Suruhanjaya Tenaga
Energy Commission

KE ARAH SEKTOR TENAGA BERTARAF DUNIA

TOWARDS A WORLD CLASS ENERGY SECTOR

2018

LAPORAN TAHUNAN
ANNUAL REPORT

LAPORAN TAHUNAN SURUHANJAYA TENAGA 2018 ini dikemukakan kepada Menteri Tenaga, Sains, Teknologi, Alam Sekitar & Perubahan Iklim selaras dengan peruntukan seksyen 33(3) Akta Suruhanjaya Tenaga 2001 iaitu "Suruhanjaya Tenaga hendaklah mengemukakan satu salinan penyata akaun yang diperakui oleh juruaudit dan satu salinan laporan juruaudit kepada Menteri Tenaga, Sains, Teknologi, Alam Sekitar & Perubahan Iklim untuk dibentangkan di Parlimen berserta dengan laporan aktiviti Suruhanjaya Tenaga bagi tahun kewangan sebelumnya".

The ENERGY COMMISSION ANNUAL REPORT 2018 is submitted to the Ministry of Energy, Science, Technology, Environment and Climate Change in accordance with section 33(3) of the Energy Commission Act 2001 which stipulates that "the Energy Commission must present a copy of the audited account statement and a copy of the auditor's report to the Ministry of Energy, Science, Technology, Environment and Climate Change to be tabled in Parliament along with a copy of the Energy Commission's activity report for the previous financial year".

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KANDUNGAN
CONTENTS

PERUTUSAN PENGERUSI
CHAIRMAN'S MESSAGE

Pada tahun 2018, penggunaan tenaga global meningkat 2.3 peratus, dua kali lebih tinggi berbanding kadar purata sejak sepuluh (10) tahun yang lalu, dipacu oleh pertumbuhan ekonomi global yang kukuh sebanyak 3.7 peratus. Di Malaysia, penggunaan elektrik dan gas berpaip negara juga bertambah seiring pertumbuhan ekonomi 5.5 peratus pada tahun 2018, walaupun pada kadar yang lebih perlahan.

Di Semenanjung, penggunaan tenaga elektrik meningkat sebanyak 2.6 peratus manakala permintaan puncak elektrik turut bertambah sebanyak 3.0 peratus pada tahap 18,338 MW. Di Sabah/WP Labuan, peningkatan sebanyak 3.3 peratus dan 1.8 peratus masing-masing direkodkan, dengan permintaan puncak mencecah 955 MW. Margin rizab kekal selesa pada 31.6 peratus di Semenanjung dan 28.6 peratus di Sabah dan Wilayah Persekutuan Labuan.

Daya harap bekalan elektrik, mengikut penunjuk SAIDI, bertambah baik sebanyak 11.5 peratus kepada 48.2 minit / pelanggan / tahun di Semenanjung tetapi merosot sebanyak 11.2 peratus kepada 267.8 minit di Sabah. Dalam menangani isu jaminan bekalan elektrik di Sabah, Suruhanjaya telah bekerjasama dengan Kementerian Tenaga, Sains, Teknologi, Alam Sekitar dan Perubahan Iklim (MESTECC) untuk membangun dan melaksanakan pelan tindakan yang melibatkan reformasi struktur untuk membolehkan SESB menjadi organisasi yang mampan pada masa hadapan. Dalam industri gas berpaip, SAIDI di Semenanjung bertambah daripada 0.11 minit/pelanggan/tahun pada 2017 kepada 0.31 minit/pelanggan/tahun pada 2018.

Intensiti elektrik bagi Semenanjung Malaysia menunjukkan peningkatan pada kadar 1.9 peratus kepada 0.1005 GWj / RM Juta KDNK. Bacaan untuk Sabah juga menunjukkan peningkatan sebanyak 1.3 peratus kepada 0.0538 GWj. Walau bagaimanapun, pematuhan jaminan tahap perkhidmatan oleh TNB adalah lebih rendah pada 94.4 peratus berbanding 95.7 peratus pada 2017. Dalam bidang keselamatan tenaga, bilangan kemalangan elektrik meningkat 5.6 peratus kepada 56 kes manakala kadar kemalangan maut dikurangkan daripada 3.2 kes per juta pengguna dalam 2017 kepada 2.8 kes per juta pengguna pada 2018. Terdapat 2 kes kemalangan gas pada 2018 berbanding sifar pada tahun sebelumnya.

In 2018, global energy consumption grew 2.3 percent, twice as fast as the average rate over the last ten (10) years, underpinned by the strong global economic growth of 3.7 percent. Locally, electricity and piped gas consumption also increased in tandem with Malaysia's 5.5 percent economic growth in 2018, albeit at a slower rate.

In the Peninsula, electrical energy consumption increased by 2.6 percent whilst peak electricity demand was higher by 3.0 percent at 18,338 MW. In Sabah/WP Labuan, increases of 3.3 percent and 1.8 percent were respectively recorded, with peak demand reaching 955 MW. Reserve margin remained healthy at 31.6 percent in the Peninsula and 28.6 percent in Sabah and the Federal Territory of Labuan.

Electricity supply reliability, as measured by SAIDI, improved by 11.5 percent to 48.2 minutes/customer/year in the Peninsula, but increased by 11.2 percent to 267.8 minutes in Sabah. In addressing the electricity supply reliability issue in Sabah, the Commission has been working with the Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC) to develop and implement a blueprint which involves a structural reform for SESB to be self-sustainable in the future. In the piped gas industry, SAIDI in the Peninsula increased from 0.11 minutes/customer/year in 2017 to 0.31 minutes/customer/year in 2018.

Peninsular Malaysia's electricity intensity improved by 1.9 percent to 0.1005 GWh/RM Million GDP. Sabah's figures also improved by 1.3 percent to 0.0538 GWh. However, guaranteed service level compliance by TNB was lower at 94.4 percent compared to 95.7 percent in 2017. As for energy safety, the number of electrical accidents increased by 5.6 percent to 56 cases whilst the fatality incidence rate was reduced from 3.2 cases per million consumers in 2017 to 2.8 cases per million consumers in 2018. There were two (2) gas accident cases in 2018 compared to none in the previous year.

Tahun 2018 juga menyaksikan permulaan Tempoh Kawal Selia Kedua (RP2) bagi tarif TNB di bawah mekanisme Kawal Selia Berasaskan Insentif (IBR). IBR telah terbukti berkesan dalam membolehkan kita melaksanakan rangka kerja penetapan tarif yang cekap dan telus dalam persekitaran harga bahan api yang berubah-ubah. Pengalaman dan pengetahuan yang diperolehi semasa pelaksanaan RP1 adalah amat bernilai dalam membolehkan pemurnian penting dibuat di dalam RP2 untuk menghasilkan tarif yang lebih efektif kos dan adil.

Pada Oktober 2018, Menteri MESTECC telah mengumumkan sasaran untuk meningkatkan sumbangan RE dalam campuran bahan api penjanaan negara kepada 20% menjelang 2025. Suruhanjaya telah memainkan peranan bagi menjayakan pencapaian sasaran yang mencabar ini melalui program Loji Jana Kuasa Solar Berskala Besar (LSS), di mana 1,000 MW kapasiti LSS akan dibangunkan menjelang tahun 2020. Dua pusingan pembidaan telah dijalankan, di mana lebih daripada 746 MW telah diluluskan, dengan penambahan sebanyak 210.5 MW kepada jumlah penjanaan pada 2018.

Langkah-langkah sokongan yang ditambah baik juga telah diumumkan Menteri pada 2018 untuk menggalakkan pelaksanaan Pemeteran Tenaga Bersih (NEM) dengan lebih meluas. Berkuat kuasa pada 2019, elektrik yang dieksport ke grid di bawah NEM boleh dijual kepada TNB pada kadar tarif runcit yang sama untuk elektrik yang diimport dari grid oleh pengguna (berbanding pada *displaced cost* sebelum ini) dan pajakan sistem solar PV menggunakan *Supply Agreement for Renewable Energy* (SARE) akan ditawarkan kepada pengguna.

Liberalisasi pasaran tenaga merupakan satu ciri utama sektor tenaga bertaraf dunia. Di Malaysia, kita telah membuat kemajuan positif yang ketara dalam bidang ini, menerusi pelaksanaan rasionalisasi subsidi, IBR, peleraian akaun utiliti, bidaan kompetitif bagi kapasiti penjanaan, *ringfencing* pembeli tunggal dan pengendali sistem grid, penambahbaikan tarif *time-of-use, New Enhanced Dispatch Arrangement* (NEDA), dan rangka kerja Akses Pihak Ketiga (TPA).

TPA, yang beroperasi sepenuhnya pada April 2018, telah membuka pasaran gas Malaysia untuk membolehkan pihak lain selain dari Petronas dan Gas Malaysia untuk mengambil bahagian dalam pengimportan, pengangkutan, penggasan semula, penghantaran, pengedaran dan peruncitan gas asli. Oleh kerana gas asli dijangka akan terus memainkan peranan dalam peralihan ke arah tenaga yang bersih, pasaran bekalan gas yang terbuka dan kompetitif akan membawa kepada peningkatan kemampanan, kecekapan, kualiti perkhidmatan dan sekuriti yang menyeluruh.

The year 2018 also saw the commencement of the Second Regulatory Period (RP2) for TNB tariff under the Incentive-Based Regulation (IBR) mechanism. IBR has proven to be effective in enabling us to implement an efficient and transparent tariff setting framework in a fluctuating fuel price environment. The lessons learned in implementing RP1 has been invaluable in enabling important refinements to be made in RP2 in order to bring about more cost-effective and fair tariffs.

In October 2018, the Minister of MESTECC announced the target of increasing the share of RE in the nation's generation fuel mix to 20% by 2025. The Commission is playing our part to deliver this ambitious target through the Large-Scale Solar (LSS) programme, in which 1,000 MW of LSS capacity is to be developed by 2020. Already, two bidding cycles have been conducted, with more than 746 MW awarded, of which 210.5 MW were added to the generation mix in 2018.

Enhanced support measures were also announced by the Minister in 2018 to encourage greater uptake of Net Energy Metering (NEM). Effective 2019, electricity exported to the grid under NEM can be sold to TNB at the same retail tariff for electricity imported from the grid by the consumer (instead of at the displaced cost, previously), and solar PV system leasing using Supply Agreement for Renewable Energy (SARE) will be made available to consumers.

A liberalised energy market is a key characteristic of a world class energy sector. In Malaysia, we have made positive progress in this area, notably through the implementation of subsidy rationalisation, IBR, utility accounts unbundling, generation capacity competitive bidding, ringfencing of single buyer and grid system operator, enhanced time-of-use tariff, New Enhanced Dispatch Arrangement (NEDA), and Third Party Access (TPA) framework.

The TPA, which became fully operational in April 2018, has opened up the Malaysian gas market, allowing other parties aside from Petronas and Gas Malaysia to participate in the importation, shipping, regasifying, transmitting, distributing and retailing of natural gas. As natural gas is expected to continue to play a role in our transition towards a clean energy future, an open and competitive gas supply market will lead to an overall improved sustainability, efficiency, service quality and security.

Perubahan pesat sebegini adalah sesuatu yang jarang dialami oleh sektor tenaga. Di seluruh dunia juga, landskap tenaga sedang menjalani transformasi menyeluruh. Ia menjadi lebih kompleks dengan teknologi pintar, model perniagaan yang yang belum pernah wujud, pengguna yang mempunyai kuasa memilih dan landskap kawal selia yang berganjak. Model perniagaan utiliti tradisional kini semakin dicabar oleh era pasaran yang sedang melalui proses liberalisasi, dekarbonisasi, desentralisasi dan digitalisasi.

Sepertimana sektor tenaga sedang melalui suatu tempoh transformasi, Suruhanjaya juga membuat beberapa perubahan sejajar dengan perubahan masa dan keperluan industri. Untuk tujuan ini, pada tahun 2018, kami telah melakukan penyusunan semula dan pengukuhan organisasi kami untuk menjadikannya lebih tangkas, berfokus strategik, synergistik dan mengayakan tugas. Kami akan meneruskan usaha konsultasi dan komunikasi dua hala dengan entiti yang dikawal selia dan pihak pemegang taruh utama secara berkala dengan memberi fokus kepada peningkatan keberkesanan. Fungsi dan keputusan pengawalseliaan akan dilaksanakan dengan penuh integriti untuk memastikan wujudnya keyakinan terhadap rejim kawal selia.

Tidak dinafikan kita akan berhadapan dengan cabaran teknikal, ekonomi, kapasiti dan kawal selia yang sukar di sepanjang jalan. Rangka kerja dasar kawal selia berasaskan prestasi yang dipelajari dari amalan baik antarabangsa perlu dimanfaatkan untuk mengemudikan kita dalam mengharungi situasi yang belum pernah dilalui ini. Bagaimanapun, rangka kerja perundangan dan kawal selia yang terbaik juga tidak akan berkesan sekiranya ia tidak dikuatkuasakan secara yang meyakinkan. Inilah tunggak visi ST, iaitu untuk menjadi sebuah badan kawal selia sektor tenaga bertaraf dunia yang berkesan serta berwibawa, untuk membantu membentuk masa depan sektor tenaga negara.

Sebelum saya mengakhiri mesej ini, saya ingin mengucapkan setinggi penghargaan dan terima kasih kepada semua anggota semasa Suruhanjaya dan yang telah tamat perkhidmatan, terutamanya Dato' Abdul Razak Abdul Majid, yang mana kepimpinan dan bimbingannya tidak ternilai kepada Suruhanjaya dalam usaha untuk mencapai taraf dunia. Juga, selamat datang kepada semua anggota baharu Suruhanjaya, dengan pengalaman dan kepakaran yang semestinya akan meningkatkan keberkesanan operasi kita. Terima kasih juga kepada semua warga kerja yang berdedikasi, terutama pasukan Pengurusan yang telah diketuai oleh Ketua Pegawai Eksekutif Ir. Azhar Omar, serta semua pemegang taruh kami - MESTECC, Kementerian Hal Ehwal Ekonomi (MEA), agensi-agensi kerajaan, penggiat industri, dan orang ramai. Terima kasih.

Rarely has the energy sector experienced the rapid pace of change that is happening today. Globally, the energy landscape too is undergoing a major transformation. It is becoming more complex than ever before with smart technologies, game-changing business models, consumer empowerment and shifting regulatory landscapes. The traditional utility business model is now increasingly challenged by the era of market liberalisation, decarbonisation, decentralisation and digitalisation.

Just as the energy sector is going through a period of transformation, the Commission is also moving along with the times and needs of the industry. Towards this end, in 2018, we undertook a restructuring and strengthening of our organisation to make it more agile, strategically focused, synergistic and job enriching. We will continue to undertake regular and purposeful engagement with regulated entities and key stakeholders focused on improving outcomes. Regulatory decisions and functions will be carried out with the utmost integrity to ensure that there is confidence in the regulatory regime.

Undoubtedly, we will face tough technical, economic, capacity and regulatory challenges along the way. Workable performance-based regulatory policy frameworks that are based on lessons learnt from international good practices are needed to steer us through unchartered waters. However, even the best designed legal and regulatory framework will be ineffective if it is not credibly enforced. Hence, our vision to be a world class energy regulator that is effective and authoritative to help shape the future of Malaysia's energy sector.

Before I end this message, I would like to express my utmost appreciation and thanks to all the current Commission members and those who have completed their terms, especially my predecessor, Dato' Abdul Razak Abdul Majid, whose leadership and guidance was invaluable to the Commission in our endeavour to be world class. Also, a warm welcome to all our Commission members, whose experience and insight will no doubt enhance the effectiveness of our operations. Further thanks is due to our dedicated staff, especially the Management team led by CEO Ir. Azhar Omar, as well as all our stakeholders – MESTECC, Ministry of Economic Affairs (MEA), government agencies, industry players, and the public. Thank you.

Datuk Ir. Ahmad Fauzi Hasan

LAPORAN KETUA PEGAWAI EKSEKUTIF
CHIEF EXECUTIVE OFFICER'S REVIEW

Sebagai sebuah badan kawal selia industri tenaga di Malaysia yang bertanggungjawab untuk memastikan bekalan elektrik dan gas berpaip yang selamat, terjamin dan berdaya harap pada harga yang berpatutan, adalah menjadi aspirasi kami untuk meningkatkan lagi keberkesanan ke tahap prestasi sebuah badan kawal selia sektor tenaga bertaraf dunia.

Tahun 2018 menyaksikan permulaan Tempoh Kawal Selia Kedua (RP2) bagi mekanisme Kawal Selia Berasaskan Insentif (IBR) yang diperkenalkan oleh ST pada 2015 sebagai satu kaedah yang lebih telus untuk menetapkan tarif elektrik. Tempoh pelaksanaan RP2 adalah sepanjang Januari 2018 hingga Disember 2020.

Kerajaan telah membuat keputusan menetapkan kadar tarif asas RP2 sebanyak 39.45 sen/kWj, namun mengekalkan struktur kadar tarif pengguna mengikut kategori sama seperti RP1. Ini telah tercapai melalui penambahbaikan Garis Panduan Penetapan Tariff Elektrik di bawah IBR yang melibatkan pengenalan tatacara Pelarasan Hasil Tahunan (ARA), penetapan had *recovery* pada kadar 2.5% sekiranya berlaku *under-recovery* Harga Penjualan Purata (ASP) TNB, pelarasan pendapatan lain, pelarasan kadar purata tarif untuk *over/under recovery*, pelarasan bagi kutipan caj sambungan pengguna dan pelarasan tempoh bagi unjuran hasil tahunan (ARA). Keputusan ini diambil untuk tidak membebankan pengguna dengan kos elektrik yang lebih tinggi. Pelaksanaan mekanisme ICPT di bawah IBR telah memberi rebat berjumlah RM6.33 billion kepada pengguna untuk tempoh 2015 sehingga Jun 2018. Bagaimanapun, surcaj sebanyak 1.35 sen/kWj telah dilepaskan kepada pengguna buat pertama kalinya pada pertengahan kedua 2018.

Seperkara yang menarik juga sepanjang tahun pertama RP2 merupakan pelaksanaan *Advanced Metering Infrastructure (AMI)*. Kami berharap penggunaaan teknologi seperti Meter Pintar, di samping inisiatif kecekapan tenaga yang lain, akan membantu mempromosikan lagi penggunaan elektrik yang cekap.

As regulator of the energy industry in Malaysia with the responsibility to ensure the safe, secure and reliable supply of electricity and piped gas at reasonable prices, it is our aspiration to improve our effectiveness to reach the performance standard of a world-class energy regulator.

The year 2018 also saw the commencement of the 2nd Regulatory Period (RP2) of the Incentive-Based Regulation (IBR) mechanism, which the Commission introduced in 2015 as a more transparent means of setting electricity tariffs. RP2 is set to run from January 2018 to December 2020.

For RP2, the Government has made a decision on a base tariff at 39.45 sen/kWh, while maintaining the consumer tariff rate structure to be within the same category as in RP1. This was accomplished by amending the Guidelines on Electricity Tarff Determination Under IBR which entailed the introduction of Annual Revenue Adjustments (ARA), setting the recovery limit to 2.5% for under recovery of TNB's Average Selling Price (ASP), adjustment of the other income, adjustment of allowed average tariff for over/under recovery, adjustment for collection from customer's connection charges and adjustment of ARA projection period. This was done in order not to burden consumers with higher electricity costs. Under the IBR, the ICPT mechanism saw RM6.33 billion passed through to consumers in the form of rebates for the period of 2015 until June 2018. However, for the first time, a surcharge of 1.35 sen/kWh was passed to consumers in the second half of 2018.

Another highlight of the first year of RP2 has been the implementation of Advanced Metering Infrastructure. We hope the use of technology such as smart meters, along with some other EE initiatives will help promote more efficient use of energy.

Seperti mana IBR merupakan komponen penting dalam meliberalisasikan sektor tenaga elektrik, sistem Akses Pihak Ketiga (TPA) pula penting dalam meliberalisasikan pasaran gas. Ini akan menggalakkan persaingan sihat, meningkatkan kecekapan dan menawarkan nilai yang lebih menyeluruh kepada pengguna. Disebabkan sistem tersebut masih agak baharu, belum ramai yang mengambil peluang untuk mendapatkan lesen-lesen yang ditawarkan. Namun begitu, kami pasti hal ini akan berubah seiring waktu.

Demi melindungi industri, pengguna dan orang awam daripada bahaya berkaitan dengan aktiviti pembekalan dan penggunaan elektrik dan gas berpaip, ST terus mengemaskini garis panduan dan peraturan iaitu *Guidelines for Approval of Electrical Equipment dan Minimum Energy Performance Standard (MEPS)*. Keselamatan pengguna terus menjadi keutamaan ST dengan pengenalan Kad Pendaftaran Orang Kompeten Elektrik untuk mengenal pasti orang kompeten yang berdaftar. Selain itu perakuan COA yang dilengkapi dengan Kod QR untuk memastikan kelengkapan elektrik yang dikilang dan diimport adalah selamat untuk digunakan juga telah diperkenalkan tahun ini.

