4:25	6:59	8:12
Ipoh	5:43	1:02	4:23	6:59	8:11
Kuala Lumpur	5:40	1:00	4:21	6:58	8:10
Shah Alam	5:40	1:00	4:21	6:58	8:10
Johor Bahru	5:29	12:51	4:12	6:51	8:03
Kuantan	5:33	12:54	4:15	6:53	8:05
Seremban	5:37	12:58	4:19	6:57	8:09
Bandar Melaka	5:36	12:57	4:18	6:57	8:09
Kota Bharu	5:44	12:57	4:18	6:53	8:00
K. Terengganu	5:35	12:53	4:14	6:50	8:01
Kota Kinabalu	4:44	12:02	3:22	5:57	7:09
Kuching	5:04	12:26	3:47	6:26	7:38

Lagi berita di muka 19, 20

LAMPIRAN 5
THE STAR (STARBIZWEEK): MUKA SURAT 01,12,13
TARIKH: 09 NOVEMBER 2019 (SABTU)



By GURMEET KAUR and P. ARUNA
starbiz@thestar.com.my

Rewiring Tenaga Nasional

CEO shares strategies on changing power landscape

ON the cusp of the biggest transformation in its 70-year history, Tenaga Nasional Bhd (TNB) is powering ahead towards inevitable changes on the horizon.

The utility giant, which has enjoyed an almost absolute monopoly in many areas in the country since its earliest days, must now figure out where it fits in the government's vision of a new, liberalised power sector.

Its president and CEO, Datuk Seri Amir Hamzah Azizan, who took the helm of the company in April this year, says TNB has been through several transformations before and will manage the impending changes – just as it has done successfully in the past.

"The key message is that we have seen changes before, and we have managed them.

"The next evolution is not something that is unique only to Malaysia – it is happening in many countries throughout the world today, whereby the market is being deregulated, and where efficiency is the focus," the 52-year-old says in an interview.

From the setting up of the Central Electricity Board in 1949 to the privatisation of the organisation, then known as the National Electricity Board of the States of Malaya (NEB) in the 1980s, and the subsequent establishment of TNB as its successor, the journey of power generation in Malaysia has indeed seen many changes along the way.

TNB, which has become synonymous with the power industry in Malaysia, is today among the largest electricity companies in Asia, serving some 9.65 million in Peninsular Malaysia, Sabah and Labuan.

Given its undisputed position all these years, the government's recent announcement of plans to liberalise the sector understandably created some panic among its investors, who feared that the company, which is 27.3% owned by Khazanah Nasional Bhd, would end up a casualty of the transformation.

The company's share price suffered as a result, slipping to a one-year low of RM11.11 in May, but later recovering as more clarity emerged on the government's plans and as TNB revealed its own strategies to cope with the changes.

Prior to this, one major change in the sector was the privatisation of power generation, which saw the entry of the independent power producers (IPPs) into the market following the landmark 1992 power blackout.

TNB, ahead of the government's recent announcement of its 10-year master plan for the industry, had



announced a corporate restructuring exercise in July.

Financial discipline for the generation and retail segments

The company said it would set up independent generation (GenCo) and retail business (RetailCo) entities for a more focused approach on the two core businesses.

Last week, the group entered into agreements to transfer its domestic power generation and electricity retail business to GenCo and RetailCo, respectively, a first step among others to ensure it can run these new entities in good order come July 1 next year.

The industry reforms, under the Malaysia Electricity Supply Industry 2.0 (MESI 2.0) framework recently approved by the Cabinet, aims to accomplish three agendas – increasing industry efficiency; future-proofing the industry structure, regulations and key processes as well as empowering consumers; and democratising and decentralising the electricity supply industry.

The 10-year master plan seeks to ultimately liberalise the sector across the value chain, lower electricity costs and encourage the supply of green energy.

Among the reform initiatives

include allowing IPPs to source their own fuel; moving towards capacity and the energy market from the current power purchase agreement (PPA) regime; enabling third-party access for transmission and distribution; liberalising the retail segment; and increasing transparency between Single Buyer and Grid System Operator.

As these reforms take place, Amir says TNB will still account for about 50% of the country's total generation capacity.

Even so, this space is seen as matured, given that yields for the second-generation PPAs are not as generous as what IPPs had enjoyed in the first round of contracts.