Kami juga telah memperkenalkan program Geran Audit Tenaga Bersyarat (EACG) di mana Kerajaan telah menyediakan pembiayaan kewangan kepada pepasangan industri atau komersil dengan jumlah penggunaan tenaga elektrik minimum 100,000 kWj sebulan. Ini adalah bertujuan untuk memberi dana kepada mereka untuk melaksanakan audit tenaga dan seterusnya mengambil langkah-langkah pelaksanaan penjimatan tenaga berdasarkan laporan audit tenaga tersebut.

Satu lagi inisiatif kecekapan tenaga ialah pelaksanaan program pelabelan Intensiti Tenaga Bangunan (BEI) di bangunan-bangunan Kerajaan yang telah bermula dari suku keempat 2018. Program ini menyasarkan pelaksanaan ke atas sejumlah 5,000 bangunan Kerajaan dilabelkan dengan label BEI berdasarkan intensiti tenaga tahun sebelumnya. Dianggarkan penjimatan tenaga berjumlah 521 GWj atau RM190 juta boleh dicapai apabila bangunan-bangunan ini dapat meningkatkan satu tahap bintang lebih tinggi dari tahap permulaan.

Trend penggunaan tenaga dijangka akan terus meningkat sejajar dengan pertumbuhan ekonomi dan pertambahan penduduk negara dalam jangka sederhana. Oleh itu, adalah penting untuk ST melaksanakan inisiatif perancangan dan pembangunan industri tenaga yang lebih berkesan untuk memastikan permintaan pada masa hadapan dapat dipenuhi.

Just as IBR is an important component in the liberalisation of the electricity sector, the Third Party Access (TPA) system is vital for the liberalisation of the gas market. This will help foster competition, increase efficiency, and ensure overall value for the consumers. Given that the system is still quite new, there has yet to be a strong take-up of the licences available. We are confident however that this will change in time.

To protect the industry, consumers and the public from dangers arising from the supply and use of electricity and piped gas, the Commission continued to update its guidelines, namely Guidelines for Approval of Electrical Equipment and Minimum Energy Performance Standard (MEPS). The safety of consumers continues to be our priority with the introduction of the electrical competent person Identity Card to identify registered competent persons, while COA certificates are now equipped with QR codes to deter counterfeiting, thus safe-guarding manufactured and imported electrical equipment.

We have also introduced the Energy Audit Conditional Grant (EACG) where the Government provides financial support for industrial and commercial bodies consuming a minimum of 100,000 kWh of electricity a month. This is to provide funding for them to carry out energy audit and adopt the implementation of energy-saving measures as per the energy audit report.

Another energy efficiency initiative is the introduction of Building Energy Intensity (BEI) labelling of Government buildings starting from the fourth quarter of 2018. The programme targets for 5,000 Government premises to be labelled with BEI labels based on the previous year's energy intensity. It is estimated that a total of 521 GWh or RM190 million could be achieved if the premises manage to increase the star rating one level higher than the initial level.

The trend of energy consumption is expected to continue to rise in the intermediate term. As such, it is important that we undertake effective industry planning and development now in order to meet future demand.

Untuk itu, ST sedang mengkaji untuk menambahbaik kerangka kawal selia sedia ada bagi mengekalkan daya harap dan kualiti perkhidmatan industri bekalan elektrik dan gas berpaip. Salah satu daripada usaha ini telah bermula dengan pengkajian semula Kod Grid Malaysia, di mana beberapa pindaan telah dilakukan sejajar dengan perubahan industri.

Kami juga telah mengambil langkah-langkah untuk meningkatkan kapasiti penjanaan. Di samping penjanaan konvensional yang berteraskan arang batu, peralihan kepada penjanaan berteraskan tenaga boleh baharu (TBB) juga giat dilaksanakan melalui program solar berskala besar (LSS). Dengan penambahan kapasiti penjanaan daripada sumber sedia ada dan TBB, ST mula mengkaji semula kod grid dan menerokai teknologi simpanan tenaga, agar sistem grid terus kekal selamat, stabil dan cekap.

Untuk tahun hadapan (2019), kami menjangkakan tambahan sebanyak 2,200 MW kepada kapasiti penjanaan, iaitu sebanyak 200 MW daripada loji Pengerang dan 2 x 1,000 MW daripada loji Jimah Timur. Penjanaan RE pula akan meningkat sebanyak 790 MW lagi.

Penjanaan tenaga elektrik yang mesra alam adalah menjadi keutamaan ST di mana usaha berterusan dilakukan untuk memperbaiki dan mengurangkan impak bahan api fosil ke atas alam sekitar. Untuk tujuan ini, ST bekerjasama dengan agensi Kerajaan yang berkaitan di dalam memberi penyelesaian dan cadangan kepada Kerajaan.

Pengenalan program Pemeteran Tenaga Bersih (NEM) adalah satu lagi usaha untuk mengurangkan kebergantungan kepada sistem grid berpusat serta menambahbaik sekuriti dan daya harap bekalan. Begitu juga pengenalan sistem TPA dan pembukaan pasaran gas merupakan selangkah lagi ke arah pembangunan industri tenaga di Malaysia.

Namun begitu, tugas kami tidak setakat di sini, dan lebih banyak lagi perlu dilakukan. Kami merancang untuk mendalami strategi dan pelan tindakan bagi mengurangkan kadar pencemaran dalam industri tenaga, mengguna pakai inovasi, mengurangkan kebergantungan kepada grid, dan mewujudkan pasaran elektrik yang lebih terbuka.

Saya ingin mengambil kesempatan ini untuk mengucapkan terima kasih kepada Datuk Abdul Razak bin Abdul Majid, mantan Pengerusi ST yang telah memberi nasihat yang tidak ternilai kepada saya dan juga kepada barisan pengurusan ST. Juga penghargaan saya kepada anggota ST dan juga MESTECC, Kementerian Hal Ehwal Ekonomi, agensi Kerajaan, pemain industri, dan pihak awam yang turut memimpin kami di dalam melaksanakan tugasan kami. Terima kasih juga kepada warga kerja ST yang sentiasa bertungkus lumus memberi yang terbaik demi kemakmuran organisasi dan juga industri. Harapan kami adalah tinggi, namun kami pasti bahawa kesemua ini dapat dicapai dengan bantuan dan sokongan daripada semua pihak berkepentingan serta rakan-rakan kami.

Therefore, the Commission is undertaking studies to enhance its existing regulatory framework so as to maintain reliability and service quality of the electricity and piped gas industries. This started with the review of the Malaysian Grid Code where several amendments were made, in line with the development of the industry.

We have also taken measures to increase generation capacity steadily. In addition to the conventional coal-based power generation, the transition to renewable energy-based (RE) power generation is well underway via the Large Scale Solar Programme. With additional capacity generated from existing source and RE, ST is revisiting the grid code and exploring energy storage technology to ensure the grid system remains safe, stable and efficient.

For next year (2019), we are expecting further additions to generation capacity as the 200 MW Pengerang plant and the 2 x 1,000 MW Jimah East plant will add an additional 2,200 MW. This will be supplemented by another 790 MW of RE generation.

Generation of environmentally friendly electricity is a priority of ST and continuous efforts and measures are being implemented to improve and reduce the impact of fossil fuels on the environment. To this end, ST cooperates with relevant Government Agencies in providing solutions and recommendations to the Government.

The introduction of the Net Energy Metering (NEM) programme is another effort that aims to reduce dependency on a centralised grid system, thus enhancing security and reliability of supply. Whilst, the introduction of the TPA system and the opening up of the gas market is another step up for the development of the energy industry in Malaysia.

Our work does not end there though, and more has to be done. We plan to further explore strategies and action plans to reduce the carbon footprint in the energy industry, adopting innovations, reduce dependency on the grid, and creating a more liberalised electricity market.

I wish to take this opportunity to thank Dato' Abdul Razak bin Abdul Majid, former Chairman of the Commission for the invaluable advice to me and the Management of the Commission. I also would like to say thank you to the members of the Commission and MESTECC, the Ministry of Economic Affairs (MEA), government agencies, industry players, and the public for the guidance in executing our responsibilities. My appreciation to the staff of the Commission for their continuous effort in ensuring the best performance and achievements for the Commission and the industry. We aim high, and with the help and support of all our stakeholders and partners, the Energy Commission is confident of progress.

Ir. Azhar Omar

MAKLUMAT KORPORAT
CORPORATE INFORMATION

VISI *VISION*

Suruhanjaya Tenaga adalah badan kawal selia sektor tenaga bertaraf dunia yang berkesan serta berwibawa.

The Energy Commission is a world-class energy regulator that is effective and authoritative.

MISI *MISSION*

Suruhanjaya Tenaga berazam untuk mengimbangi keperluan pengguna dan pembekal tenaga bagi memastikan pembekalan yang selamat dan berdaya harap pada harga yang berpatutan, melindungi kepentingan awam dan menggalakkan pembangunan ekonomi dan pasaran yang kompetitif dalam persekitaran yang lestari.

The Energy Commission aims to balance the needs of consumers and providers of energy to ensure safe and reliable supply at reasonable prices, protect public interest and foster economic development and competitive markets in an environmentally sustainable manner.

MENGENAI SURUHANJAYA TENAGA
ABOUT THE ENERGY COMMISSION

Ditubuhkan di bawah Akta Suruhanjaya Tenaga 2001, Suruhanjaya Tenaga (ST) bertanggungjawab mengawal selia sektor tenaga, khususnya industri pembekalan elektrik dan gas berpaip di Semenanjung Malaysia dan Sabah.

Mengambil alih peranan Jabatan Bekalan Elektrik dan Gas, ST mula beroperasi sepenuhnya pada 1 Januari 2002. Fokus utama ST adalah bekalan elektrik dan gas yang berdaya harap, kos yang munasabah dan selamat digunakan.

Peranan ST terbahagi kepada tiga, iaitu Kawal Selia Ekonomi, Kawal Selia Teknikal dan Kawal Selia Keselamatan.

A statutory body established under the Energy Commission Act 2001, Suruhanjaya Tenaga (ST) or the Energy Commission is responsible for regulating the energy sector, specifically the electricity and piped gas supply industries, in Peninsular Malaysia and Sabah.

Taking over the role of the Department of Electricity and Gas Supply, the Energy Commission started its operations on January 1, 2002. The main focus of the Commission are reliable electricity and gas supply, reasonable costs and safety.

The roles of the Energy Commission are divided into three, namely Economic Regulation, Technical Regulation and Safety Regulation.

Kawal Selia Ekonomi:
Untuk menggalakkan kecekapan ekonomi dalam penjanaan, penghantaran, pengagihan, pembekalan dan penggunaan elektrik dan dalam retikulasi dan penggunaan gas; menggalakkan persaingan; membolehkan pengendalian pasaran yang adil dan cekap dan mencegah penyalahgunaan monopoli atau kuasa pasaran dalam industri elektrik dan gas berpaip.

Economic Regulation:
To promote economy in the generation, transmission, distribution, supply and use of electricity and in the reticulation and use of gas; promote competition; enable fair and efficient market conduct and prevent the misuse of monopoly or market power in the electricity and piped gas industries.

Kawal Selia Teknikal:
Untuk memastikan keselamatan, daya harap, kecekapan dan kualiti bekalan dan perkhidmatan dalam industri elektrik dan bekalan gas berpaip.

Technical Regulation:
To ensure security, reliability, efficiency and quality of supply and services in the electricity and piped gas supply industries.

Kawal Selia Keselamatan:
Untuk melindungi industri, pengguna dan orang awam daripada bahaya yang timbul dari penjanaan, penghantaran, pengagihan, pembekalan dan penggunaan elektrik, serta pengagihan, pembekalan dan penggunaan gas berpaip.

Safety Regulation:
To protect the industry, consumers and public from dangers arising from the generation, transmission, distribution, supply and use of electricity and the distribution, supply and use of piped gas.

FUNGSI DAN KUASA SURUHANJAYA TENAGA
FUNCTIONS AND POWERS OF THE ENERGY COMMISSION

Suruhanjaya hendaklah mempunyai segala fungsi yang dipertanggungkan ke atasnya di bawah undang-undang pembekalan tenaga dan hendaklah juga mempunyai fungsi-fungsi yang berikut:

The Commission shall have all the functions imposed on it under the energy supply laws and shall also have the following functions:

Menasihati
Advises

Menteri tentang segala perkara yang berkenaan dengan objektif dasar kebangsaan bagi aktiviti pembekalan tenaga, pembekalan dan penggunaan elektrik, pembekalan gas melalui talian paip dan penggunaan gas.

Ministers on all matters concerning the national policy objectives for energy supply activities, the supply and use of electricity, the supply of gas through pipelines and the use of gas.

Mengawal selia
Regulates

tarif elektrik dan gas berpaip dan kualiti perkhidmatan pembekalan, serta menggalakkan persaingan dan mencegah penyalahgunaan monopoli atau kuasa pasaran.

electricity and piped gas tariffs and the quality of supply services, as well as promote competition and prevent the misuse of monopoly or market power.

Menggalakkan
Promotes

amalan baik, serta penyelidikan, pembangunan dan inovasi dalam industri pembekalan elektrik dan gas berpaip.

good practices, as well as research, development and innovation in the electricity and piped gas industries.

Merancang dan membangunkan
Plans and develops

undang-undang, peraturan-peraturan, kod, garis panduan, program bagi memastikan pembangunan dan fungsi yang teratur dalam industri pembekalan elektrik dan gas berpaip.

laws, regulations, rules, codes, guidelines, programmes for the orderly development and functioning of the electricity and piped gas industries.

Meluluskan lesen dan perakuan
Licenses and certifies

bagi pembekal elektrik dan gas berpaip, orang kompeten elektrik dan gas, pelatih, kontraktor, kelengkapan dan pemasangan, syarikat yang memberikan perkhidmatan tenaga dan pengurus tenaga.

electricity and piped gas suppliers, competent electricity and gas personnel, training providers, contractors, equipment and installations, energy service companies and energy managers.

Memantau dan mengaudit
Monitors and audits

prestasi dan pematuhan pembekal yang berlesen dan bertauliah, pembekal perkhidmatan, pemasangan, pengimport kelengkapan, pengeluar dan penjual.

performance and compliance of licensed and certified suppliers, service providers, installations, equipment importers, manufacturers and retailers.

Menyiasat
Investigates

aduan, kemalangan, kesalahan dan isu industri; dan menguatkuasa pematuhan.

complaints, accidents, offences and industry issues; and enforces compliance.

PIAGAM PELANGGAN
CLIENT CHARTER

SURUHANJAYA TENAGA KOMITED DALAM:

- Membentuk sistem kawal selia yang menggalakkan industri elektrik dan gas menjadi teguh dan kepentingan pengguna dilindungi;
- Memantau bekalan elektrik dan retikulasi gas secara berkesan dari segi kualiti perkhidmatan, keselamatan dan harga yang berpatutan;
- Menjalankan penguatkuasaan undang-undang yang berkesan; dan
- Menyediakan perkhidmatan yang cekap dan mesra dalam tempoh yang ditetapkan untuk pelesenan dan pengeluaran sijil.

KOMITMEN KAMI KEPADA PELANGGAN ADALAH SEPERTI BERIKUT:

Pengadu

- Semua aduan akan direkodkan
- Semua pengadu akan menerima notifikasi aduan dalam tempoh 3 hari bekerja
- Pengadu akan dimaklumkan mengenai status aduan mereka secepat mungkin, dalam tempoh 15 hari bekerja
- Bagi aduan yang memerlukan siasatan komprehensif, pengadu akan dimaklumkan mengenai status aduan dari semasa ke semasa

Pemohon

Kami akan memproses dan meluluskan permohonan yang lengkap untuk lesen dan perakuan dalam tempoh masa yang dinyatakan berikut:

1. **PERMOHONAN LESEN** *LICENCES*	**HARI BEKERJA** *WORKING DAYS*
Elektrik *Electricity*	
Lesen Persendirian kurang daripada 5MW *Private Licence less than 5MW*	15
Pembaharuan Lesen Persendirian kurang daripada 5MW *Renewal of Private Licence less than 5MW*	3
Pindaan Kapasiti Pepasangan kurang daripada 5MW *Amendment to Installation Capacity less than 5MW*	3
Lesen Persendirian 5MW dan lebih *Private Licence 5MW and above*	60

ENERGY COMMISSION IS COMMITTED IN:

- *Setting up a regulatory system that encourages the electricity and gas industry to be strong and consumers' interests are protected;*
- *Effectively monitoring electricity supply and gas reticulation in terms of its service quality, safety and reasonable price;*
- *Carrying out effective legal enforcement; and*
- *Providing efficient and friendly services within the stipulated time for licensing and issuance of certificate.*

OUR COMMITMENT TO OUR CUSTOMERS IS AS FOLLOWS:

For complainants

- *All complaints will be recorded*
- *All complainants will receive acknowledgement of their complaints within 3 working days*
- *Complainants will be informed of the status of their complaints as soon as possible, within 15 working days*
- *For complaints that require more comprehensive investigation, complainants will be informed of follow-up status from time to time*

For applicants

We will process and approve complete applications for licences and certifications within the stipulated periods as follows:

Lesen Awam kurang daripada 30MW *Public Licence less than 30MW*	60
Lesen Provisional *Provisional Licence*	30

Gas Berpaip
Piped Gas

Lesen Gas Persendirian *Private Gas Licence*	1
Pembaharuan Lesen Gas Persendirian *Renewal of Private Gas Licence*	1
Lesen Penggunaan Gas *Gas Utility Licence*	60

2. PERAKUAN KEKOMPETENAN *COMPETENCY CERTIFICATION*	HARI BEKERJA *WORKING DAYS*
Kekompetenan Elektrik (Calon Persendirian) *Electrical Competency (Private Candidates)*	
Notis Awam Mengenai Permohonan Peperiksaan Bertulis *Public Notice on Written Examination Application*	30 hari sebelum tarikh permohonan ditutup *30 days before application closing date*
Notis Mengenai Kelayakan Menduduki Peperiksaan Bertulis *Notice on Eligibility to Sit for Written Examination*	21 hari selepas tarikh permohonan ditutup *21 days after application closing date*
Pemberitahuan Mengenai Keputusan Peperiksaan Bertulis *Notification of Written Examination Result*	30 hari selepas peperiksaan *30 days after the examination*
Pengeluaran Perakuan Kekompetenan *Issuance of Certificate of Competency*	30 hari selepas pemberitahuan mengenai keputusan peperiksaan praktikal *30 days after notification of practical examination result*
Penggantian perakuan yang rosak atau hilang *Replacement of Damaged or Lost Certificate*	*14*
Pendaftaran Baharu Orang Kompeten *New Registration as Competent Person*	*1*
Pembaharuan atau Pembatalan Pendaftaran Orang Kompeten *Renewal or Cancellation of Registration as Competent Person*	*1*

Kekompetenan Gas
Gas Competency

Notis Mengenai Peperiksaan Bertulis *Notice for Written Examination*	30 hari sebelum tarikh tutup permohonan *30 days before application closing date*
Notis Mengenai Kelayakan Menduduki Peperiksaan Bertulis *Notice on Eligibility to Sit for Written Examination*	30 hari selepas tarikh tutup permohonan *30 days after application closing date*
Pemberitahuan Keputusan Peperiksaan Bertulis *Notification of Written Examination Result*	21 hari selepas peperiksaan *21 days after the examination*
Pendaftaran Baharu dan Pembaharuan Pendaftaran *New Registration and Renewal of Registration*	1

3. PENTAULIAHAN INSTITUSI LATIHAN UNTUK KEKOMPETENAN ELEKTRIK DAN GAS *ACCREDITATION OF TRAINING INSTITUTION FOR ELECTRICAL AND GAS COMPETENCY*	HARI BEKERJA *WORKING DAYS*

Pentauliahan
Accreditation

Kelulusan sebagai Institusi Bertauliah *Approval as an Accredited Institution*	60

4. KELULUSAN KELENGKAPAN *EQUIPMENT APPROVAL*	HARI BEKERJA *WORKING DAYS*

Kelengkapan Elektrik
Electrical Equipment

Perakuan Kelulusan untuk Mengimport, Mengilang, Mempamer, Menjual atau Mengiklan *Certificate of Approval (COA) to Import, Manufacture, Display, Sell or Advertise*	5
Pembaharuan Perakuan Kelulusan *Renewal of COA*	1
Pindah Milik Perakuan Kelulusan *Transfer of COA*	5
Perubahan Nama atau Alamat Perniagaan dalam Perakuan Kelulusan *Change of Name or Business Address in COA*	1

Kelengkapan Gas
Electrical Equipment

Kelulusan untuk Mengilang atau Mengimport *Approval to Manufacture or Import*	5
Kelulusan Kelengkapan Gas *Approval of Equipment*	5
Pembaharuan Kelulusan untuk Mengilang atau Mengimport *Renewal of Approval to Manufacture or Import*	1
Perubahan Nama atau Alamat Perniagaan dalam Kelulusan *Change of Name or Business Address*	1