Future PPAs will also have a shorter tenure instead of 21 years and going forward, a more competitive merchant market would gradually be introduced, similar to Singapore, where the government had progressively opened up the electricity market to promote more competitive pricing as well as provide consumers with more options.

The two set-ups – GenCo and RetailCo – which will have their separate boards and management teams, will force discipline, greater accountability and bring about an innovative culture, says Amir.

"What is most important for us is that the mindset has to change, and

we have to be very transparent because the segment numbers will appear in the annual account reports," he says.

Currently, TNB's accounts do not show how much is made in these segments, as the figures are integrated.

"When you are transparent, it holds people accountable to their performance. That discipline is very important," he asserts.

Amir adds that the government, via MESI 2.0, has also confirmed that TNB's grid and distribution network remains a national monopoly.

"It is not a good idea to break this up into little bits because then, you would have issues like overlapping capital expenditure, which can be inefficient.

"There are also operational issues to deal with on how to maintain the grid and this creates risks such as blackouts," he says.

Reforms to the retail side of the business, he says, will be more exciting as TNB will be forced to reinvent itself, be more innovative and compete for customers who will be able to choose which provider to buy their power from – a break from the current model.

"Malaysia is not a pioneer in retail liberalisation.

"There are many other markets that have done this and we have observed what needs to be done," he says.

But while consumers stand to get more attractive or bundled offerings, Amir says it may not necessarily translate to lower tariffs because about 70% of the electricity tariff is still made up of fuel costs.

"We don't know that, but are doing the best to remove inefficiencies in the system so that the best rate can be given to the consumer," he says.

TNB is also embracing digitalisation in the way it operates, to keep up with the changing times, and future-proof the business.

One way it is doing this is through the rollout of smart meters at its customers' homes, which it kicked off in Malacca back in 2016.

The company plans to set up 9.1 million smart meters at households nationwide by 2026, and is currently installing the smart device at homes across the Klang Valley.

The smart meters, which provide a more accurate reading, also allows consumers to monitor their electricity consumption via their smartphones and help them reduce usage.

Re-tweaking the transformation plan

The group is also adjusting TNB's transformation plan, Reimagining TNB 2025, to make it more "realistic", with new and more achievable goals.

"I am trying to put a rigour in terms of providing some clarity about what the game plan is, and then add in detailed plans and targets so we can actually deliver what we promise," he says.

An issue with the original transformation plan, he says, was that the measure of success had been predominantly financial.

The element of operational excellence was missing.

"We want to be able to compare with the top-10 utility companies in the world, and improve ourselves wherever we are lacking," he says.

Amir adds that some of the financial targets stated in the plan are unrealistic, and need to be reallocated.

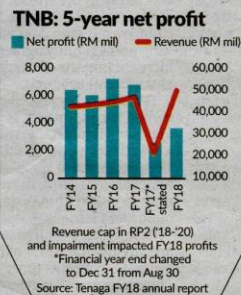
"By setting achievable targets, you can excite and motivate your people to deliver," he adds on the group's plan to become a top-10 global utility player by market capitalisation by 2025.

Next level for TNB

As part of its future generation sources strategy, TNB is shifting its focus towards renewable energy (RE), both locally and abroad.

It had a total installed RE capacity of 332MW as at the financial year ended Dec 31, 2018 (FY18), boosted by its acquisitions in the UK and the commissioning of a 50MW large-scale solar in Sepang.

"In the international space, we have decided sometime back to



	2020				2021				2022
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	
Opening up of fuel sourcing	MyPower engage with IPPs to come up with the rules and incentive mechanisms		Energy Commission (EC) approval	Pilot period	Full roll-out				
Establish hybrid generation market by introducing capacity and energy markets	MyPower to come up with energy and capacity markets' design and rules				EC approval				
Enable third party access for transmission and distribution	EC and Tenaga to determine interim network changes, develop rules/guidelines for third party access (TPA)		EC to approve and submit Regulatory Period 3.						
Facilitate choice in retail	MyPower to detail and complete a retail regulatory framework		EC approval		Pilot period				
Increase transparency of Single Buyer and Grid System Operator	MyPower will present a report on enhanced governance				Enhanced ringfence governance		TPA framework		

Source: CGSCLIMB Research

©The Star Graphics

The nature of the power business

grow our business, especially in the RE space. However, our first round of forays had challenges.

"In the last six months, we have been refining our portfolio, and have seen encouraging returns from our investments in RE in the UK."

Amir says the group, which targets to grow its renewable capacity to 1,700MW by 2025, will continue to seek opportunities in this space overseas, but these investments "must meet our financial threshold and strategic focus."

On which markets it has set its sights on, Amir says there are still opportunities in Europe that the group can explore, while he also sees opportunities coming up in Asia, where South-East Asia is seen to be the largest growth market after China and India with an estimated investment of US\$500bil or 4.3% globally, according to Kenanga Research in a recent report.

For now, the contribution from the international business is small, but Amir reckons that in five years, it will be material to the group's portfolio.

In FY18, TNB made an impairment of around RM1.07bil for its investment related to two of its international associates, namely, Turkey's GAMA Enerji Anonim Sirketi and India's GMR Energy Ltd. This dragged down FY18's net profit to RM3.7bil or a decline of 46% from a year ago. Minus lower regulatory returns and losses from its foreign associates, core profit came in at RM5.4bil.

For context, TNB had been maintaining an average net profitability of about RM6.7bil from 2014 to 2017.

For FY19, Amir says the group is on a more stable platform with "yields coming in the way it should be and we should be able to deliver our normal average for the year".

TNB shares have rebounded since May, closing at RM13.92, which is about what it was trading at in the beginning of the year.

At this level, its market capitalisation stands at RM78.93bil (US\$19.08bil), making it now the second-most valuable stock on Bursa Malaysia after Malayan Banking Bhd. The top power companies around the world, meanwhile, have market caps ranging from US\$39.26bil to US\$111.19bil.

WHEN he took on the job of steering TNB into its next phase, Datuk Seri Amir Hamzah Azizan (*pic below*) already knew it would be an uphill task.

While he knew he would have to deal with the challenges arising from reforms in the power industry, Amir was almost immediately faced with an unexpected obstacle - a surge in complaints about "overcharged bills".

The issue was amplified and made worse by viral posts shared across social media, and the utility firm had to deal with angry customers demanding explanations and refunds.

Amir, who is the son of the late former Petronas president Tun Azizan Zainul Abidin, says many lessons were learnt from the incident, which occurred hardly a month after he entered the company.

For one, he says, it needed to improve the way it communicated with its customers and stakeholders to prepare them for such changes. One of the reasons that many customers thought they had been overcharged, he says, was due to the accuracy of the new smart meters installed at their homes. Another factor, he says, was the scorching weather at the time of the installation of the

smart meters, which resulted in higher consumption of electricity. There was also a system glitch at TNB, which resulted in the company not being able to bill some of its customers for five days.

Once the glitch was sorted out, customers had to pay for the additional five days the following month, and this naturally pushed the bill up, says Amir, who is a Liverpool football fan and father of three girls. TNB, he says, dealt with the issue in an orderly and professional manner.

Today, seven months since he took on the job, Amir says he has truly enjoyed the journey.

The organisation, he says, needs someone to rally its people together and outline a clear direction for the company. This is what he hopes to accomplish during his time at TNB.

Excerpts of the interview:

How is the group positioning itself under the changing landscape of the power sector brought about by the Malaysia Electricity Supply Industry 2.0 (MESI 2.0)?

This year is important for TNB, as we are celebrating our 70th year. We are a strong component of nation-building, working hand-in-hand with the government towards the country's growth since before Malaysia gained independence.

Over the years, we have seen and gone through many transformations and have shown that we are able to adapt to any framework of changes.

Today, we are at the cusp of another evolution in the industry space with MESI 2.0. This evolution is not something unique to Malaysia but is happening in many other countries around the world where markets are being deregulated where efficiency is the focus.

TNB has been actually working behind the scenes with the government and related entities to ensure there is balance in the sector.

The good news is that the reforms under MESI 2.0 will be done in a

gradual and orderly manner - no sudden changes that will shock the system.

Generation space

If you look at generation, this segment has been open for a long time already following the entry of independent power producers (IPPs) in the 1990s. In this space, we will still account for 50%-52% of the total generation capacity in the country. In the first round of the IPPs, the deals were generous. Over time, it got a lot tougher, as the IPPs had to compete for contracts and the yields became normal. So effectively, this space is already matured. The government has said that it will honour the existing power purchase agreements (PPAs), which means there is no early termination of contracts. That is an important statement as it gives stability to the markets.