5. PENDAFTARAN PEPASANGAN *REGISTRATION OF INSTALLATIONS*	HARI BEKERJA *WORKING DAYS*
Pepasangan Elektrik *Electrical Installations*	
Pendaftaran Baharu *New Registration*	15
Pembaharuan Pendaftaran *Renewal of Registration*	3
Pindaan Kapasiti dan Pindah Milik Perakuan Pendaftaran *Capacity Amendment and Transfer of Certificate of Registration*	3
Pembatalan Pendaftaran *Cancellation of Registration*	1
Pepasangan Gas Berpaip *Piped Gas Installations*	
Kelulusan untuk Memasang *Approval to Install*	15
Kelulusan untuk Mengendali *Approval to Operate*	7

6. PENDAFTARAN KONTRAKTOR *REGISTRATION OF CONTRACTORS*	HARI BEKERJA *WORKING DAYS*
Kontraktor Elektrik *Electrical Contractors*	
Pendaftaran Baharu, Pembatalan dan Rayuan Kemasukan Semula dalam Daftar *New Registration, Cancellation and Reinstatement to the Register*	3
Pembaharuan Pendaftaran *Renewal of Registration*	1
Perubahan dalam Kelas Pendaftaran dan Maklumat Berkaitan *Changes in Class of Registration and Relevant Information*	3
Kontraktor Gas Berpaip *Piped Gas Contractors*	
Pendaftaran Baharu *New Registration*	2
Permohonan Pembaharuan Pendaftaran *Renewal of Registration*	2

7. PENDAFTARAN PENGURUS TENAGA ELEKTRIK *REGISTRATION OF ELECTRICAL ENERGY MANAGERS*	HARI BEKERJA *WORKING DAYS*
Pendaftaran *Registration*	
Pendaftaran Baharu *New Registration*	45

ANGGOTA SURUHANJAYA TENAGA
MEMBERS OF THE COMMISSION

DATUK IR. AHMAD FAUZI HASAN

Pengerusi Suruhanjaya Tenaga
Chairman of the Energy Commission

IR. AZHAR OMAR

Ketua Pegawai Eksekutif Suruhanjaya Tenaga
CEO of the Energy Commission

NOOR AFIFAH ABDUL RAZAK

Anggota Suruhanjaya Tenaga
Member of the Energy Commission

DR. MOHAMMED SHAHARIN UMAR

Anggota Suruhanjaya Tenaga
Member of the Energy Commission

DATUK BAHARI HASSAN

Anggota Suruhanjaya Tenaga
Member of the Energy Commission

DATO' DR. ROSLI MOHAMED

Anggota Suruhanjaya Tenaga
Member of the Energy Commission

DATUK ANUAR AHMAD

Anggota Suruhanjaya Tenaga
Member of the Energy Commission

DATUK DR. ONG PENG SU

Anggota Suruhanjaya Tenaga
Member of the Energy Commission

PROFESOR ULUNG DR. RAJAH RASIAH

Anggota Suruhanjaya Tenaga
Member of the Energy Commission

ADLIN ABDUL MAJID

Anggota Suruhanjaya Tenaga
Member of the Energy Commission

Mesyuarat Suruhanjaya Tenaga
The Energy Commission Meetings

7	Mesyuarat Suruhanjaya Tenaga (ST) 2018 *Energy Commission Meetings 2018*
6	Mesyuarat Jawatankuasa Bersama Pelesenan (Pengurusan dan Suruhanjaya Tenaga) 2018 *Licensing Committee Meetings (Management and Energy Commission) 2018*
6	Mesyuarat Jawatankuasa Kewangan dan Tender Suruhanjaya Tenaga 2018 *Energy Commission Financial and Tender Committee Meetings 2018*
5	Mesyuarat Jawatankuasa Remunerasi dan Nominasi Suruhanjaya Tenaga 2018 *Energy Commission Remuneration and Nomination Committee Meetings 2018*
3	Mesyuarat Jawatankuasa Audit Suruhanjaya Tenaga 2018 *Energy Commission Audit Committee Meetings 2018*
4	Mesyuarat Jawatankuasa Teknikal Suruhanjaya Tenaga 2018 *Energy Commission Technical Committee Meetings 2018*

PENGURUSAN TERTINGGI
MANAGEMENT TEAM

IR. AZHAR OMAR

Ketua Pegawai Eksekutif (KPE)
Chief Executive Officer (CEO)

ABDUL RAZIB DAWOOD

Ketua Pegawai Operasi (KPO)
Chief Operating Officer (COO)

IR. ABDUL RAHIM IBRAHIM

Pengarah Kanan - Perancangan dan Pembangunan Industri
Senior Director - Industry Planning and Development

ASMA AINI MOHD NADZRI

Pengarah – Perkhidmatan Korporat
Director – Corporate Services

MOHD ELMI ANAS

Pengarah – Kawal Selia Keselamatan
Director – Safety Regulation

IR. ROSLEE ESMAN

Pengarah – Operasi Industri
Director – Industry Operations

IR. MD ZAKUAN IBRAHIM

Pengarah – Penguatkuasaan dan Operasi Kawasan
Director – Enforcement and Regional Operations

SHAHRILNAZIM SHAARI

Pengarah – Undang-undang dan Pengurusan Risiko
Director – Legal Services and Risk Management

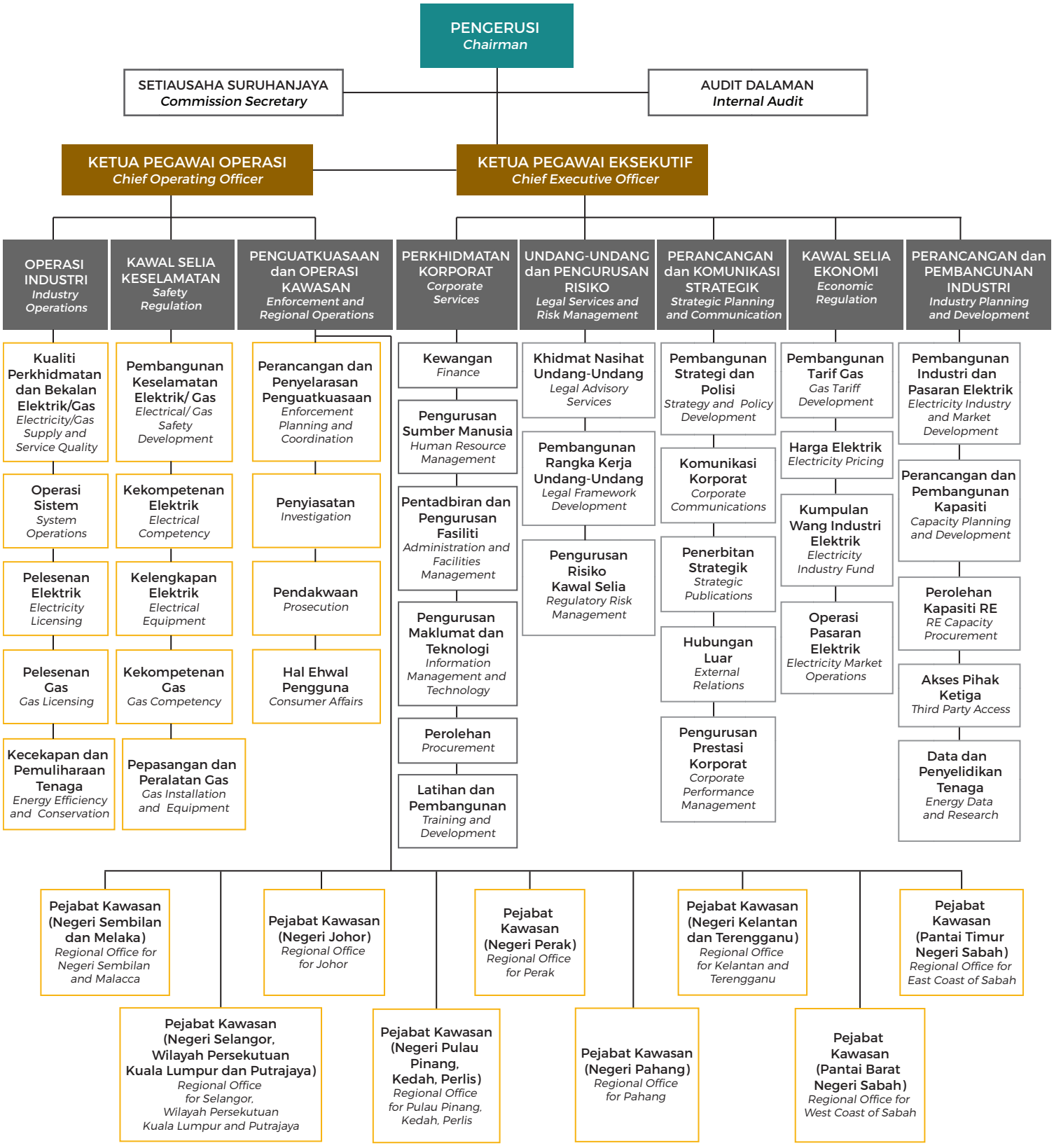
MARLINDA MOHD ROSLI

Pengarah – Kawal Selia Ekonomi
Director - Economic Regulation

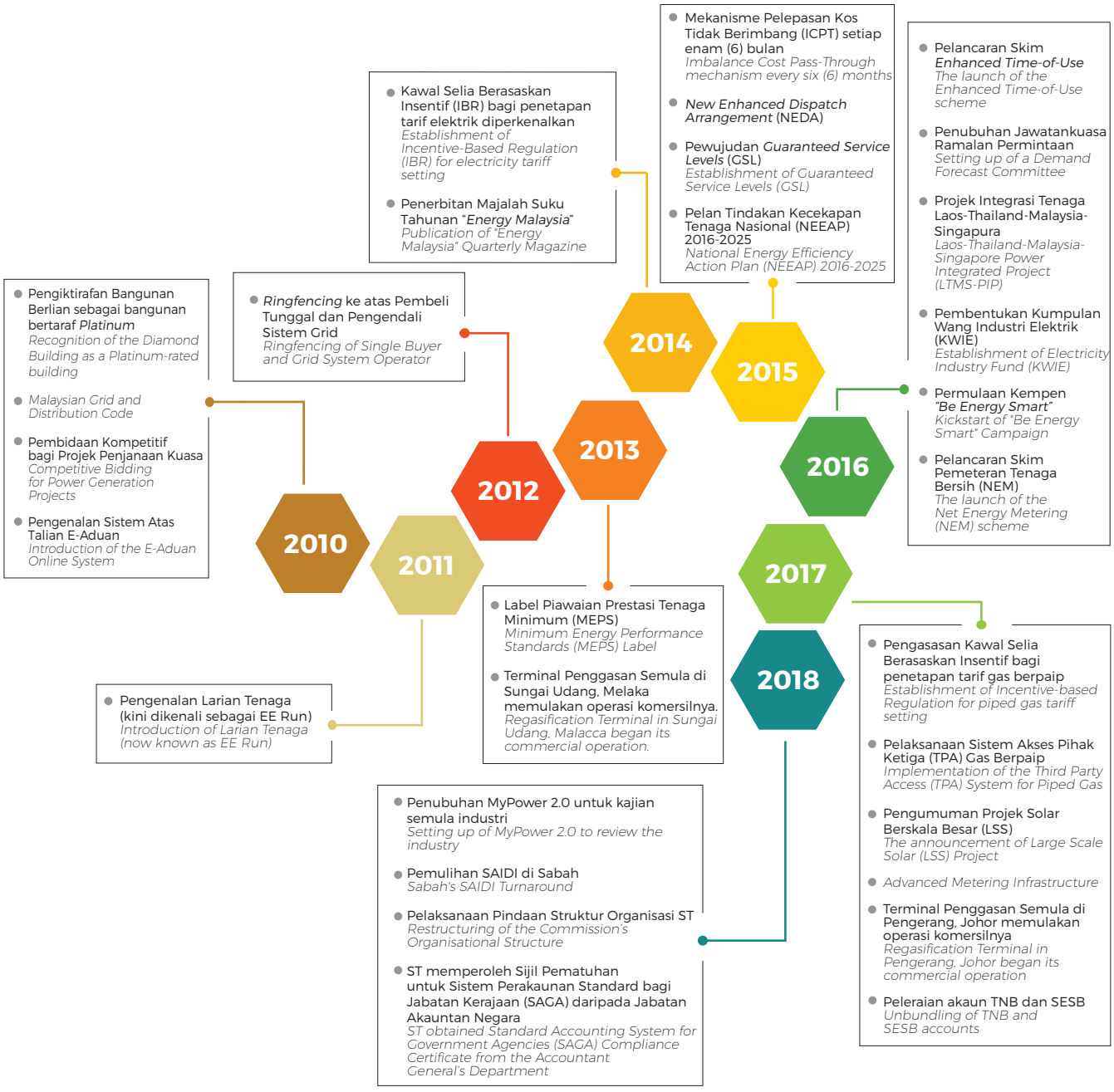
KAMARUL ARIFFIN IBRAHIM

Pengarah – Perancangan dan Komunikasi Strategik
Director - Strategic Planning and Communication

STRUKTUR ORGANISASI
ORGANISATION STRUCTURE



PENCAPAIAN INDUSTRI BEKALAN TENAGA MALAYSIA
Achievements of the Malaysian Energy Supply Industry



Temubual Media
Media Interviews

16 Januari 2018
16 January 2018

Pemangku KPE, Ir. Azhar Omar menjelaskan tentang semakan semula tarif elektrik kepada wartawan Astro Awani selepas sesi taklimat.
Acting CEO, Ir. Azhar Omar explaining the electricity tariff review to Astro Awani reporters after a briefing session.

7 Jun 2018
7 June 2018

Ir. Fairus Abd Manaf, Ketua Unit Kelengkapan Elektrik, Jabatan Kawal Selia Keselamatan Elektrik ditemubual berkenaan isu keselamatan elektrik di musim perayaan melalui saluran radio Suria FM.
Ir. Fairus Abd Manaf, Head of Electrical Appliances Unit, Electrical Safety Regulatory Department, spoke on electrical safety issues during the festive season at the Suria FM radio station.

23 November 2018
23 November 2018

Ir. Zakuan Ibrahim, Pengarah Jabatan Operasi Kawasan dan Penguatkuasaan bersama Ir. Shafie Mohamad, Ketua Unit Penguatkuasaan ditemubual oleh wartawan BERNAMA berkenaan kes-kes kecurian elektrik.
Ir. Zakuan Ibrahim, Director of the Enforcement and Regional Operations Department, together with Ir. Shafie Mohamad, Head of the Enforcement Unit, were interviewed by BERNAMA reporters about electricity theft cases.

11 Jun 2018
11 June 2018

Iffah Hannah Muluk, Ketua Unit Pembangunan Keselamatan Elektrik, Jabatan Kawal Selia Keselamatan Elektrik ditemubual mengenai keselamatan elektrik di musim perayaan di saluran radio IKIM FM.
Iffah Hannah Muluk, Head of Electrical Safety Development Unit, Electrical Safety Regulatory Department, spoke on electrical issues during the festive season at the IKIM FM radio station.

8 Jun 2018
8 June 2018

Iffah Hannah Muluk, Ketua Unit Pembangunan Keselamatan Elektrik, Jabatan Kawal Selia Keselamatan Elektrik memberi penerangan mengenai isu keselamatan elektrik di musim perayaan di rancangan Selamat Pagi Malaysia, RTM.
Iffah Hannah Muluk, Head of Electrical Safety Development Unit, Electrical Safety Regulatory Department, spoke on safety issues during the festive season on the Selamat Pagi Malaysia programme on RTM.

SURUHANJAYA TENAGA DI MEDIA
ENERGY COMMISSION IN THE MEDIA

Dapur gas domestik perlu lulus ST, SIRIM

KUALA LUMPUR 28 Mei - Setiap dapur gas domestik yang menggunakan gas petroleum cecair (LPG) perlu mendapatkan kelulusan daripada Suruhanjaya Tenaga (ST) dan dilekatkan dengan label Agensi Penyelidikan dan Teknologi Utama Negara (SIRIM) sebelum dipasarkan di dalam negara ini bermula 1 April depan.

Penguatkuasaan itu selaras dengan Peraturan 116(1), 117(1) dan 119(1) peraturan-Peraturan Bekalan Gas (Pindaan) 2017 bagi memastikan dapur gas yang dipasarkan itu mendapat kelulusan dan telah menjalani ujian untuk memastikan tahap keselamatan.

"Buat masa ini, dapur gas domestik yang dipasarkan di negara ini tidak mempunyai sebarang label atau tanda kelulusan daripada ST atau SIRIM seperti kelengkapan elektrik.

"Keadaan tersebut menyukarkan terutama orang awam untuk mengenalpasti sama ada dapur gas terbabit telah mendapat kelulusan atau tidak dan sama ada tahap keselamatan telah diuji," katanya dalam satu kenyataan di sini hari ini.

Mengulas lanjut, kenyataan itu berkata, selepas dikuatkuasakan kelak, pihak yang gagal mematuhi peraturan ini boleh dikenakan tindakan di bawah Akta Bekalan Gas (Pindaan) 2016 dan Peraturan-peraturan Bekalan Gas (Pindaan) 2017.

"Jika sabit kesalahan boleh didenda sehingga RM100,000 dan dalam kesalahan berterusan, denda RM2,000 bagi setiap hari atau sebahagian daripada sehari kesalahan itu berterusan selepas sabitan," katanya.

Utusan Malaysia

PEGAWAI ST dan TNB memeriksa penyambungan bekalan elektrik haram di sebuah premis.

Putrajaya

ST serbu kilang di Ipoh buat penyambungan bekalan elektrik secara haram

Suruhanjaya Tenaga (ST) menyerbu sebuah kilang di Ipoh kerana disyaki membuat penyambungan bekalan elektrik secara haram sehingga mengakibatkan kerugian kira-kira RM50,000 kepada Tenaga Nasional Berhad (TNB).

ST memaklumkan, serbuan dijalankan bersama TNB ke atas premis dijadikan ladang perlombongan wang kripto itu mendapati berlaku pengusikan kepada pepasangan meter milik TNB, yang menjadi kesalahan di bawah Akta Bekalan Elektrik 1990.

"Siasatan lanjut sedang dijalankan untuk tujuan pendakwaan di mahkamah di bawah peruntukan subseksyen 37 (3) Akta Bekalan Elektrik 1990.

"Jika sabit kesalahan, boleh dikenakan denda sehingga RM5 juta atau penjara sehingga 10 tahun atau kedua-duanya sekali," katanya dalam satu kenyataan.

ST turut mengingatkan pengguna elektrik di seluruh negara supaya menggunakan elektrik secara berhemah dan tidak mengganggu pepasangan meter elektrik milik utiliti.

"Jika terdapat sebarang kejanggalan pada pepasangan elektrik, laporan segera perlu dibuat kepada pihak utiliti atau ST untuk tindakan lanjut," katanya.

Metro Ahad

Lantik orang kompeten jaga pepasangan voltan tinggi: Suruhanjaya Tenaga

KOTA KINABALU: Suruhanjaya Tenaga menasihatkan semua pemilik premis yang menggunakan pepasangan voltan tinggi agar melantik orang kompeten untuk menjaga pepasangan berkenaan bagi mengelak kejadian tidak diingini berlaku.

Pengarah Wilayah Suruhanjaya Tenaga (Pantai Barat Sabah), Mohd Yusrul Yusof berkata melantik individu yang tidak kompeten untuk menjaga pepasangan voltan tinggi di premis seperti kilang, hotel, pusat beli-belah dan seupamanya adalah satu kesalahan dan boleh diambil tindakan.

"Memang kita ada keluarkan notis (kepada premis-premis yang menggunakan pepasangan voltan tinggi) agar mengambil tindakan... kita tekankan supaya premis-premis tersebut ada orang kompeten voltan tinggi (yang jaga)," katanya kepada *Bernama*.

Mohd Yusrul berkata demikian ketika ditemui pada program 'Touch Point 2018' dan Seminar Keselamatan Elektrik anjuran agensi itu di Institut Kemahiran Belia Negara (IKBN) Kinarut hari ini. Seminar berkenaan dihadiri kira-kira 50 peserta yang terdiri daripada orang kompeten dan pelatih IKBN.

Pepasangan voltan tinggi merujuk kepada pepasangan yang menggunakan 1kV dan ke atas.

Menurut Mohd Yusrul, selain boleh mengundang kemalangan seperti letupan serta kecederaan di premis, kegagalan mematuhan melantik orang kompeten untuk menjaga pemasangan voltan tinggi juga boleh diambil tindakan undang-undang.

"Jika berlaku kemalangan (di premis akibat ketidakpatuhan kepada peraturan Suruhanjaya Tenaga), kita boleh mengambil tindakan undang-undang yang membawa hukuman denda dan penjara, bergantung kepada punca kemalangan itu mengikut Akta Suruhahjaya Tenaga,"katanya.

Sementara itu, Mohd Yusrul menganggarkan 45-50 peratus premis yang menggunakan pepasangan voltan tinggi di Sabah sudah mematuhi peraturan melantik orang kompeten sebagai penjaga pepasangan berkenaan manakala selebihnya dalam proses melantik orang kompeten.

Katanya antara rungutan yang diterima suruhanjaya daripada pemilik premis berkenaan ialah kos menghantar pekerja untuk kursus sijil kompeten adalah tinggi serta kekuatiran mereka akan kehilangan pekerja kompeten itu kerana berpindah tempat kerja.