Going forward, there will be a measured opening of the market with the introduction of the merchant element of the trading of electricity. What we are anticipating initially from this change is players competing for available capacity. To compete in this space, we are setting up a new independent subsidiary - GenCo - which is slated to be running by July next year. It will encompass all of the generation business that TNB has. By having it as a standalone entity, it creates discipline and accountability because how much we make in the generation space will show in the annual accounts. When the merchant market kicks in, it will no longer be about fighting to get a PPA, but rather the ability to effectively compete on the ground.

Retail space

Another important element of MESI 2.0 is the liberalisation of the retail space. There was a lot of talk and worry on this from the TNB point of view because the company has been the sole service provider of electricity. However, we are not worried because we are involved in the whole value chain of the electricity sector. Financially, it will not have a material impact on TNB, considering that the retail space is a one-sen margin business. Having said that, it is an important one-sen margin business because this is the point of contact for the 9.1 million households we have in Malaysia. What we have seen in other markets is that competition fosters innovation. When you are the only supplier, it is about achieving excellence. But when there is competition, it becomes about how creative you are to capture and retain the customer, and service them in a better way. So, what we can anticipate is new products and offerings coming onto the market. If you look at more developed countries, where energy costs a lot more, the needs of the end-consumer have changed and retailers have gone on to develop products to help them manage their (power) consumption pattern.

Bringing technology here

In Malaysia, the government is also pushing through new capabilities to give consumers the ability to control and manage their electricity costs. For example, the smart meters that we are rolling out fundamentally allow consumers to see the consumption pattern as opposed to the lump sum of how

many kilowatts of electricity were consumed at the end of the month.

We have rolled out 270,000 smart meters in Melaka with another 70,000 left to be rolled out in that state. Next, we will begin to roll out the smart meters in the Klang Valley for residential and business premises. We are doing it in phases, with the second phase expected to see about 1.2 million smart meters installed. For TNB, the role is two-fold. One is service to the customer and the other is to build the infrastructure that allows this change to come into play.

Are you expecting stiff competition in the retail space?

The tariff system in Malaysia is regulated, and we anticipate that this system will survive in the early days of this evolution. So, the competition will be more on service offerings, new products and better service support to customers, as opposed to pricing. The margin for the retail business is only one sen, so if that one sen becomes half a sen yield, the customer is not going to enjoy a big rebate.

However, under the tariff system, there are many other costs that can be adjusted.

Yes, there will be competition with new players, but TNB already has engagement with the customers and we have built some amount of credibility in offering services. If we need to be more fleet-footed, then we will. The team has to be very innovative and improve customer service to retain what we have.

But if we end up ceding it, and the market is more creative than us, then the financial impact to us would still be small because it is a one-sen margin business for the retail side. Ultimately, the end-consumer has options and this is a very good thing. This is why TNB is supportive of the changes.

Changes in the retail business will be more pronounced from a TNB point of view. For the GenCo business, it will be almost business as usual with routine things of generating electricity, but in the retail space, we have to reinvent ourselves to serve the customer and acquire the customer. This is where the evolution will be quite exciting.

Managing costs

Under MESI 2.0, there is also a portion about fuel efficiency, which gives generators an opportunity to try and optimise costs. How do you include incentive programmes in the current pricing framework to allow IPPs to take control of procurement?

The government is trying to introduce this so we can manage costs inside the system.

About four weeks ago, TNB did the first delivery of gas under the third party access (TPA). We entered into a deal with Shell, and brought liquefied natural gas (LNG) cargo to the regasification terminal in Malacca, the Peninsular Gas Utilisation pipeline, owned and operated by Petronas and fed two power plants. The net cost was cheaper than the in-company sourcing price. This allowed us to share the benefits back with the government, and of course, the government gave us a small incentive. We have learnt that from a system point of view, we are able to handle it. From a legal point of view, the framework is already there.

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LAMPIRAN 6
THE STAR (FOCUS): MUKA SURAT 20
TARIKH: 10 NOVEMBER 2019 (AHAD)

The case for calling climate change an 'emergency'

By AUDREY TAN

THE planet is facing a climate emergency – and it is no longer just the activists saying that.

Now, 11,258 scientists in 153 countries have put their names behind a declaration to that effect as well.

Far from being alarmist, observers say this declaration is further proof that the planet is in trouble.

As Stephen Donofrio, senior adviser for Washington, DC-based non-profit Forest Trends and founder of sustainability consultant GreenPoint Innovations, put it: "If 11,000 doctors say you have a broken leg, you probably have a broken leg ... The scientists are right, the time for action and adaptation is now."