Beliau berkata rungutan pemilik premis mengenai kos tinggi berkenaan mungkin sudah tidak relevan lagi kerana Suruhanjaya Tenaga telah memberi tauliah kepada IKBN untuk menjalankan bengkel Modul Senggaraan Dan Kendalian Pencawang untuk mendapatkan sijil kompeten berkenaan. - Bernama

Harian Ekspres (KK)

Lupus 189 perkakas elektrik tidak selamat

Putrajaya: Sebanyak 189 unit perkakasan elektrik dihapuskan selepas didapati gagal mematuhi beberapa syarat ditetapkan Suruhanjaya Tenaga (ST) termasuk tidak mempunyai label keselamatan ST-SIRIM.

Pengarah Kanan Kanan Selia Keselamatan Elektrik ST Mohd Elmi Anas berkata, pihaknya mengarahkan tiga syarikat pengimport supaya melupuskan kelengkapan elektrik berkenaan kerana didapati tidak selamat untuk digunakan.

Beliau berkata, semua pengimport kelengkapan elektrik berkenaan tidak mendapatkan pelukisan kebenaran dan memenuhi syarat ditetapkan sebelum membawa masuk kelengkapan elektrik itu.

"Kami memastikan pengimport supaya memastikan kelengkapan elektrik yang diimport sama seperti dinyatakan dan dinyatakan dalam laporan ujian keselamatan.

"Kelengkapan elektrik yang gagal ujian keselamatan dan tiada label keselamatan atau kecekapan tenaga tidak dibenarkan dipasarkan di negara ini," katanya dalam kenyataan di sini, semalam.

Katanya, jika produk kelengkapan elektrik berkenaan gagal memenuhi tahap keselamatan berkenaan, ia perlu dikembalikan ke negara asal atau dihapuskan.

Mohd Elmi berkata, jika kelengkapan elektrik itu dikeluarkan dari gudang simpanan dan dijual kepada penggunaa, pengimport dilarhendaki menyarkan notis penarikan balik dalam akhbar tempatan.

Menurutnya, antara kelengkapan elektrik yang dihapuskan termasuk keluhar, mesin basuh dan pengering, hud dapur, pengisar makanan, cerek elektrik, mesin basuh dan periuk nasi membabitkan nilai pasaran RM130,000.

"Semua kelengkapan itu dimusnahkan di gudang simpanan di Puchong, Petaling Jaya dan Shah Alam, Selangor," katanya.

Harian Metro

Periksa sistem pendawaian pusat tahfiz

PETUGAS EC memberi taklimat tentang keselamatan suis elektrik kepada para pelajar Tahfiz Darul Furqan di Sentul, Kuala Lumpur semalam.

KUALA LUMPUR – Suruhanjaya Tenaga (EC) mengambil inisiatif memeriksa dan membaiki sistem pendawaian 10 buah pusat tahfiz terpilih di seluruh negara bagi memastikan keselamatan di premis berkenaan.

Buat permulaan program dimulakan di Tahfiz Darul Furqan, Padang Balang dekat Sentul di sini semalam.

Timbalan Pengarah Unit Perancangan dan Penyelarasan Penguatkuasaan EC, Ir. Shafie Mohamed berkata, program dijayakan dengan kerjasama pelatih-pelatih Institut Kemahiran Mara Kuala Lumpur.

"Antara kerja-kerja yang dilaksanakan ialah penggantian lampu rosak, penukaran kotak papan agihan dan penambahan alat-alat perlindungan.

"Jadi kita mengambil langkah turun padang dengan memilih pusat-pusat tahfiz," katanya kepada pemberita di sini semalam.

Selain pemeriksaan, pihak EC turut menganjurkan taklimat mengenai keselamatan elektrik dan keselamatan gas kepada para pelajar dan guru-guru pusat tahfiz berkenaan.

Kosmo

Sin Chew Daily

Kerajaan setuju laksana ICPT mulai Julai

Sektor perniagaan perlu membayar kos tenaga lebih tinggi dalam tempoh enam bulan akan datang, susulan surcaj tambahan 1.35 sen bagi setiap kiloWatt sejam (kWh) bermula 1 Julai ini oleh Tenaga Nasional Bhd (TNB).

TNB berkata, surcaj itu, yang disebabkan oleh kenaikan kos bahan api dan penjanaan, adalah di bawah mekanisme Kos Pelepasan Tidak Seimbang (ICPT).

Ia membolehkan syarikat utiliti tenaga itu mencerminkan perubahan dalam kos bahan api dan penjanaan dalam tarif elektrik pengguna setiap enam bulan.

Dalam satu pengumuman kepada Bursa Malaysia semalam, TNB berkata, kerajaan menerusi surat daripada Suruhanjaya Tenaga bertarikh 28 Jun meluluskan pelaksanaan ICPT bagi tempoh 1 Julai hingga 31 Disember 2018.

TNB berkata, purata Tarif Asas akan kekal tidak berubah pada 39.45 sen/kWh.

Penggunaan bawah 300kWh tidak terjejas

Bagaimanapun, berikutan kos bahan api dan penjanaan bagi tempoh 1 Januari hingga 30 Jun 2018, kos tambahan surcaj ICPT sebanyak RM698.19 juta atau 1.35 sen/kWh akan dilepaskan menerusi mekanisme ICPT.

Pengguna domestik dengan penggunaan bulanan di bawah 300kWh tidak akan terjejas oleh pelaksanaan ICPT, sementara jumlah yang melebihi paras itu dibiayai oleh Kumpulan Wang Industri Elektrik (KWIE).

Pengguna domestik merujuk kepada mereka yang menduduki rumah persendirian, yang tidak digunakan sebagai hotel, rumah tumpangan atau digunakan untuk tujuan menjalankan sebarang bentuk perniagaan, perdagangan, aktiviti profesional atau perkhidmatan.

Sementara itu, pelanggan bukan domestik akan dipengaruhi oleh surcaj ICPT sebanyak 1.35 sen/kWh, kata TNB.

Ia berkata, pelaksanaan ICPT tidak akan memberi sebarang kesan ke atas operasi perniagaan dan kedudukan kewangannya.

Suruhanjaya Tenaga dalam kenyataannya menjelaskan, bagi tempoh Januari hingga Jun 2018, didapati bahawa harga bahan api arang batu telah meningkat kepada A$91.66 satu tan berbanding harga yang diunjurkan dalam tarif asas, iaitu A$75 satu tan.

Kenaikan bagi tempoh enam bulan pertama 2018 ini adalah faktor utama yang menyebabkan kos penjanaan sebenar meningkat sebanyak RM698.19 juta bersamaan 1.35 sen/kWj.

Sehubungan itu, kerajaan telah memutuskan supaya peningkatan kos sebanyak 1.35 sen/kWj berkenaan dilepaskan dalam bentuk surcaj ICPT kepada semua pengguna bukan domestik di Semenanjung Malaysia bagi tempoh 1 Julai 2018 hingga 31 Disember 2018.

Kerajaan juga telah menetapkan supaya surcaj ICPT itu dikecualikan kepada semua pengguna domestik bagi tempoh sama.

Fakta nombor

1.35 SEN
surcaj tambahan bagi setiap (kWh) bagi sektor perniagaan bermula 1 Julai ini oleh TNB

39.45 SEN/KWH
purata Tarif Asas tidak berubah

Berita Harian

Setahun Yang Lalu *A Year That Was* 2018

Mengimbau kembali aktiviti-aktiviti Suruhanjaya Tenaga pada 2018 yang telah membantu dalam mencapai Visi Strategiknya.

A look back at the Energy Commission's activities in 2018 that have helped it move closer towards realising its Strategic Vision.

Januari *January*

16*th*

Taklimat *Electricity Tariff in Peninsular Malaysia for Regulatory Period 2 (RP2:2018 – 2020) under the Incentive Based Regulation (IBR) Mechanism*

Briefing on Electricity Tariff in Peninsular Malaysia for Regulatory Period 2 (RP2:2018 – 2020) under the Incentive Based Regulation (IBR) Mechanism

Sesi taklimat ini merupakan platform pertemuan para penyelidik dan penganalisa daripada pelbagai agensi-agensi Kerajaan, syarikat-syarikat sekuriti dan institusi kewangan, bertujuan meningkatkan pemahaman terhadap isu-isu penting masa hadapan industri tenaga.

By bringing together researchers and analysts from diversified Government agencies, securities companies and financial institutions, this briefing session improved understanding of the issues that are most important to the future of the energy industry.

Februari *February*

13*th*

International Forum on Global Energy Landscape: Electricity & Gas Market Liberalisation and Its Implication to Malaysian Economy (IFGE 2018)

Forum ini berfokus terhadap liberalisasi pasaran elektrik dan gas serta pembaharuan situasi tenaga secara global. Selain itu, forum ini juga membincangkan langkah-langkah yang telah diambil oleh negara lain dan implikasi langkah-langkah tersebut dalam konteks industri tenaga di Malaysia, serta adaptasi yang bersesuaian dengan lanskap tenaga Malaysia.

The forum focused on electricity and gas market liberalisation and reform in the changing global energy situation and dealt with how to interpret relevant moves in the world, what implications these moves have for Malaysia and how Malaysia should respond to them.

27*th*

Seminar *Overview of Electrical and Gas Safety Product* antara Malaysia dan Jepun

Seminar on Overview of Electrical and Gas Safety Product between Malaysia and Japan

Malaysia dan Jepun berusaha sama mewujudkan platform perkongsian ilmu yang memberi pendedahan mengenai sistem dan keselamatan elektrik serta perkongsian laporan dan analisa kemalangan yang melibatkan pengunaan elektrik.

Malaysia and Japan worked together to create a knowledge-sharing platform, providing exposure on electrical systems and safety as well as sharing reports and analyses of accidents involving electrical use.

29*th*

Mesyuarat Panel Perunding Tenaga

Energy Consulting Panel Meeting

Mesyuarat ini membentangkan perkembangan terkini berkaitan reformasi sektor tenaga, tarif elektrik, tenaga boleh baharu, penggunaan tenaga yang cekap serta permintaan dan pembekalan tenaga elektrik Malaysia.

This meeting presented the latest developments in energy sector reforms, electricity tariffs, renewable energy, the efficient use of energy and the demand and supply of electricity in Malaysia.

Mac
March

27th

Sesi Dialog *Sustainable Development Goals 2030 (SDG 2030)*

Sustainable Development Goals 2030 (SDG 2030) Dialogue Session

Sesi dialog bersama 1,200 penduduk Perak termasuk penjawat awam, pemimpin masyarakat dan pelajar institusi pengajian tinggi untuk menerangkan dengan lebih lanjut mengenai SDG 2030 serta membincangkan peranan Kerajaan dan masyarakat mengenai gaya hidup hijau.

A dialogue session with 1,200 Perak residents including civil servants, community leaders and students of higher learning institutions to explain more about SDG 2030 and to discuss the role of the Government and society on green lifestyle.

April
April

7th - 8th

Hari Terbuka Pembekalan Elektrik Sabah 2018

Sabah Electricity Supply Open Day 2018

Rakyat Sabah dijelaskan dengan isu, cabaran serta inisiatif yang diambil oleh Kerajaan dalam menangani situasi pembekalan elektrik di Sabah. Hari Terbuka ini dirasmikan oleh YB Tan Sri Datuk Seri Panglima Joseph Pairin Kitingan, Timbalan Ketua Menteri Sabah yang juga merupakan Menteri Pembangunan Infrastruktur.

The people of Sabah were enlightened on the issues, challenges and the initiatives undertaken by the Government in addressing the electricity supply situation in Sabah. The Open Day was officiated by YB Tan Sri Datuk Seri Panglima Joseph Pairin Kitingan, Deputy Chief Minister of Sabah who is also the Minister of Infrastructure Development.

10th

Taklimat EE Challenge 2018

EE Challenge Briefing 2018

21st - 22nd

Hari Keluarga Suruhanjaya Tenaga

Energy Commission Family Day

Program santai ini bertujuan merapatkan hubungan kekeluargaan dan ukhwah di kalangan keluarga dan juga rakan-rakan setugas. Dengan jumlah pengambilan warga kerja yang ramai sejak beberapa tahun kebelakangan ini, program sebegini memberi peluang kepada kakitangan untuk mengenali warga kerja dari Jabatan-Jabatan dan juga Pejabat Kawasan yang berlainan.

This informal programme is aimed at bridging family relationships and goodwill between both family and colleagues. Due to the high intake of staff over the past few years, such programmes provide an opportunity for the staff from different Departments and Regional Offices to get to know each other.

25th - 26th

High Level Policy Dialogue on Coal

Mei
May

14*th*

Lawatan Kerja oleh Delegasi *Brunei Darussalam Electricity Authority* ke Ibu Pejabat Suruhanjaya Tenaga

Working Visit by Brunei Darussalam Electricity Authority Delegation to the Energy Commission Headquarters

15*th*

Bengkel Tadbir Urus Pembeli Tunggal dan Pengendali Sistem Grid

Governance of Single Buyer and Grid System Operator Workshop

ST telah melaksanakan Pembaharuan Tadbir Urus Pembeli Tunggal dan Pengendali Sistem Grid untuk membentangkan penemuan kajian dan rancangan tindakan yang telah dicadangkan oleh para perunding kepada pihak-pihak yang berkenaan dan membincangkan pilihan yang disyorkan.

The Commission presented the findings of the study on the Governance Reform of Single Buyer and Grid System Operator as well as the proposed action plans by consultants, and discussed the recommended options.

Jun
June

9*th*

CSR: Program Kegembiraan Dikongsi Bersama – Maahad Tahfiz Anak Yatim Darul Fuqaha

CSR: Shared Happiness Programme with Darul Fuqaha Maahad Tahfiz Orphanage

7*th* - 11*th*

Temubual di Stesen Radio dan Televisyen mengenai Keselamatan Elektrik di Musim Perayaan.

Series of interviews on radio and television regarding electrical safety during the festive season

27*th*

Seminar Keselamatan Elektrik Bersama Pengusaha Kelapa Sawit dan Kolam Renang

Seminar on Electricity Safety for Palm Oil Producers and Swimming Pool Operators

Julai
July

2*nd*

Peralihan Pentadbiran Kementerian daripada KeTTHA ke MESTECC

Commission's reporting Ministry changes name from KeTTHA to MESTECC

Kementerian Tenaga, Sains, Teknologi, Alam Sekitar dan Perubahan Iklim kini dikenali sebagai MESTECC. Selepas Pilihanraya Umum ke-14 (PRU 14), keseluruhan komponen Kementerian Sains, Teknologi dan Inovasi (MOSTI), sektor tenaga dan teknologi hijau Kementerian Tenaga, Teknologi Hijau dan Air (KeTTHA) serta Bahagian Pengurusan Alam Sekitar dan Perubahan Iklim Kementerian Sumber Asli dan Alam Sekitar (NRE) telah disusun semula bagi membentuk MESTECC

The Ministry of Energy, Science, Technology, Environment and Climate Change is now known as MESTECC. After the 14th General Election (GE 14), the entire component of the Ministry of Science, Technology and Innovation (MOSTI), the energy and green technology sector of the Ministry of Energy, Green Technology and Water (KeTTHA) and the Environment Management and Climate Change Division of the Ministry of Natural Resources and the Environment (NRE) was restructured to form MESTECC.

Ogos
August

28*th*

Sesi *Townhall* bersama YB Menteri MESTECC dan *Stakeholders* berkaitan Industri Bekalan Elektrik di Negeri Sabah

Townhall Session on Sabah's Electricity Industry with MESTECC Minister and Stakeholders

Kira-kira 220 peserta termasuk Anggota Parlimen dan Anggota Dewan Undangan Negeri, serta wakil Kementerian, agensi Kerajaan dan pihak berkuasa tempatan hadir dalam sesi dialog bersama Menteri dan Timbalan Menteri untuk membincangkan mengenai masalah pembekalan elektrik di Sabah.

About 220 participants including MPs and members of State Legislative Assemblies, as well as representatives of Ministries, government agencies and local authorities attended a dialogue session with the Minister and Deputy Minister to discuss the problem of electricity supply in Sabah.

11*th*

Lawatan *Bangladesh Power Development Board (BPDB)* ke Suruhanjaya Tenaga

Bangladesh Power Development Board (BPDB) visit to the Commission

Delegasi dari Lembaga Pembangunan Kuasa Bangladesh (BPDB) membuat kunjungan kerja ke ST untuk mempelajari lebih lanjut peranan ST sebagai badan kawal selia tenaga di Malaysia selain berfokus terhadap teknologi Loji Kuasa Turbin Gas.

Focused on knowledge gathering regarding Gas Turbine Power Plants, a delegation from the Bangladesh Power Development Board (BPDB) visited the Commission to learn more about the role of the energy regulator in Malaysia.

5*th*

Majlis Hari Raya Suruhanjaya Tenaga

Energy Commission Hari Raya Gathering

14*th*

Malam Penghargaan Suruhanjaya Tenaga

Energy Commission Awards Night

ST meraikan Mantan Pengerusi Dato' Abdul Razak Abdul Majid dan Anggota ST, Datuk Michael Emban yang telah memberi sumbangan besar kepada ST dan sektor tenaga di sepanjang perkhidmatan mereka. Majlis turut dihadiri oleh YB Puan Yeo Bee Yin, Menteri Tenaga, Sains, Teknologi, Alam Sekitar dan Perubahan Iklim.

To celebrate the Commission's outgoing Dato' Abdul Razak Abdul Majid and Commission Member, Datuk Michael Emban, who have contributed significantly to the Commission and the energy sector throughout their service. The dinner was also attended by YB Yeo Bee Yin, Minister of Energy, Science, Technology, Environment and Climate Change.

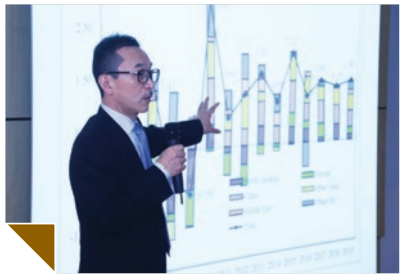
28*th*

Seminar *Electrical Design, Installation and Safety First for a Lasting Cable* di Pusat Konvensyen Kuala Lumpur

Seminar on Electrical Design, Installation and Safety First for a Lasting Cable at the Kuala Lumpur Convention Centre

14*th*

Energy Commission Talk: Geopolitics and Uncertainties in the World Energy Market by Prof. Dr. Ken Koyama



31*st*

Penstrukturan Semula Organisasi Suruhanjaya Tenaga

Commission Undergoes Organisational Restructuring

ST telah melaksanaan pindaan struktur organisasi daripada berasaskan sektor kepada berasaskan fungsi. Struktur organisasi ST baharu ini lebih bertumpu kepada fungsi strategik, di samping membolehkan fungsi operasi dilaksanakan dengan lebih berkesan.

The Commission has implemented organisational structure amendments from sector-based to functional based. The new organisation structure focuses more on strategic functions, while enabling operational functions to be implemented more effectively.

September
September

26th

Seminar Pemerkasaan Perundangan, Pelesenan dan Keselamatan Gas bagi Pengusaha Dobi

Seminar on Legal Empowerment, Licensing and Gas Safety for Laundrette Operators

27th

Program *Touchpoint* dan Seminar Keselamatan Elektrik, Gas dan Kecekapan Tenaga Bersama Sekolah Tahfiz Darul Furqan di Sentul, Kuala Lumpur.

Touchpoint Programme and Seminar on Electricity and Gas Safety and Energy Efficiency at Darul Furqan Tahfiz School in Sentul, Kuala Lumpur

17th - 20th

Pameran di *IGEM 2018*

Exhibition at IGEM 2018

ST giat mempromosikan inisiatif kecekapan tenaga, kelengkapan elektrik yang selamat serta campuran penjanaan tenaga Malaysia kepada pengunjung pameran. Selain itu, ST juga terlibat dalam membincangkan campuran penjanaan yang bersih semasa *National Policy Roundable* bertemakan *Greening Malaysia Energy*, serta menganjurkan sesi *Town Hall on Energy Efficiency.*

The Commission actively promotes energy efficiency initiatives, safe electrical equipment as well as Malaysia's generation mix to booth visitors. Apart from the exhibition, the Commission also addresses cleaner generation mix during National Policy Roundable, with the theme Greening Malaysia Energy, as well as organising a Town Hall session on Energy Efficiency.

Oktober
October

2nd

Program *Touchpoint* di Kota Kinabalu, Sabah.

Touchpoint Programme in Kota Kinabalu, Sabah

4th

Seminar Kesedaran *Power Quality* dan Standard Prestasi Perkhidmatan Bekalan Elektrik

Seminar on Power Quality Awareness and Electrical Supply Service Performance Standard

9th

Energy Commission Talk: Competitive Energy Market: Why It Matters and What is the Challenge? by Prof. Dr. Ken Koyama

Penyampaian ini membincangkan latar belakang, kepentingan, perkembangan, impak dan cabaran mempromosikan pasaran tenaga yang kompetitif, dengan tumpuan utama diberikan kepada pasaran elektrik, berdasarkan pengalaman yang telah dipelajari di Eropah, Amerika Syarikat dan Jepun.

This presentation highlighted the background, significance, actual development, impacts and challenges of promoting competitive energy market with major focus given to the electricity market, based on the experiences and lessons learned in Europe, US and Japan.

20th

Perhimpunan Kecekapan Tenaga dan Pelancaran Program Pelabelan BEI untuk Bangunan Kerajaan

Townhall on Energy Efficiency and Launching of the BEI Labelling Programme for Government Buildings

November
November

13th - 16th

Mesyuarat *Joint Sectoral Committee (JSC) Electrical & Electronic Equipment (EEE)* ke-26

26th Joint Sectoral Committee (JSC) Electrical & Electronic Equipment (EEE) Meeting

21st

Lawatan Media ke BERNAMA

Media Visit to BERNAMA

Dalam usaha mengeratkan hubungan dengan pihak media, lawatan ke BERNAMA telah diatur di mana delegasi ST diberi penerangan mengenai tugas dan fungsi BERNAMA.

To foster rapport with the media, a visit to BERNAMA was organised where the Commission delegates were briefed on BERNAMA's duties and functions.

22nd

Program CSR : Penanaman Pokok Bakau di *Kuala Selangor Nature Park*

CSR Programme: Mangrove Tree Planting at Kuala Selangor Nature Park

Penanaman Pokok Bakau merupakan rentetan lain bagi inisiatif CSR yang dijalankan oleh ST untuk mengurangkan jejak kaki karbon, kerana pokok yang ditanam boleh menyerap 1.5 tan CO_2 setahun.

The Mangrove Tree Planting Programme is another string for CSR initiatives undertaken by the Commission to reduce carbon footprints, as the trees planted can absorb 1.5 tonnes of CO_2 per year.

Disember
December

4th - 5th

ASEAN Electrotechnical Symposium and Exhibition 2018

Simposium itu memberikan penerangan terhadap situasi semasa sektor kejuruteraan dan tenaga Malaysia dan peranan bersepadu yang dimainkan dalam menetapkan standard yang mendorong rantaian nilai global. Usaha ST adalah untuk mempelbagaikan sumber tenaga bagi melindungi persekitaran dan kelestarian ekonomi.

The symposium shed light on the current situation of Malaysia's engineering and energy sectors and the integrated role they play in setting standards that drive global value chains. The Commission's efforts are to diversify energy resources to protect both environment and economic sustainability.

28th

Lawatan Kerja Ahli-ahli Parlimen Kenya ke Ibu Pejabat Suruhanjaya Tenaga

Working Visit by Kenyan Members of Parliament to Commission's Diamond Building

Lawatan ini bertujuan memahami industri tenaga dan senario industri tenaga negara, di mana delegasi juga didedahkan dengan fungsi dan misi ST dalam meningkatkan industri, diikuti dengan lawatan ke Bangunan Berlian.

The visit was aimed at understanding the local energy industry and scenario, where the delegation was also given insights on the Commission's role and mission in improving the industry, followed by a tour of the Diamond Building.

27th

***National Energy Forum* ke-8**

8th National Energy Forum

Forum dengan tema *"Carbon-Neutral Future: A Country in Transition"* membincangkan kebergantungan terhadap sumber dan pembekalan tenaga yang terjamin, di samping berhadapan dengan cabaran perubahan iklim.

The forum with the theme "Carbon-Neutral Future: A Country in Transition" addresses our dependency on the abundance and secured supply of energy while on the other hand, we are faced with the key challenge of climate change.

5th

Majlis Penyampaian Hadiah *Energy Efficiency (EE) Challenge 2018*

Energy Efficiency (EE) Challenge 2018 Prize Giving Ceremony

11th

Energy Commission Talk: IEEJ Outlook 2019: Global Supply and Demand Outlook for Gas and Electricity by Prof. Dr. Ken Koyama

Penyampaian ini menekankan cabaran tenaga global dari sudut pandangan "3E", iaitu keselamatan tenaga, perlindungan alam sekitar dan kecekapan ekonomi, berdasarkan *IEEJ Outlook* 2019 yang diterbitkan pada Oktober tahun ini. Penyampaian ini juga memberi penerangan kepada kepentingan keselamatan bekalan, pembangunan mampan dan isu kemampuan yang berkaitan dengan pasaran elektrik dan gas dengan penekanan khas ke atas pasaran Asia.

The presentation highlighted the global energy challenges from the viewpoint of "3Es", namely energy security, environment protection and economic efficiency, based on IEEJ Outlook 2019 which was published October this year. The presentation also shed light on the importance of security of supply, sustainable development and affordability issues related to electricity and gas markets with special emphasis on the Asian market.

31st

Program *Touchpoint* di Pulau Pinang.

Touchpoint Programme in Penang

- Daya Harap dan Kualiti Perkhidmatan Industri Elektrik dan Gas Berpaip
  Reliability and Service Quality of Electricity and Piped Gas Industry
- Keselamatan dalam Pembekalan dan Penggunaan Elektrik dan Gas Berpaip
  Safety in Supply and Utilisation of Electricity and Piped Gas
- Sekuriti dan Kemampanan Tenaga
  Energy Security and Sustainability
- Kecekapan Ekonomi dan Kemampuan dalam Industri Elektrik dan Gas Berpaip
  Economic Efficiency and Affordability in Electricity and Piped Gas Industry
- Kualiti Kawal Selia dan Pelaksanaan Perkhidmatan
  Regulatory Quality and Service Delivery Improvement
- Pembangunan Kapasiti dan Keupayaan
  Capacity and Capability Building

DAYA HARAP DAN KUALITI PERKHIDMATAN
RELIABILITY AND SERVICE QUALITY

BAB
CHAPTER

1

MEMASTIKAN DAYA HARAP BEKALAN TENAGA DAN KUALITI PERKHIDMATAN INDUSTRI

ENSURING RELIABILITY OF ENERGY SUPPLY AND SERVICE QUALITY OF THE INDUSTRY

Pada 2018, permintaan puncak sistem grid di Semenanjung Malaysia adalah 18,338MW seperti yang direkodkan pada bulan Ogos. Ini merupakan peningkatan sebanyak 3.0 peratus berbanding dengan 17,790MW pada tahun sebelumnya. Sabah dan Wilayah Persekutuan Labuan juga merekodkan peningkatan permintaan puncak sebanyak 1.8 peratus di mana bacaan meningkat daripada 938MW pada 2017 kepada 955MW pada 2018.

Prestasi bekalan elektrik keseluruhan Semenanjung bertambah baik pada 2018 dengan tahap SAIDI 48.22 minit/pelanggan/tahun. Ini merupakan satu peningkatan sebanyak 11.5 peratus berbanding dengan tahun 2017. Di Sabah, SAIDI yang direkodkan pada 267.87 minit/pelanggan/tahun adalah 11.2 peratus merosot daripada tahun sebelumnya. Bagi industri gas berpaip pula, SAIDI di Semenanjung merosot daripada 0.11 minit/pelanggan/tahun pada 2017 kepada 0.31 minit/pelanggan/tahun pada 2018.

In 2018, peak demand in Peninsular Malaysia's grid system stood at 18,338MW as recorded in August. This marks an increase of 3.0 percent compared to 17,790MW in the previous year. There was also a 1.8 percent increase in peak demand in Sabah and the Federal Territory of Labuan from 938MW in 2017 to 955MW in the year in review.

The performance of electricity supply in the entire Peninsular took a better turn in 2018 with SAIDI at 48.22 minutes/customer/year. This marks an increase of 11.5 percent compared to 2017. In Sabah, SAIDI was recorded at 267.87 minutes/customer/year which was a decline of 11.2 percent from the previous year. For the piped gas industry, SAIDI in the Peninsular declined from 0.11 minutes/customer/year in 2017 to 0.31 minutes/customer/year in 2018.

PRESTASI DAYA HARAP

RELIABILITY PERFORMANCE

Kapasiti terpasang di Semenanjung Malaysia tidak berubah dan kekal pada 24,139MW dari tahun 2017 hingga 2018 memandangkan tiada kapasiti baharu daripada loji penjanaan kuasa baharu dan juga tiada loji yang berhenti operasi dalam tempoh masa itu.

Di samping itu, jumlah kapasiti terpasang di Sabah dan Labuan telah menunjukkan sedikit penurunan daripada 1,555.98MW kepada 1,531.54MW pada 2018. Ini mungkin disebabkan terdapat tiga (3) unit loji penjanaan kuasa di Labuk Canopy, Melawa dan Serudong yang telah berhenti operasi. 2018 juga menyaksikan permulaan operasi dua (2) loji penjanaan solar berskala besar (LSS) - Tadau Energy Sdn Bhd (Suria) dan Tadau Energy Sdn Bhd (Lumina) yang mampu menyumbang sebanyak 2MW dan 48MW kapasiti penjanaan baharu, masing-masing.

Installed capacity in Peninsular Malaysia remained stagnant at 24,139MW from the year 2017 to 2018 as there were no new capacity from new power plants and no plants that retired within that period of time.

Meanwhile, the total installed capacity in Sabah and Labuan showed a slight decline from 1,555.98MW to 1,531.54MW in 2018. This might have been caused by three (3) power plants in Labuk Canopy, Melawa and Serudong that became inactive. 2018 also attested to the operational commencement of two (2) Large Scale Solar Plants (LSS) - Tadau Energy Sdn Bhd (Suria) and Tadau Energy Sdn Bhd (Lumina) each capable of contributing 2MW and 48MW of new power generation capacity respectively.

	2017		2018	
	Semenanjung Malaysia *Peninsular Malaysia*	**Sabah Dan Labuan** *Sabah and Labuan*	**Semenanjung Malaysia** *Peninsular Malaysia*	**Sabah Dan Labuan** *Sabah and Labuan*
Kapasiti Terpasang *Installed Capacity*	**24,139 MW**	**1,555.98 MW***	**24,139 MW**	**1,531.54 MW***
SAIDI	**54.49** **minit /pelanggan/tahun** *minutes/customer/year*	**240.9** **minit /pelanggan/tahun** *minutes/customer/year*	**48.22** **minit /pelanggan/tahun** *minutes/customer/year*	**267.87** **minit /pelanggan/tahun** *minutes/customer/year*
Kapasiti LSS *LSS Capacity*	**0 MW**	**2 MW**	**129 MW**	**50 MW**
Margin Rizab *Reserve Margin*	**35.7%**	**33%**	**31.6%**	**28.6%**
Permintaan Maksimum *Maximum Demand*	**17,790 MW**	**938 MW**	**18,338 MW**	**955 MW**
Tenaga Maksimum *Maximum Energy*	**369,450 MWh**	**19,107 MWh**	**388,524 MWh**	**19,571 MWh**
Rizab Operasi *Operating Reserve*	**2,900 MW**	**215 MW**	**2,900 MW**	**215 MW**

Nota: *Kapasiti boleh harap Sabah; 1,247.37MW (2017) dan 1,227.76MW (2018) digunakan bagi pengiraan margin rizab Sabah.
*Note: *Sabah's Reliability Capacity; 1,247.37MW (2017) and 1,227.76MW (2018) are used for Sabah's Reserve Margin calculation.*
**Data kapasiti Semenanjung tidak termasuk LSS dan sambung tara LTM (100MW)
***Data Capacity for Peninsular Malaysia not including LSS and LTM interconnection (100MW)*

Bacaan SAIDI di Sabah juga telah merosot 10 peratus kepada 267.87 minit/pelanggan/tahun berbanding 240.9 minit/pelanggan/tahun pada 2017 di mana sistem pengagihan telah menyumbang catatan tertinggi sebanyak 258.54 minit/pelanggan/tahun, diikuti oleh penjanaan sebanyak 6.46 minit/pelanggan/tahun dan penghantaran sebanyak 2.88 minit/pelanggan/tahun.

Tahun 2018 juga menyaksikan dua (2) insiden besar *total blackouts* di kawasan Pantai Timur Sabah yang disebabkan oleh gangguan pada *LINE 1* Kolupis-Segaliud 275kV pada 9 Januari dan kejadian pelantikan 132kV Kunak-Kalumpang pada 14 September.

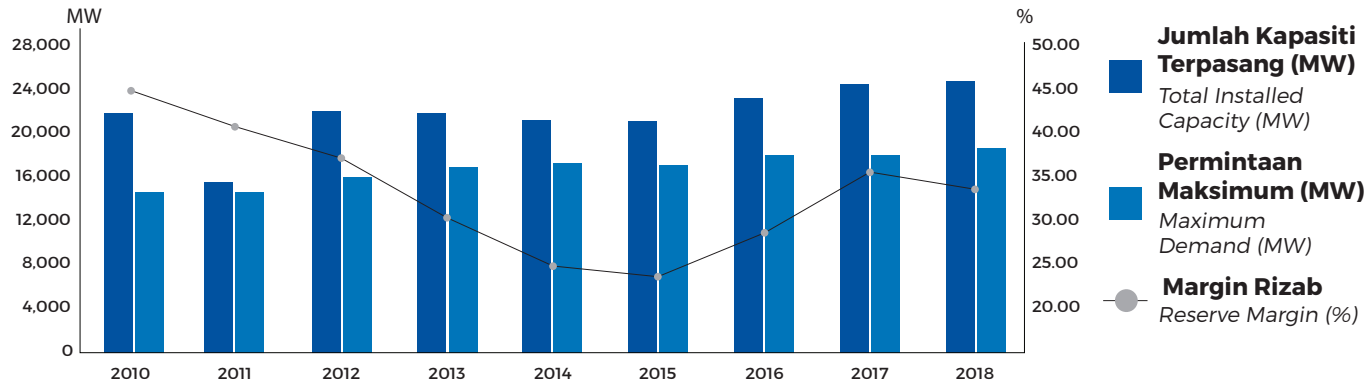
SAIDI readings in Sabah experienced a 10 percent increase from 240.9 minutes/customer/year in 2017 to 267.87 minutes/customer/year in 2018 which was mainly contributed by the distribution system that stood at 258.54 minutes/customer/year, followed by power generation at 6.46 minutes/customer/year and transmission at 2.88 minutes/customer/year.

The year in review also saw two (2) major total blackouts incidents in the East Coast of Sabah caused by LINE 1 Kolupis-Segaliud 275kV trip on 9 January and a 132kV Kunak-Kalumpang tripping incident on 14 September.

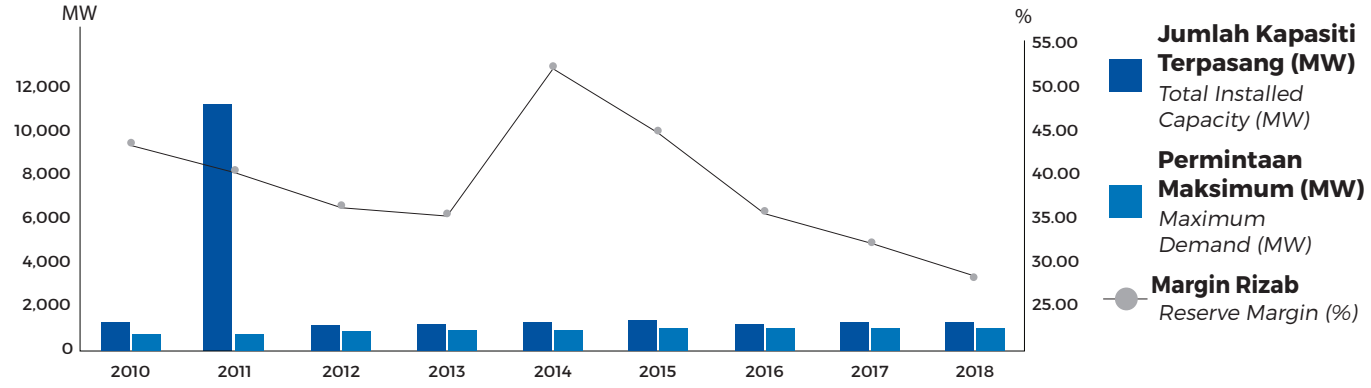
Secara ringkasnya, landskap daya harap bekalan di Sabah masih boleh diurus di mana inisiatif di peringkat pengagihan perlu diperbanyakkan memandangkan ia merupakan penyumbang tertinggi sebanyak 96.5 peratus daripada keseluruhan SAIDI negeri pada tahun 2018.

In brief, supply reliability landscape in Sabah is still manageable with a need to focus our efforts on enhancing initiatives at the distribution level as it represents the highest contributor to the state's overall SAIDI in 2018 at 96.5 percent.

Trend Margin Rizab Di Semenanjung, 2010-2018
Reserve Margin Trend For The Peninsular, 2010-2018



Trend Margin Rizab Di Sabah, 2010-2018
Reserve Margin Trend For Sabah, 2010-2018



INISIATIF UNTUK MENINGKATKAN PRESTASI DAYA HARAP
INITIATIVES TO IMPROVE RELIABILITY PERFORMANCE

SISTEM SIMPANAN TENAGA BATERI
BATTERY ENERGY STORAGE SYSTEMS

Untuk memastikan Malaysia mencapai sasaran 20 peratus TBB dalam jumlah campuran kapasiti terpasang menjelang 2025, satu pendekatan diperlukan untuk memastikan bahawa kemasukan TBB yang meningkat ke dalam Sistem Grid Malaysia tidak akan menjejaskan kestabilan, keboleharapan dan kecekapannya.

In order for Malaysia to achieve its target of 20 percent RE in the total installed capacity mix by 2025, an approach is needed to ensure that the increased inclusion of RE into the Malaysian grid system will not affect its stability, reliability and efficiency.

Ini boleh dicapai dengan menggunakan Sistem Simpanan Tenaga Bateri (BESS). Teknologi baharu ini boleh digunakan untuk melaksanakan fungsi seperti *peak shaving*, pengaturan frekuensi dan penstabilan penjanaan TBB.

Bagi tujuan tersebut, Sebuah Kumpulan Kerja Sistem Simpanan Tenaga Bateri (BESS-WG) yang dipengerusikan oleh ST dan dianggotai oleh Pengendali Sistem Grid (GSO), Pemilik Grid (GO), Pembeli Tunggal (SB) dan Pengagihan TNB (TNBD) dan wakil Pengeluar Kuasa Bebas (IPP) telah diwujudkan.

Tugas-tugas BESS-WG termasuklah:

1. Mengkaji potensi BESS untuk memastikan kestabilan, keboleharapan dan kecekapannya dengan menganalisa prestasinya di negara-negara lain.
2. Mewujudkan spesifikasi teknikal BESS untuk *Request for Proposal* (RFP) bagi pelaksanaan projek-projek rintis BESS.

Battery Energy Storage System (BESS) is one possible answer. This emerging technology can be used to perform functions such as peak shaving, frequency regulation and stabilising renewable energy generation.

For the above purpose, a Battery Energy Storage System Working Group (BESS-WG) chaired by the Commission and members comprising of the Grid System Operator (GSO), Grid Owner (GO), Single Buyer (SB), TNB Distribution (TNBD) and representatives from independent power producers (IPPs) was established.

The tasks of the BESS-WG include:

1. *Examining the potential of BESS to ensure its stability, reliability, and efficiency by analysing its performance in other countries.*
2. *Establishing BESS technical specifications for the Request for Proposal (RFP) to implement BESS pilot project(s).*

KAJIAN SEMULA KOD GRID
GRID CODE REVIEW

Pada mesyuarat Kod Grid Malaysia (MGC) yang pertama pada April 2017, GO telah mengusulkan untuk meminda MGC bagi mencerminkan perubahan dalam Industri Bekalan Elektrik Malaysia (MESI). ST telah diminta untuk menjalankan semakan yang komprehensif dan meminda MGC agar seiring dengan rangka kerja IBR yang sedia ada.

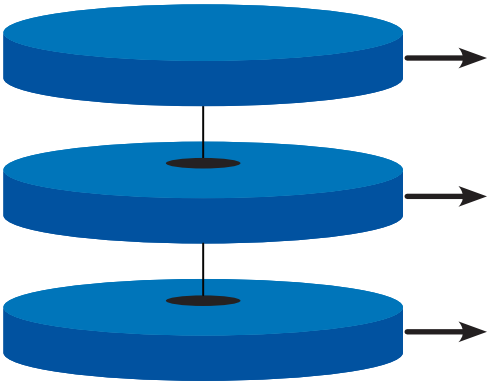
Sebuah kumpulan kerja (WG) telah dibentuk bagi merangka pindaan untuk diluluskan oleh ST. Ahli-ahli lain kumpulan kerja ini termasuk wakil daripada GSO, SB, GO, IPP, TNBD serta Penasihat Teknikal Bebas.

Tiga kategori pindaan telah dicadangkan:

During the first Malaysian Grid Code (MGC) meeting on April 2017, the GO suggested amending the MGC to reflect changes in the Malaysia Electricity Supply Industry (MESI). The Commission was tasked to carry out a comprehensive review and modify the MGC to be in line with the existing IBR framework.

A working group (WG) was formed to draft the amendments for the approval of the Commission, with members consisting of representatives from GSO, SB, GO, IPPs, TNBD and Independent Technical Advisors.