In the piece published on Tuesday in scientific journal *Bioscience*, the scientists – led by ecologist William Ripple of Oregon State University – said they had a "moral obligation to clearly warn humanity of any catastrophic threat and to 'tell it like it is'".

Clearly and unequivocally, they

wrote, Earth is facing a climate emergency.

They offered six broad policy goals that must be met to address this – from using cleaner sources of energy to eating more plant-based foods and stabilising population growth.

Their study, which cited prior scientific studies on climate change, comes amid heightened awareness of climate change globally.

Activists and young people are more vocal – sometimes even violent – about their demands for governments to implement policies to cut emissions of planet-warming gases into the atmosphere.

The Intergovernmental Panel on Climate Change (IPCC) also published two scientific reports in August and September on how unabated warming could affect the land, the oceans and the frozen parts of the planet – ecosystems that provide billions of people with food, water and fresh air, and drive many economies.

The science underpinning the IPCC reports and the latest study is,

as the authors say, clear and unequivocal: Human activity is driving climate change. And drastic and urgent changes in human economies and societies are essential to save all of us.

But the latest study did not couch its conclusions in the wishy-washy language of uncertainties rife in IPCC reports.

It also prescribes policies, something the IPCC reports never do.

So why the difference in the way this urgency is communicated by scientists?

It boils down to the processes behind the publication of such reports.

In scientific journals, articles are peer-reviewed by other scientists before they are published.

IPCC reports, on the other hand, go through an additional "layer" of review – by member governments.

To date, the IPCC has 195 members, including Singapore, the United States, China and Brazil.

Professor Jim Skea, co-chair of one of the IPCC working groups, told *The Straits Times* in an earlier interview: "The 'I' in the IPCC

stands for intergovernmental and that tells something about the influence."

When science and politics collide, things tend to get lost in translation.

Since the latest study was published, commentators have noted the difference.

"The term 'climate emergency' has been championed by climate activists and pro-climate action politicians seeking to add a sense of urgency to the way we respond to what is a long-term problem," said a *Washington Post* report.

It noted that scientists have been reluctant to use such language to date.

"However, this study may change that," it added.

The latest study may be a game-changer in other ways, such as the way climate science is communicated.

In labelling climate change an emergency, the paper pointed to a set of other indicators to show how humans were changing the climate.

Other than greenhouse gas emis-

sions, it pointed to economic trends, population growth rates, per capita meat production and global tree cover loss, as well as global temperature trends and ocean heat content.

Compared with the technical terms in IPCC reports – such as "general circulation models", "coupled model intercomparison project" and "representative concentration pathway" scenarios – these indicators are much more easily understood by people, especially considering how extreme weather events have played out in almost every continent over the past year.

There have been fires in the Amazon, Indonesia and California, heat waves in Europe, drought in India and tropical cyclones in Japan and the Bahamas.

Scientists have said that as the world warms, such extreme weather events could become more intense and frequent.

But ultimately, if death and destruction does not signal an emergency, what will? — *The Straits Times/Asia News Network*



LAMPIRAN 7
THE STAR (STARWORLD): MUKA SURAT 28
TARIKH: 10 NOVEMBER 2019 (AHAD)

100,000 flee as Cyclone Bulbul nears Bangladesh

DHAKA: Bangladesh authorities evacuated around 100,000 people from the country's low-lying coastal villages and islands with Cyclone Bulbul set to slam into the country, officials said.

The Meteorological Department asked local authorities and two ports to raise their highest alert, as the cyclone was expected to unleash a storm surge as high as two metres in coastal districts.

Bulbul, packing a maximum wind speed of 120 kph, was on course to make landfall near the Sundarbans, the world's largest mangrove forest, which straddles Bangladesh and part of eastern India and is home to the endangered Bengal tigers.

The cyclone was expected to hit the Bangladesh coast yesterday night, disaster management secretary Shah Kamal said, adding that there were plans to evacuate some 1.5 million people before that.

Authorities had suspended a nationwide school test, cancelled the holidays of officials posted in coastal districts and called off a traditional fair that draws tens of thousands of people in the Sundarbans.

Operations at the country's two major ports – Mongla and Chittagong – had been suspended, Kamal said.

Some 55,000 volunteers were mobilised to go door to door and alert people about the storm. — AFP