Three categories amendments were proposed:



Tahap 1 - Pindaan yang memerlukan perhatian serta-merta disebabkan perubahan dalam tugas dan tanggungjawab
Level 1 – Amendments that require immediate attention due to the shift in roles and responsibilities

Tahap 2 - Pindaan yang memerlukan perbincangan lebih lanjut dan selari dengan inisiatif MESI 2.0 oleh Kerajaan
Level 2 - Amendments that require further discussion and are in line with the Government's MESI 2.0 initiative

Tahap 3 - Pindaan untuk perubahan yang memerlukan perlantikan perunding atau pakar untuk mengkaji semula atau memberi nasihat terhadap perubahan
Level 3 - Amendments for changes that require the appointment of a consultant or expert to further review and give advice regarding the changes

KAJIAN PENANDA ARAS BOTTOM ASH
BOTTOM ASH BENCHMARKING STUDY

Kira-kira 15 peratus daripada keseluruhan abu yang terhasil daripada loji janakuasa arang batu terdiri daripada *Bottom Ash* (BA). Menurut TNB Fuel, loji-loji janakuasa ini telah menghasilkan 388,000 tan BA pada 2016. Pertambahan loji janakuasa arang batu dijangka akan meningkatkan jumlah BA kepada 582,000 tan pada 2020. Pada masa ini, loji janakuasa menyimpan BA di dalam kolam abu yang dilapisi dengan geomembran yang tidak dapat ditembusi bagi mengelakkan pencemaran tanah. Apabila kolam-kolam ini penuh, kolam yang baharu perlu dibina. Pembinaan kolam abu adalah tidak praktikal disebabkan kos pembinaan yang tinggi serta menggunakan tanah yang luas dan berharga.

Oleh yang sedemikian, sebuah Pasukan Kerja *Initiative Bottom Ash* telah ditubuhkan bagi tujuan seperti berikut:

1. Bekerjasama dengan Jabatan Alam Sekitar (JAS) dan badan-badan kawal selia lain bagi mengenal pasti cara untuk meluaskan lagi penggunaan BA tanpa menjejaskan alam sekitar, kesihatan dan keselamatan pihak-pihak berkepentingan, termasuk pihak awam.
2. Memberikan cadangan untuk tindakan selanjutnya kepada pihak Kerajaan.

About 15 percent of the total ash produced in a coal-fired power plant consists of Bottom Ash (BA). According to TNB Fuel, power plants produced 388,000 tonnes of BA in 2016. As the number of coal-fired power plants increases, BA is expected to reach 582,000 tonnes in 2020. Currently, power plants store BA in ash ponds, which are lined with an impermeable geomembrane to prevent ground contamination. Once filled up, power plants will need to build a new ash pond. Building ash ponds is impractical due to high construction costs while taking up vast and valuable land.

Therefore, a Bottom Ash Initiative Task Force was set up with the following objectives:

1. *Work with the Department of Environment (DOE) and other related regulatory bodies to identify ways to widen the use of BA without compromising the environment, health and safety of stakeholders, including the public.*
2. *Submit recommendations for further measures to the Government.*

PELANCARAN METER PINTAR
SMART METER ROLL OUT

Dalam usaha untuk mengawal selia pemeteran elektrik di negara ini, ST telah menguatkuasakan Sijil Perakuan Kelulusan *(Certificate of Approval – COA)* untuk meter serta melaksanakan audit dari masa ke masa. ST menentukan tatacara ujian dan pengesahan bagi meter elektrik.

Bagi tujuan teknologi pemeteran masa hadapan, TNB telah mencadangkan *Advanced Metering Infrastructure (AMI)*. Suatu projek rintis untuk AMI telah dilaksanakan bermula tahun 2014 dan dibiayai oleh *Electricity Supply Industry Account*. Sebanyak 1,000 meter pintar telah dipasang di Melaka dan Putrajaya.

Projek rintis AMI turut menghadapi cabarannya sendiri seperti meter pintar rosak, komunikasi selular yang terbatas, kos *In Home Display (IHD)* yang tinggi dan Frekuensi Radio serta *Power Line Communications* yang kurang daripada yang optimum.

Tasked with regulating the country's electricity metering, the Commission has enforced the Certificate of Approval (COA) for meters and performs periodic audits. The Commission also determines procedures for the testing and verification of electrical meters.

For the purpose of future metering technology, TNB proposed the Advanced Metering Infrastructure (AMI). An AMI pilot project was implemented from 2014 and funded by the Electricity Supply Industry Account. As many as 1,000 smart meters have been installed in Malacca and Putrajaya.

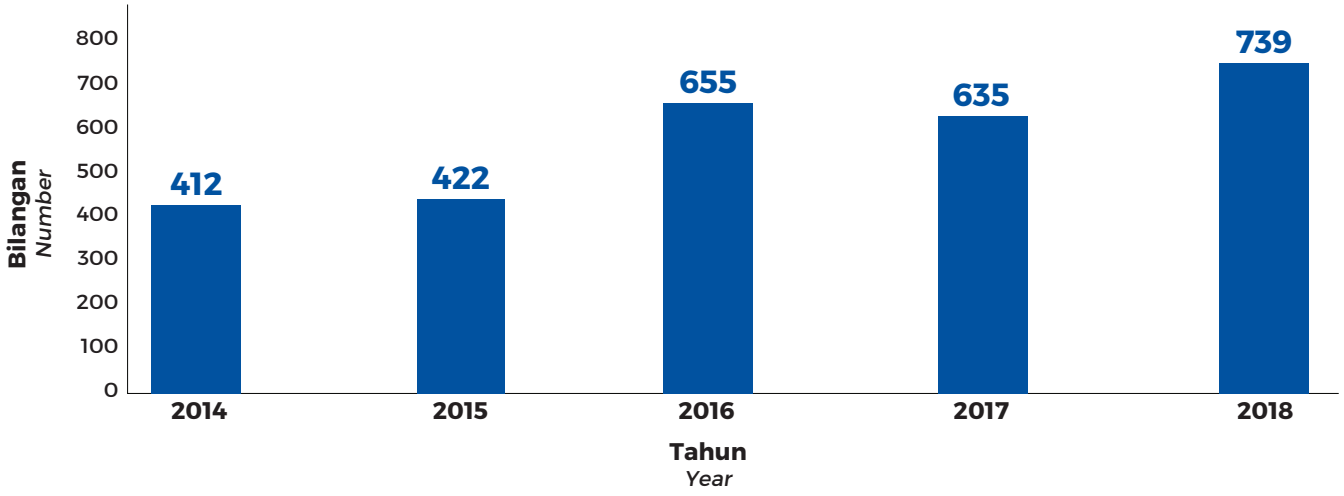
The AMI pilot project was faced with challenges such as faulty smart meters, poor cellular communication, high In Home Display (IHD) costs, and less than optimal Radio Frequency and Power Line Communications.

Bagi menyelaraskan infrastruktur dan penambahbaikan AMI, suatu Kumpulan Kerja telah ditubuhkan bersama pihak berkepentingan dan pemain industri seperti TNB, SIRIM, NMIM, MCMC, KKM, Cyber Security Malaysia dan agensi lain. Untuk tujuan itu, ST sedang membangunkan *Guideline for Advanced Metering Infrastructure.* Pemantauan berterusan untuk fasa pertama projek AMI yang melibatkan pemasangan 340,000 meter pintar sedang dilaksanakan. Setakat 2018, sebanyak 160,389 meter pintar telah dipasang di negeri Melaka.

To streamline and improve the AMI, a Working Group was established together with stakeholders and industry players such as TNB, SIRIM, NMIM, MCMC, KKM, Cyber Security Malaysia and other agencies. For that purpose, the Commission is developing a Guideline for Advanced Metering Infrastructure. The continuous monitoring of the first phase AMI project involving the installation of 340,000 smart meters is being implemented. As of 2018, 160,389 smart meters were installed in several places in Malacca.

PENGURUSAN ADUAN
COMPLAINTS MANAGEMENT

Bilangan Aduan, 2014 - 2018.
Number of Complaints, 2014 - 2018.



Lima (5) aduan tertinggi yang lazim diterima oleh ST sepanjang tahun 2018.

i. Kes Usikan Pepasangan Meter (11.23 peratus)
ii. Kenaikan Bil Tidak Munasabah (10.42 peratus)
iii. Penyambungan Tidak Sah (7.98 peratus)
iv. Pengguna Tidak Mendapat Layanan Munasabah daripada Pemegang Lesen (6.22 peratus)
v. Pendawaian Tidak Mengikut *Standard* (5.14 peratus)

Top five (5) complaints received by the Commission throughout 2018.

i. Meter Removal Cases (11.23 percent)
ii. Unreasonable Billing Increase (10.42 percent)
iii. Invalid Connectivity (7.98 percent)
iv. User Did Not Get Reasonable Service From Licensee (6.22 percent)
v. Non-Standard Wiring (5.14 percent)

Bilangan aduan yang telah diproses sehingga selesai sehingga 31 Disember adalah sebanyak 718 atau 97 peratus.

The number of complaints processed until completed as of 31 December, was 718 or 97 percent.

Initiatif yang telah dilaksanakan untuk menambahbaik pengurusan aduan adalah seperti berikut :

i. Penambahbaikan panduan pengurusan aduan pelanggan bagi ST.
ii. Membangunkan laman mikro aduan dan Buku Panduan Pengurusan Aduan untuk rujukan pengguna yang akan dilancarkan pada tahun 2019.

Initiatives implemented to improve complaints management are as follows:

i. Improvement of the Commission's guide on customer complaints management.
ii. Development of a complaints microsite and Complaints Management Handbook for user reference, to be launched in 2019.

SAIDI, SAIFI DAN CAIDI
SAIDI, SAIFI AND CAIDI

Kualiti Perkhidmatan Dan Pembekalan Elektrik/Gas Berukurkan SAIDI, SAIFI Dan CAIDI
Quality of Service and Supply for Electricity/Gas Measured Through SAIDI, SAIFI and CAIDI

	2017		2018	
	Semenanjung Malaysia *Peninsular Malaysia*	**Sabah** *Sabah*	**Semenanjung Malaysia** *Peninsular Malaysia*	**Sabah** *Sabah*
SAIDI	**54.49** minit /pelanggan/tahun *minutes/customer/year*	**240.9** minit /pelanggan/tahun *minutes/customer/year*	**48.22** minit /pelanggan/tahun *minutes/customer/year*	**267.87** minit /pelanggan/tahun *minutes/customer/year*
SAIFI	**0.93** gangguan/pelanggan/tahun *interruptions/customer/year*	**6.61** gangguan/pelanggan/tahun *interruptions/customer/year*	**0.86** gangguan/pelanggan/tahun *interruptions/customer/year*	**8.61** gangguan/pelanggan/tahun *interruptions/customer/year*
CAIDI	**58.59** minit *minutes*	**36.44** minit *minutes*	**56.07** minit *minutes*	**45.29** minit *minutes*

GANGGUAN PERKHIDMATAN GAS
INTERRUPTION OF GAS SERVICES

Jumlah Gangguan Bekalan Di Semenanjung Malaysia Dan Sabah Pada 2018
Number of Supply Interruptions in Peninsular Malaysia and Sabah, 2018

Tahun *Year*	Gas Malaysia Berhad *Gas Malaysia Berhad (GMB)*	Sabah Energy Corporation Sdn Bhd *Sabah Energy Corporation (SEC)*
2018	**29**	**0**

Gangguan Bekalan Gas Setiap 1,000 Pelanggan Pada 2018
Gas Supply Interruptions per 1,000 Customers, 2018

Tahun *Year*	Semenanjung Malaysia *Peninsular Malaysia*	Sabah *Sabah*
2018	**4.40**	**0.00**

KES BERKENAAN *BLACKOUT/ WIDE AREA SUPPLY LOSS* PADA 2018

CASES OF BLACKOUTS/WIDE AREA SUPPLY LOSS IN 2018

Bilangan Kes Berkenaan
Total of such cases

0

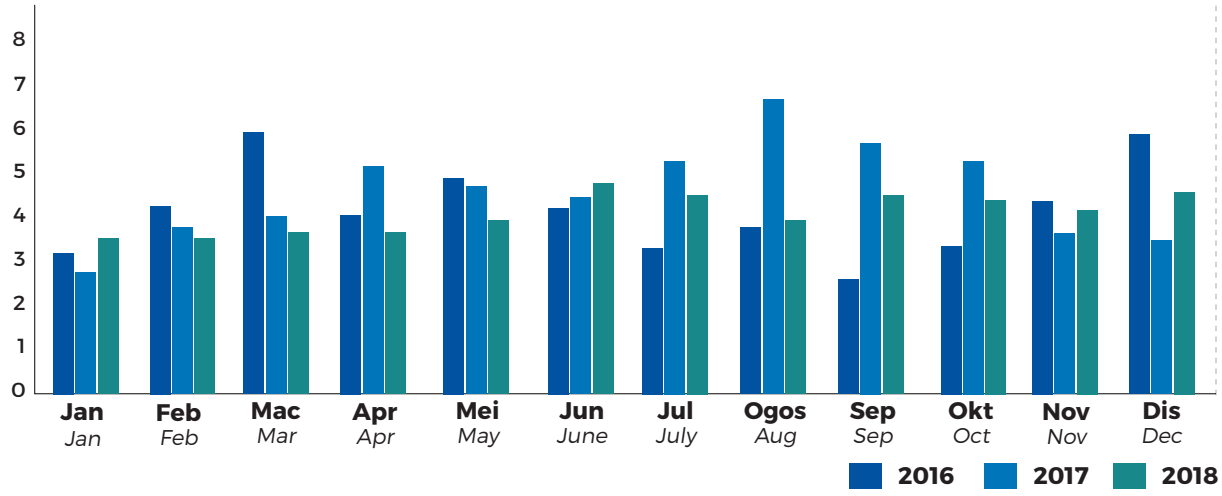
SAIDI DI SABAH

SAIDI IN SABAH

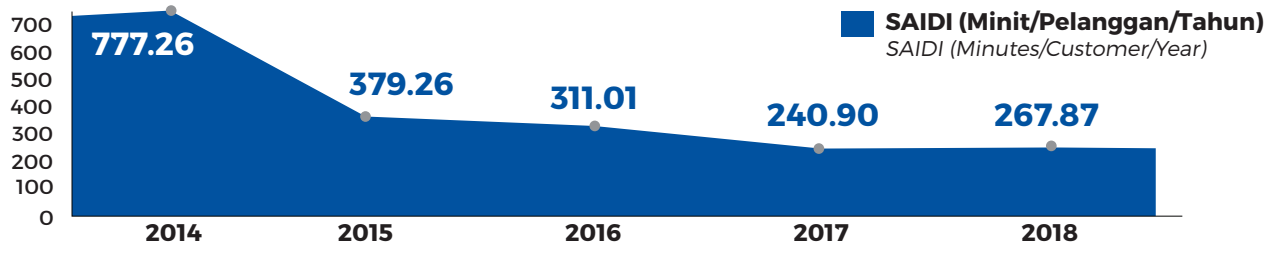
SAIDI Pengagihan *Distribution SAIDI*	**SAIDI Penghantaran** *Transmission SAIDI*	**SAIDI Penjanaan** *Generation SAIDI*	**SAIDI Keseluruhan (Jumlah setakat 31 Dis 2018)** *Overall SAIDI (Total as per 31 Dec 2018)*
258.54	**2.88**	**6.46**	**267.87**

SAIDI Elektrik Bulanan Di Semenanjung, 2016-2018

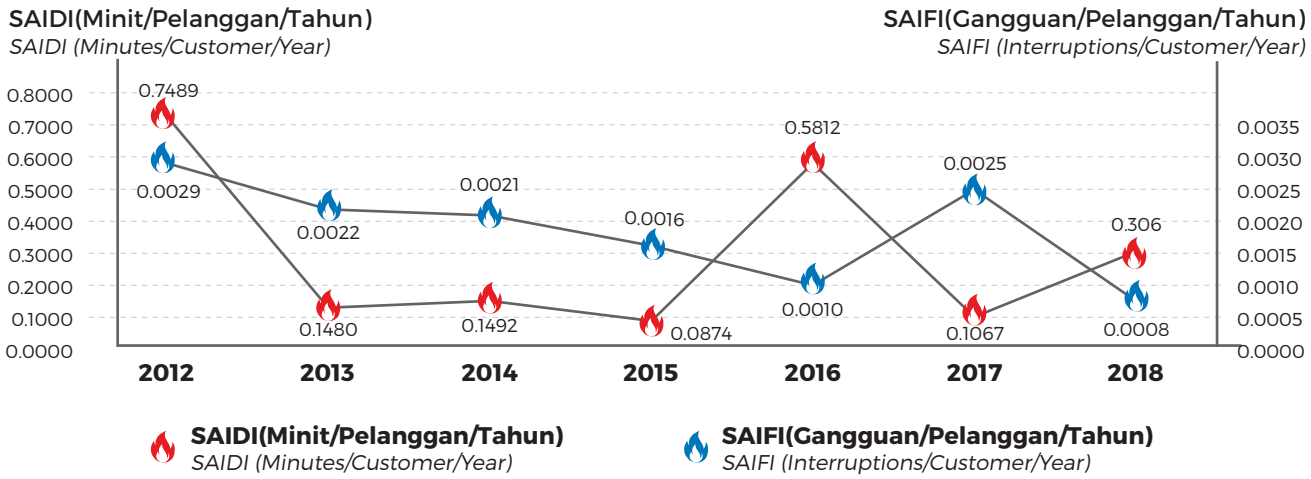
Monthly Electricity SAIDI in the Peninsular, 2016-2018



SAIDI Elektrik Tahunan Sabah, 2014-2018
Sabah Annual Electricity SAIDI, 2014-2018



SAIDI Gas Berpaip Untuk Sektor Bukan Tenaga Di Semenanjung, 2012-2018
Piped Gas SAIDI for the Non-Power Sector in the Peninsular, 2012-2018



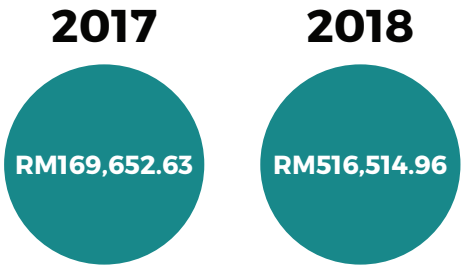
Pada 2018, SAIDI gas berpaip untuk sektor bukan tenaga di Semenanjung telah merosot kepada 0.306 minit/pelanggan/tahun berbanding 0.1067 minit/pelanggan/tahun pada 2017. Ini adalah disebabkan oleh dua (2) gangguan bekalan gas yang disebabkan oleh kerja-kerja penanaman kabel dan kerja-kerja cerucuk *(piling)* oleh pihak ketiga pada bulan September dan Oktober di Selangor.

In 2018, piped gas SAIDI for the non-power sector in the Peninsular increased to 0.306 minutes / customer / year compared to 0.1067 minutes / customer / year in 2017. This was due to two (2) gas supply interruptions caused by cable planting and piling works by third parties in September and October in Selangor.

STATUS PEMBAYARAN REBAT GSL
GSL STATUS REBATE PAYMENT

GSL Rebates

Jumlah Rebat Yang Telah Dikreditkan Ke Dalam Bil Elektrik Pengguna
Total Rebate Credited Into Consumers' Electricity Bill



Jumlah Rebat Bil Elektrik Yang Telah Dikreditkan, 2018
Total Rebates Credited Into Consumers' Electricity Bill, 2018

Jumlah Pengguna OPC Yang Menerima Rebat
No of OPC Consumers that Received Rebates

Jumlah Pengguna LPC Yang Menerima Rebat
No of LPC Consumers that Received Rebates

* **OPC** = *Ordinary Power Consumer*
* **LPC** = *Large Power Consumer*

	2017	2018
MSL	84.61%	89.36%
GSL	95.66%	94.38%

Peratusan Pematuhan TNB Untuk GSL Dan MSL
TNB's Compliance Percentage For GSL And MSL

Jenis GSL Dan Kelulusan Rebat (RM)
Type of GSL And Rebate (RM)

GSL 1	0
GSL 2	516,314.96
GSL 3	0
GSL 4	0
GSL 5	200

Jumlah Rebat, 2018
Total Rebate, 2018

Jumlah Pengguna OPC Yang Menerima Rebat
Total Rebate for OPC Consumers

Jumlah Pengguna LPC Yang Menerima Rebat
Total Rebate for LPC Consumers

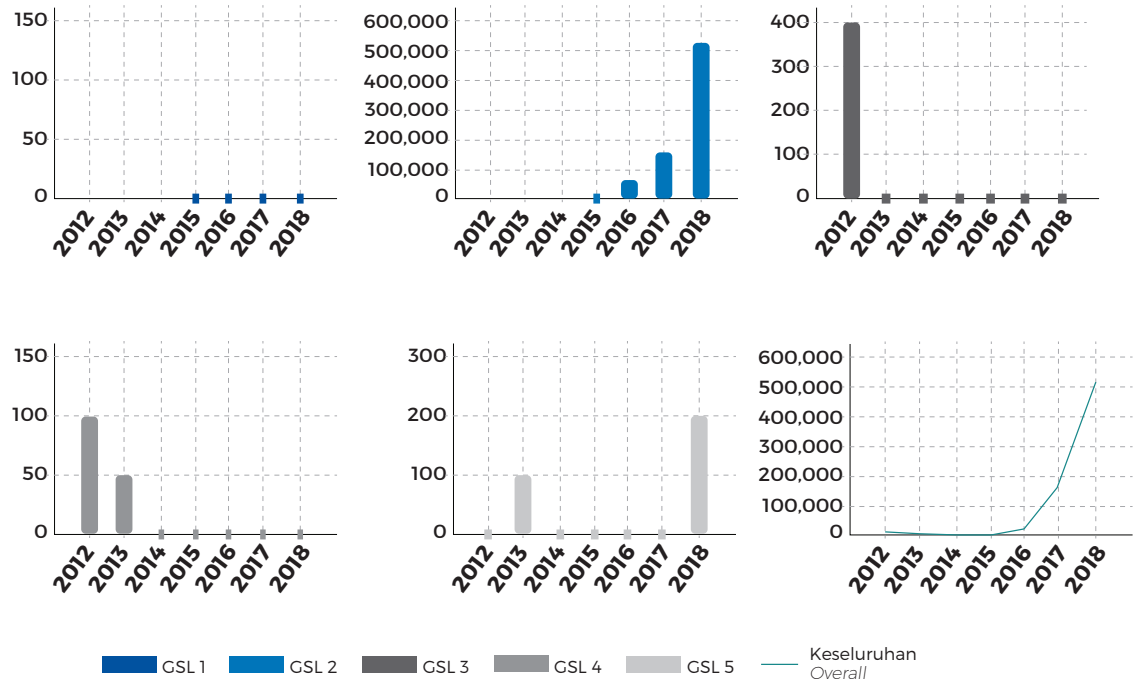
Bermula pada 2018, TNB telah diarahkan oleh ST untuk membuat pembayaran rebat GSL 2 kepada pengguna-pengguna yang terlibat dalam gangguan bekalan elektrik yang besar secara automatik melalui rebat ke dalam bil elektrik mereka, tanpa pengguna-pengguna terlibat perlu membuat permohonan kepada TNB. Antara lokasi gangguan bekalan elektrik yang besar adalah seperti di Perling, Johor dan juga Johor Bahru City Centre (JBCC), Johor. Ini secara tidak langsung telah menyebabkan peningkatan jumlah rebat pada 2018.

Starting in 2018, TNB had been directed by the Commission to make GSL 2 rebate payments to consumers involved in major power outages by automatically rebating the amounts into their electricity bills, without having the affected consumers to request from TNB. Some of the major power outages locations include Perling, Johor and Johor Bahru City Centre (JBCC), Johor. This indirectly caused an increase in rebates during 2018.

Tiada permohonan yang diluluskan di bawah GSL 1, 3 dan 4 di mana pengguna tidak mematuhi syarat yang telah ditetapkan oleh pihak ST mengikut terma GSL tersebut. Manakala, GSL 5 telah meningkat berbanding tahun 2017 kerana berlakunya ketidakpatuhan dalam GSL 5 di mana kesilapan pemotongan bekalan elektrik telah berlaku.

No application was approved under GSL 1, 3 and 4 because the consumer/applicants did not comply with the GSL terms set by the Commission. Meanwhile, GSL 5 had increased compared to 2017 because of non-compliance in GSL 5 by the license holder due to the occurrence of wrongful disconnections.

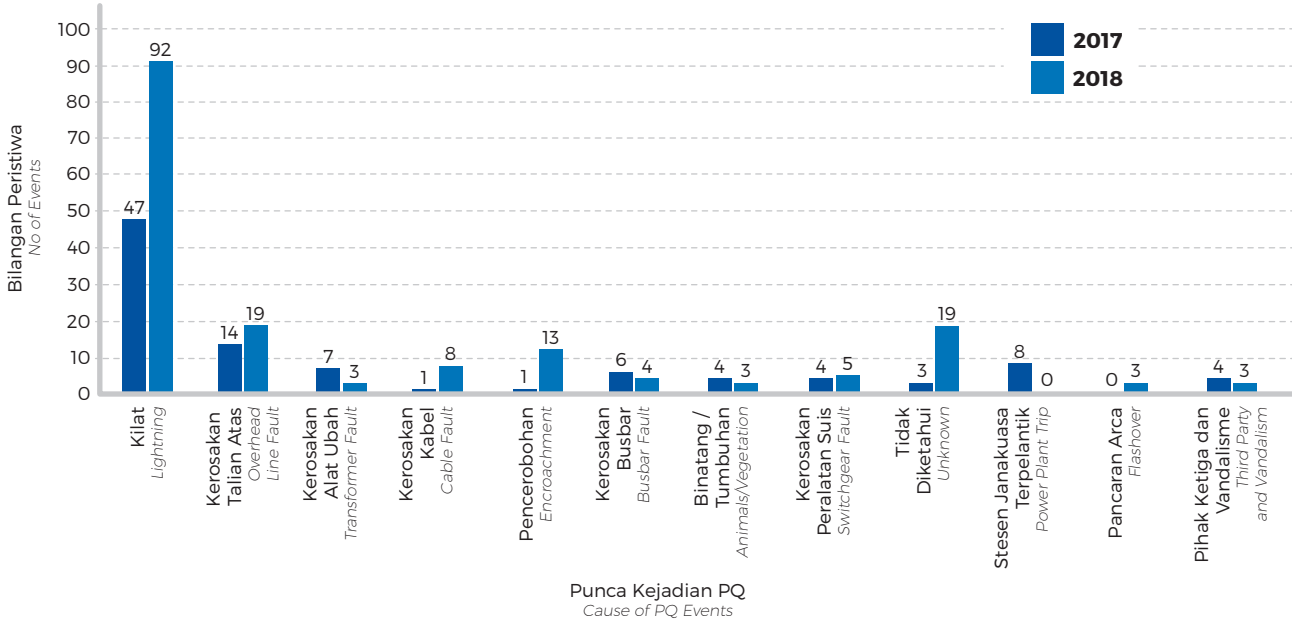
Pembayaran Rebat GSL 2012-2018
GSL Rebates Payment, 2012-2018



	2012	2013	2014	2015	2016	2017	2018
GSL 1	NA	NA	NA	0	0	0	0
GSL 2	NA	NA	NA	0	848.55	169,652.63	516,314.96
GSL 3	400	0	0	0	0	0	0
GSL 4	100	50	0	0	0	0	0
GSL 5	0	100	0	0	0	0	200
Keseluruhan *Overall*	**500**	**150**	**0**	**0**	**848.55**	**169,652.63**	**516,514.96**

PUNCA-PUNCA KEJADIAN JUNAMAN VOLTAN DI SEMENANJUNG
CAUSES OF VOLTAGE DIP IN THE PENINSULA

Sistem Penghantaran
Transmission System



Kenaikan bilangan kejadian junaman voltan di sistem penghantaran di mana puncanya tidak diketahui adalah disebabkan kebanyakan kejadian yang direkodkan tidak dapat dikenalpasti punca kejadian kerana maklumat yang direkodkan tidak lengkap dan juga punca kejadian tidak direkod sebagai pelantikan di sistem TNB (*transient fault* yang diasingkan oleh *auto recloser*). Punca kejadian berkemungkinan berlaku daripada kerosakan dalaman (kelengkapan, mesin) daripada pihak pengguna.

The increase in the number of voltage dip events in the transmission system for which the cause is unknown is because many of the incidents were not identified due to incomplete information and the cause of the incidents was not recorded as trip cases in the TNB system (transient fault isolates by auto recloser). The cause of the incident may be due to internal damages (equipment, machinery) from the consumer's side.

Bilangan kejadian kerosakan kabel di sistem pengagihan adalah tinggi pada 2018 kerana majoriti sistem bekalan elektrik pembahagian (33kV dan 11kV) adalah terdiri daripada sistem kabel bawah tanah. Kejadian korekan pihak ketiga *(third party digging)* juga memberi impak kepada ketahanan kabel TNB (kabel luka disebabkan kejadian korekan tersebut). Terdapat juga kerosakan kabel yang berpunca daripada kabel-kabel lama (30 tahun – 35 tahun) dan juga kabel-kabel yang mempunyai saiz yang kecil (*undersized cable*).

The number of cable fault in the distribution system went up in 2018 as most of the distribution power systems (33kV and 11kV) are made up of underground cable systems. The occurrence of third party digging also has an impact on the durability of TNB cables (cable fractures). Cable damage can also be caused by wear and tear due to aging (30 years - 35 years) as well as cables that are undersized.

SEKILAS PANDANG - PETUNJUK DAYA HARAP DAN KUALITI PERKHIDMATAN
AT A GLANCE - RELIABILITY AND SERVICE QUALITY INDICATORS

Inisiatif yang diambil oleh ST termasuk menganjurkan seminar kesedaran yang berkongsikan maklumat dan penerangan kepada pihak industri tentang isu-isu *power quality*, insentif bagi pengguna yang memasang peralatan mitigasi bagi *power quality*, *standard-standard*, akta atau peraturan yang berkaitan yang akan dikuatkuasakan kelak serta tentang *Standard* Prestasi Perkhidmatan Bekalan Elektrik (GSL & MSL).

The initiatives undertaken by the Commission include organising seminars to raise awareness and share information with the industry players on power quality issues, incentives for users to install mitigation equipment for power quality, standards, relevant legislation or regulations to be enforced and on the Electric Power Supply Service (GSL & MSL) Standards.

Sistem Pengagihan
Distribution System

Cause of PQ Events
Punca Kejadian PQ

	2017	2018
Tidak Diketahui *Unknown*	87	238
Kerosakan Kabel *Cable Fault*	71	117
Kerosakan Sambungan Kabel *Cable Joint Fault*	13	123
Autorecloser / Transient Fault *Autorecloser/Transient Fault*	75	41
Kerosakan Konduktor Talian Atas *Overhead Line Conductor Fault*	6	35
Kerosakan Tamatan Kabel *Cable Termination Fault*	10	10
Kerosakan Peralatan Suis *Switchgear Fault*	6	8
Pancaran Arca *Flashover*	10	14

Bilangan Kejadian
No of Events

	2017	2018
Kerosakan Sambungan Talian Atas *Overhead Line Joint Fault*	1	10
Pihak Ketiga dan Vandalisme *Third Party and Vandalism*	2	1
Korekan Pihak Ketiga *Third Party Digging*	2	6
Kerosakan Alatubah *Transformer Fault*	2	1
Kilat *Lightning*	3	7
Pencerobohan / Binatang *Encroachment/Animals*	1	0
AVR / Kerosakan Alatubah *AVR/Transformer Failure*	1	0
Kerosakan Busbar *Busbar Fault*	1	1

Bilangan Kejadian
No of Events

KESELAMATAN
SAFETY

BAB
CHAPTER

2

MENANGANI CABARAN KESELAMATAN
ADDRESSING SAFETY CHALLENGES

Pada 2018, kadar kemalangan elektrik meningkat sebanyak 5.6 peratus kepada 56 kes, manakala kadar kemalangan maut adalah 2.8 kes per juta pengguna berbanding kepada 3.2 kes per juta pengguna dalam tahun 2017. Untuk kes kemalangan gas, terdapat 2 kemalangan dalam 2018 berbanding dengan sifar dalam 2017.

Aktiviti lain ST termasuk meningkatkan ciri keselamatan dengan memperkenalkan penggunaan kod QR dalam COA untuk kelengkapan elektrik, audit pematuhan terhadap institusi bertauliah, sesi *engagement* keselamatan dengan pemain industri, penguatkuasaan terhadap pemain industri yang melanggar peraturan dan pembukaan kertas siasatan. Aktiviti siasatan telah menyaksikan sebanyak 40 kes yang dibawa kepada Timbalan Pendakwa Raya untuk pengkompaunan dan sebanyak 10 kes yang dikemukakan untuk perbicaraan.

2018 saw electrical accidents increased by 5.6 percent to 56 cases whilst the fatality incidence rate was at 2.8 cases per million consumers as compared to 3.2 cases per million consumers in 2017. As for gas accident cases, there were 2 in 2018 compared to none in 2017.

Other activities by the Commission included improving the safety features by introducing the usage of QR code in the COA for electrical equipment, compliance audit on accredited institutions, safety engagement sessions with the industry players, enforcement on errant industry players and opening of investigation papers. The investigation activities saw 40 cases forwarded to the Deputy Public Prosecutor for compounding and 10 cases forwarded for trial.

PRESTASI KESELAMATAN
SAFETY PERFORMANCE

Dari 2002 sehingga 2018, jumlah kemalangan elektrik yang direkodkan adalah sebanyak 974 kes, di mana 490 adalah kes maut dan 484 kes tidak maut.

Tahun 2018 merekodkan sebanyak 56 kes kemalangan, iaitu masing-masing merekodkan 28 kes maut dan tidak maut. Jika dibandingkan dengan tahun 2017, jumlah kes tidak maut meningkat sebanyak 3 kes, manakala jumlah kes maut tidak berubah.

From 2002 to 2018, 974 electrical accident cases were recorded, of which 490 were fatal and 484 were non fatal.

In 2018 alone, 56 electrical accident cases were recorded, of which both fatal and non fatal stood at 28 cases respectively. In comparison to 2017, the number of non fatal electrical accidents increased by 3 cases, while fatal electrical accident cases remained the same.

Kadar Kes Kemalangan Per Sejuta Pengguna Elektrik TNB & SESB 2002-2018
Incidence Rate Per Million TNB & SESB Electricity Consumers 2002-2018

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pengguna Elektrik (Juta) *Electricity Consumers (Million)*	5.80	6.07	6.35	6.60	6.84	7.07	7.33	7.60	7.87	8.19	8.33	8.43	8.75	9.04	9.13	9.40	9.65
Tidak Maut/ Juta *Non Fatal/ Million*	2.93	4.78	3.94	3.03	6.14	5.23	5.05	2.76	4.19	4.40	3.24	3.20	4.12	1.99	2.85	2.66	2.90
Maut/ Juta *Fatal/ Million*	2.42	3.79	3.62	5.60	5.41	5.37	4.50	4.61	4.57	3.17	3.36	2.25	3.09	3.32	3.07	2.98	2.90
Kadar Kes/ Juta *Incidence Rate/ Million*	5.35	8.57	7.56	8.63	11.54	10.60	9.54	7.37	8.77	7.57	6.60	5.46	7.20	5.31	5.91	5.64	5.80

Lokasi Kemalangan Elektrik
Location of Electrical Accidents

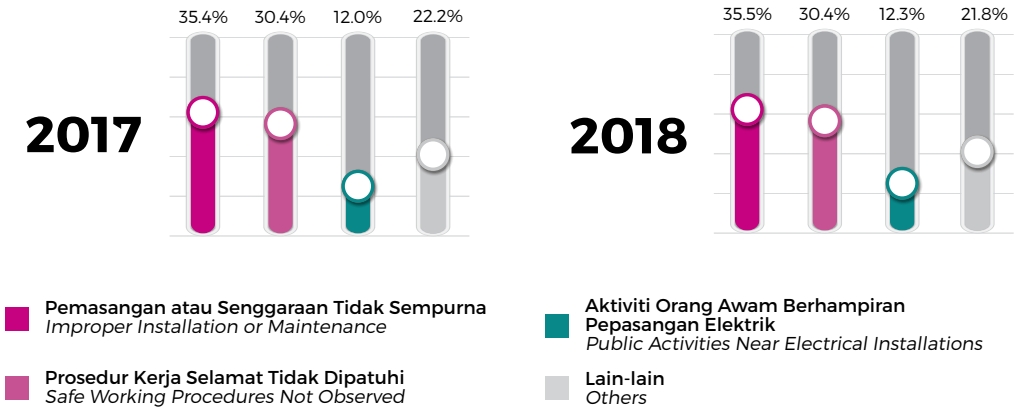
2017

- **20.9%** Pencawang Elektrik Utiliti *Utility's Electricity Substations*
- **19.1%** Talian Atas Voltan Rendah Utiliti *Utility's Low Voltage Overhead Lines*
- **15.6%** Kediaman *Residential*
- **44.4%** Lain-lain *Others*

2018

- **20.4%** Pencawang Elektrik Utiliti *Utility's Electricity Substations*
- **18.6%** Talian Atas Voltan Rendah Utiliti *Utility's Low Voltage Overhead Lines*
- **16.2%** Kediaman *Residential*
- **44.8%** Lain-lain *Others*

Punca Kemalangan Elektrik
Causes of Electrical Accidents



Kemalangan Gas Berpaip Yang Telah Dilaporkan
Reported Piped Gas Accidents

2017 0

2018 2

Berdasarkan analisa kemalangan elektrik yang dijalankan, kes-kes yang berlaku di kediaman kebanyakannya berpunca daripada kebocoran arus di pepasangan kediaman, kecacatan pada kelengkapan elektrik dan penyalahgunaan sistem pendawaian oleh pengguna. Ini mungkin disebabkan oleh kekurangan sikap menitikberatkan aspek keselamatan yang boleh mengundang bahaya kepada diri sendiri serta orang di sekeliling.

Selain daripada pemilik kediaman, kes kemalangan juga melibatkan anggota Bomba sewaktu operasi memadam kebakaran di pepasangan elektrik kediaman di mana mangsa terkena renjatan elektrik dari talian perkhidmatan utiliti yang terputus ketika kebakaran.

Justeru itu, selain daripada taklimat kepada orang awam, ST juga telah mengadakan sesi taklimat keselamatan elektrik kepada pegawai-pegawai serta anggota Bomba di negeri-negeri Pantai Timur iaitu Kelantan, Terengganu dan Pahang.

Based on the analysis conducted of electrical accidents, cases in the home are mainly due to current leaks in residential installations, defects in electrical equipment and misuse of the wiring system. This may be due to a lack of emphasis on safety aspects that can pose a danger to both the consumers and the people around them.

In addition to homeowners, accidents also involved firefighters during firefighting operations at the home's electrical installation where the victim was electrocuted from a utility service line that was cut off during a fire.

Therefore, besides public briefing sessions, the Commission also held electrical safety briefing sessions with officers and firefighters in the states of East Coast, Kelantan, Terengganu and Pahang.

INISIATIF UNTUK MENINGKATKAN PRESTASI KESELAMATAN
INITIATIVES TO IMPROVE SAFETY PERFORMANCE

PEMBANGUNAN GARIS PANDUAN
DEVELOPMENT OF GUIDELINES

ST telah menerbitkan *Guidelines for Approval of Electrical Equipment - Information Booklet* Edisi 2018 yang terkini bagi menggantikan Edisi 2016 yang terdahulu.

Garis panduan ini telah didaftarkan pada 21 Mei 2018 di bawah peruntukan Seksyen 50C Akta Bekalan Elektrik 1990 dan pematuhannya adalah mandatori.

The Commission published the latest Guidelines for Approval of Electrical Equipment - Information Booklet 2018 Edition to replace the previous 2016 Edition.

The compliance of this guideline became mandatory when it was registered on 21 May 2018 under the provision of Section 50C of the Electrical Supply Act 1990.

Garis panduan ini telah dikemaskini dengan mengambil kira *standard* keperluan keselamatan terkini bagi kelengkapan elektrik, syarat-syarat perakuan pendaftaran pengilang/ pengimport dan *Minimum Energy Performance Scheme (MEPS).* Syarat-syarat MEPS yang baharu adalah seperti berikut: -

i) Panduan Syarat MEPS untuk Penghawa Dingin;
ii) Panduan Syarat MEPS untuk Peti Sejuk;
iii) Panduan Syarat MEPS untuk Mesin Basuh.

These guidelines have been updated to consider the latest safety standard requirements for electrical equipment, conditions for the registration of manufacturers / importers and Minimum Energy Performance Scheme (MEPS). The new MEPS requirements are as follows:-

i) Guide on MEPS requirements for Air-Conditioners;
ii) Guide on MEPS requirements for Refrigerators;
iii) Guide on MEPS requirements for Washing Machines.

Kedai Dobi Layan Diri

Pada 2018, dua (2) kemalangan maut berkaitan dengan gas telah berlaku di kedai dobi layan diri 24 jam di negara ini. Hasil siasatan mendedahkan bahawa ramai pengendali kedai dobi tersebut tidak sedar akan keperluan *Approval to Install* (ATI) dan *Approval to Operate* (ATO) oleh ST untuk pepasangan yang menggunakan sistem gas berpaip.

Dalam usaha untuk meningkatkan kesedaran di kalangan pengendali dobi, ST dalam proses pembangunan *Guidelines on Gas Piping Installations at Launderettes and Premises Using Similar Installation*. Garis panduan ini boleh dijadikan sebagai rujukan dalam sistem gas berpaip kepada kontraktor gas, orang kompeten gas dan pengendali kedai dobi.

Launderettes

In 2018, two (2) fatal gas-related accidents occurred in 24-hour self service launderettes in the country. Investigations of these accidents revealed that many launderette operators were not aware of the Approval to Install (ATI) and Approval to Operate (ATO) requirements by the Commission for installation using gas piping systems.

In order to raise awareness among launderette owners, the Commission is in the process of developing the Guidelines on Gas Piping Installations at Launderettes and Premises Using Similar Installation. This guideline serves as a reference for gas contractors, gas competent persons and launderette operators on gas piping system.

MEMPERKENALKAN KAD PENDAFTARAN ORANG KOMPETEN ELEKTRIK
INTRODUCING THE ELECTRICAL COMPETENT PERSONS IDENTITY CARD (CPIC)

Fakta Ringkas

- Digunakan sebagai pengenalan diri orang kompeten elektrik yang sah berdaftar dengan ST.
- Sistem CPIC bermatlamat untuk menggalakkan orang kompeten elektrik mendaftar perakuan kekompetenan mereka dengan ST.
- Memudahkan orang awam mengenalpasti orang kompeten elektrik yang berdaftar sebelum membuat lantikan bagi menjalankan kerja elektrik.
- Adalah menjadi kesalahan di bawah Seksyen 23 Akta Bekalan Elektrik 1990 dan Peraturan 63 (1) Peraturan Elektrik 1994 sekiranya kerja elektrik dilakukan oleh orang yang tidak memegang sebarang Perakuan Kekompetenan dan tidak berdaftar dengan ST.

Quick Facts

- *Used as an identity card for competent persons registered with the Commission.*
- *The CPIC system aims to encourage any person who holds a certificate of competency to register the certificate with the Commission.*
- *Facilitates the public to identify registered electrical competent persons before engaging them for electrical work.*
- *A person commits offences under Section 23 of the Electricity Supply Act 1990 and Regulation 63 (1) of the Electricity Regulations 1994 if he operates electrical works without holding any Certificate of Competency and is not registered with the Commission.*

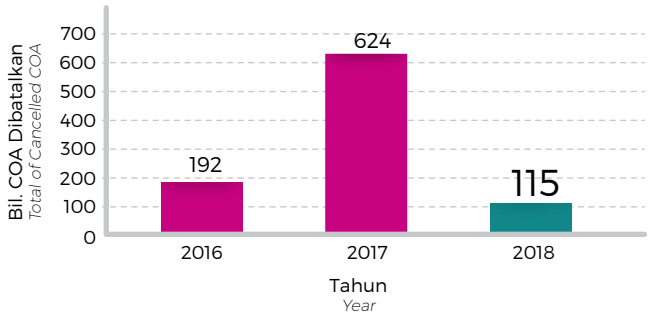
PEMBATALAN PERAKUAN KELULUSAN (COA) KELENGKAPAN ELEKTRIK YANG DIDAPATI GAGAL UJIAN KONSAINMEN SIRIM

CANCELLATION OF CERTIFICATE OF APPROVAL (COA) ELECTRICAL EQUIPMENT WHICH FAILED THE SIRIM CONSIGNMENT TEST

Sejak September 2016, ST telah membatalkan COA kelengkapan elektrik yang didapati gagal Ujian Konsainmen SIRIM. Pada akhir 2018, sejumlah 16 kelompok COA telah dibatalkan oleh ST, yang melibatkan 931 COA dan 271 pengimport.

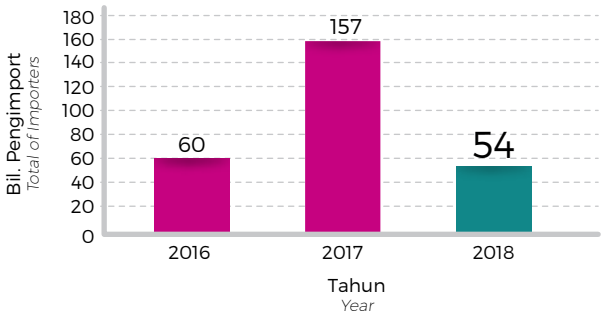
Since September 2016, the Commission has cancelled COA of electrical equipment that have failed the SIRIM Consignment Test. By the end of 2018, a total of 16 batches of COAs have been cancelled by the Commission, involving 931 COAs and 271 importers.

Jumlah COA Dibatalkan, 2016-2018
Total Number of COA Cancelled, 2016-2018



COA yang dibatalkan pada 2018 telah menurun sebanyak 81.57% berbanding 2017.
The cancellations of COAs in 2018 has decreased by 81.57% as compared to 2017.

Jumlah Pengimport Terlibat, 2016-2018
Number of Importers Affected, 2016-2018



Jumlah pengimport yang terlibat telah menunjukkan penurunan sebanyak 65.61% berbanding 2017.
The number of importers involved has decreased by 65.61% as compared to 2017.

Antara sebab-sebab pengimport gagal Ujian Konsainmen SIRIM adalah:

- Laporan Ujian (TR) telah diubah mengikut kepentingan pemohon berkaitan dengan produk yang dipohon.
- Produk sampel dalam TR adalah berbeza daripada sampel yang diuji oleh konsainmen SIRIM.
- Produk dalam kelompok yang berlainan mempunyai rekaan yang berbeza walaupun ianya adalah daripada jenama dan model yang sama.
- Penandaan pada plat nama atau label produk tidak mematuhi syarat penandaan dan amaran.
- Arahan manual tidak memenuhi syarat-syarat penandaan dan amaran.
- Kapasiti dan penarafan pada plat nama berbeza berbanding dengan plat-plat asal yang telah diluluskan dalam TR.
- Komponen kritikal adalah berbeza berbanding dengan yang tersenarai dalam TR.

Some of the reasons importers fail the SIRIM Consignment Test include:

- *The Test Report (TR) of the product were intentionally modified based on applicant's product.*
- *Reference products in TR were inconsistent from the sample batch examined and tested by SIRIM's consignment.*
- *Products in different batches had different designs even though they were of the same brand and model.*
- *The markings on the name plates or labels do not comply with labelling and warning requirements.*
- *Manual instructions do not meet the labelling and warning requirements.*
- *Capacity and rating on name plates differ from those as approved in the original name plates of TR.*
- *Critical components are different from those listed in TR.*

Selepas penyerahan notis pembatalan COA dari ST, pengimport dikehendaki menghantar pulang produk tersebut ke negara asal atau melupuskan kelengkapan yang gagal ujian konsainmen. Seperti tahun-tahun sebelum ini, aktiviti-aktiviti pelupusan dan pemusnahan kelengkapan tersebut perlu disaksikan oleh ST bagi memastikan kelengkapan tersebut tidak terus dijual ke pasaran.

Upon receiving the notice of cancellation of COA from the Commission, importers are required to repatriate the products to the country of origin or dispose products which failed the consignment test. As with previous years, disposal and destruction of products must be witnessed by the Commission in order to ensure the products do not enter the market for sale purposes.

Pelupusan 10 unit *Built-in Oven* yang bernilai RM89,000 di Puchong, Selangor pada 24 Januari 2018.
The disposal of 10 units Built-In Ovens worth RM89,000 in Puchong, Selangor on 24 January 2018.

PENOLAKAN PENGGUNAAN DOKUMEN IDENTITY DECLARATION (ID) BAGI PERMOHONAN COA KELENGKAPAN ELEKTRIK
UNACCEPTABLE USE OF IDENTITY DECLARATION (ID) DOCUMENT FOR COA ELECTRICAL EQUIPMENT APPLICATION

Sejak Ogos 2017, syarikat-syarikat yang gagal dua (2) kali atau lebih pemeriksaan tidak dibenarkan untuk menggunakan dokumen ID mereka. Walau bagaimanapun, syarikat-syarikat tersebut boleh membuat rayuan dengan syarat mereka membuktikan kelengkapan tersebut telah dimusnahkan atau telah dipulangkan ke negara asal. Bagi kelengkapan elektrik yang telah dijual di pasaran, pihak syarikat telah diminta mengiklankan penarikan balik produk di akhbar utama tempatan.

Pada 2018, 32 syarikat telah membuat rayuan untuk menggunakan semula dokumen ID tersebut dan rayuan mereka telah diluluskan.

Since August 2017, companies that have failed two (2) or more consecutive tests are not allowed to use the ID documents. However, they may appeal, provided that they show evidence that the equipment has been destroyed or returned to its original country. For electrical equipment sold in the market, the company is required to exercise product recall through local newspapers.

In 2018, 32 companies filed appeals to re-use their ID document and the appeals have been accepted.

PENAMBAHBAIKAN CIRI KESELAMATAN DENGAN PENGGUNAAN "QR CODE" PADA COA KELENGKAPAN ELEKTRIK

IMPROVING SAFETY FEATURES USING "QR CODE" ON COA ELECTRICAL EQUIPMENT

Pada 17 Ogos 2018, ST telah berjaya membangunkan sistem Kod QR yang dijana secara automatik daripada sistem e-Permit dan dicetak di atas COA. Ini adalah untuk menangani kes berkaitan pemalsuan COA yang melibatkan aktiviti-aktiviti mengilang dan mengimport kelengkapan elektrik yang dikawal oleh ST.

On 17 August 2018, the Commission successfully developed a QR Code system which is auto-generated from the online e-Permit system and printed on COA. This is to deter cases involving the counterfeiting of COAs in manufacturing and importing regulated electrical equipment by the Commission.

Inisiatif ini telah dilaksanakan pada 12 Disember 2018. Oleh itu, pegawai penguatkuasa Kastam kini boleh mengesahkan jika COA yang dikemukakan oleh pengimport adalah tulen atau sebaliknya.

This initiative was implemented on 12 December 2018. Customs enforcement officers can now verify if the COA copy submitted by the importer is genuine or otherwise.

Kod QR dicetak di atas COA.
QR Code printed on the COA.

AUDIT PEMATUHAN INSTITUSI BERTAULIAH

COMPLIANCE AUDIT ON ACCREDITED INSTITUTIONS

Pada 2018, sebanyak lima (5) buah institusi latihan di Semenanjung dan Sabah telah diaudit. Audit pematuhan ini dilaksanakan bagi memastikan institusi latihan yang telah diaudit sebelum ini sentiasa mematuhi syarat-syarat pentauliahan yang ditetapkan seperti syarat-syarat kelengkapan pembelajaran, pengambilan pelajar, bilangan tenaga pengajar berkompeten yang mencukupi dan lain-lain syarat yang telah dimaklumkan kepada institusi dari masa ke masa. Institusi yang diaudit akan diberi teguran dan nasihat supaya mempertingkatkan lagi mutu latihan mereka.

In 2018, a total of five (5) training institutions in Peninsular Malaysia and Sabah were audited. The compliance audit is carried out to ensure that previously audited training institutions consistently adhere to accreditation requirements such as the requirement of learning tools, student intake, sufficient number of competent instructors and any other requirements that have been notified to the institution from time to time. Audited institutions will be reprimanded and advised to improve their quality of training.

PEMANTAUAN DAN AUDIT
MONITORING AND AUDIT

Pepasangan Gas

1. Audit Pelan dan Program Pengurusan Keselamatan Gas (GSMPP)

ST telah menjalankan audit GSMPP di seluruh Semenanjung Malaysia bagi memupuk amalan perancangan dan penyelenggaraan pepasangan gas yang betul di kalangan pemilik pepasangan.

Pembangunan GSMPP ini diharap dapat menjadi asas untuk kawal selia kendiri di mana pematuhan terhadap akta, peraturan dan *standard* dapat dijalankan sendiri oleh organisasi-organisasi yang memiliki sistem perpaipan gas.

Antara aktiviti pemantauan dan audit pepasangan gas yang dijalankan pada tahun 2018 adalah:

1a. Audit ke atas Sektor Komersial – Kompleks Membeli-belah dan Sekolah

Pada tahun 2018, ST telah melaksanakan audit GSMPP ke atas premis-premis berikut: Aeon Taman Maluri, Kolej Mara Seremban, Aeon Bandaraya Melaka Shopping Centre, Maktab Rendah Sains Mara (MRSM) Muar, Mid Valley MegaMall, Maktab Rendah Sains Mara (MRSM) Kuantan, Suria KLCC, Empire Shopping Gallery, Alamanda Shopping Centre dan 1Utama Shopping Centre.

Gas Installations

1. Gas Safety Management Plan and Programme (GSMPP) Audit

The Commission conducted several GSMPP audits throughout Peninsular Malaysia to cultivate proper approaches on planning and maintenance of gas installations among installation owners.

The development of GSMPP is intended to be used as a basis for self-regulation for owners of gas piping systems to comply with the relevant Acts, Regulations and standards.

Among the monitoring and auditing activities of gas installation conducted in 2018 were:

1a. Audit on Commercial Sector - Shopping Complexes and Schools

Throughout 2018, the Commission conducted GSMPP audits on the following premises: Aeon Taman Maluri, Kolej Mara Seremban, Aeon Bandaraya Malacca Shopping Centre, Maktab Rendah Sains Mara (MRSM) Muar, Mid Valley MegaMall, Maktab Rendah Sains Mara (MRSM) Kuantan, Suria KLCC, Empire Shopping Gallery, Alamanda Shopping Centre and 1Utama Shopping Centre.

Mid Valley Megamall, Kuala Lumpur.
Mid Valley Megamall, Kuala Lumpur.

Maktab Rendah Sains Mara (MRSM) Kuantan, Pahang.
Maktab Rendah Sains Mara (MRSM) Kuantan, Pahang.

1b. Pemantauan ke atas Pepasangan Gas

1b. Monitoring of Gas Installations

Perbincangan awal dengan Pemilik dan Kontraktor Gas.
Preliminary Discussion with Owners and Gas Contractors.

Pemasangan Tangki LPG di bawah tanah.
Underground LPG Tank Installation.

2. Kelengkapan Elektrik

2. Electrical Equipment

Sesi *Engagement* dan Pemeriksaan Kelengkapan Elektrik di Premis-premis Membeli Belah.

Engagement Session and Inspection of Electrical Equipment at Shopping Premises

Sepanjang tahun 2018, ST telah bekerjasama dengan pihak SIRIM QAS International Sdn. Bhd. bagi melaksanakan program *Engagement Session* - Perakuan Kelulusan Syarat Kelengkapan Elektrik dengan industri (pasaraya besar).

Sesi-sesi *engagement* ini membincangkan tentang kawal selia keselamatan kelengkapan elektrik, prosedur permohonan COA, prosedur ujian konsainmen dan pelabelan terkini SIRIM-ST dan cekap tenaga, pelupusan kelengkapan elektrik yang gagal ujian konsainmen dan tindakan yang diambil/penalti oleh ST jika ada kesalahan.

Pihak ST dan SIRIM juga mengadakan lawatan dan pemantauan di premis pasaraya besar tersebut bagi memeriksa dan memastikan kelengkapan elektrik yang dipamerkan dan dijual mempunyai label SIRIM-ST dan label cekap tenaga.

Throughout 2018, the Commission cooperated with SIRIM QAS International Sdn. Bhd. to carry out Engagement Session Programme - Regulatory Compliance Requirements for Electrical Equipment with the Industry (Hypermarkets).

These engagement sessions discussed on electrical equipment safety regulations, COA application procedures, consignment test procedures and the updated SIRIM-ST and EE labelling, disposal of electrical equipment which failed the consignment test and actions taken/penalties by the Commission for non- compliance.

The Commission and SIRIM visited the hypermarkets to inspect and ensure the electrical equipment exhibited and sold are equipped with SIRIM-ST labels and EE labels.

Sesi *Engagement* di Pasaraya Besar Mydin
Engagement Session at Mydin Hypermarket.

AKTIVITI PEMATUHAN DAN PENGUATKUASAAN
COMPLIANCE AND ENFORCEMENT ACTIVITIES

Dalam memenuhi tanggungjawab kawal selia, kesemua sembilan (9) buah pejabat kawasan ST telah menjalankan aktiviti-aktiviti berikut:

A. Pemeriksaan dan Pemerakuan

i. Pendaftaran kontraktor;
ii. Pendaftaran orang kompeten;
iii. Pendaftaran pepasangan elektrik;
iv. Pendaftaran pepasangan pagar elektrik;
v. Pendaftaran pelesenan persendirian;
vi. Peperiksaan kekompetenan;
vii. Pemeriksaan (pepasangan, pelesenan; dan pematuhan orang kompeten) bagi elektrik dan gas.

To fulfil its regulatory responsibilities, the Commission's nine (9) regional offices conducted the following activities.

A. Inspection and Certification

i. Contractor registration;
ii. Competent persons registration;
iii. Electrical installation registration;
iv. Electric fence installation registration;
v. Registration of private license;
vi. Competency examination;
vii. Inspection (installation, licensing and compliance of competent persons) for electricity and gas;

B. Pencegahan, Penguatkuasaan dan Penyiasatan

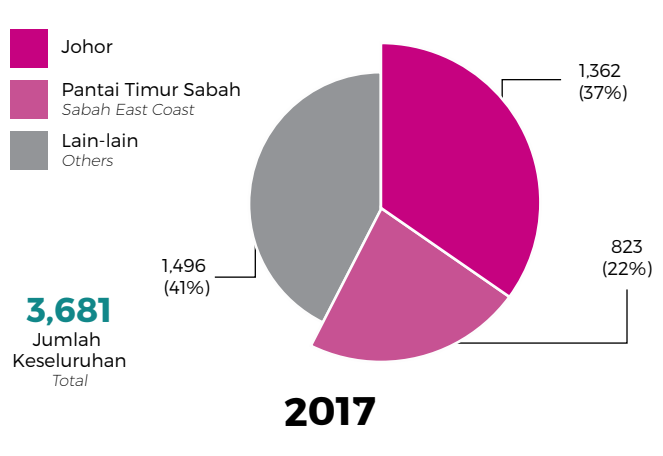
i Kempen dan dialog yang berkaitan keselamatan elektrik dan kecekapan tenaga;
ii. Audit pengurusan keselamatan elektrik dan gas.
iii. Penguatkuasaan dan penyiasatan terhadap penyalahgunaan penggunaan elektrik;
iv. Penguatkuasaan dan penyiasatan pepasangan elektrik dan gas serta kelengkapan elektrik yang gagal mematuhi undang-undang;
v. Penyiasatan ke atas kemalangan elektrik, kebakaran, dan pengendalian aduan-aduan berkaitan industri bekalan elektrik;

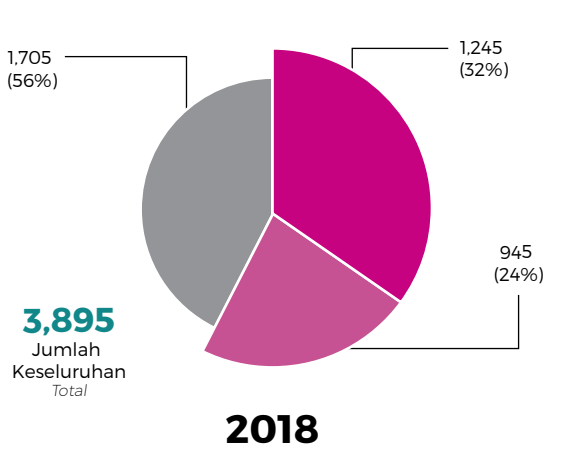
B. Prevention, Enforcement and Investigation

i. Campaigns and dialogues related to electrical safety and energy efficiency;
ii. Electrical and gas safety management audits.
iii. Enforcement and investigation against dishonest use of electricity;
iv. Enforcement and investigation of electrical and gas installations and electrical equipment that fail to comply with the law; and
v. Investigation of electrical accidents, fires, and handling of complaints related to the electricity supply industry;

PEMATUHAN
COMPLIANCE

Lesen Persendirian di Bawah 5MW Mengikut Kawasan
Approvals of Private Licences Below 5MW by Region

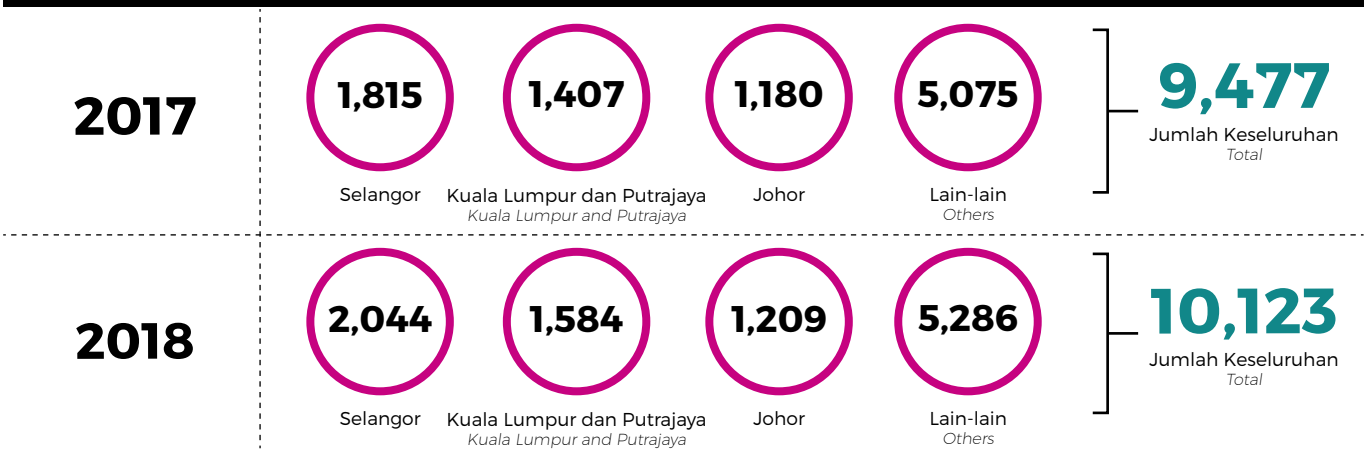




Pejabat Kawasan Negeri Johor telah mengeluarkan jumlah Lesen Persendirian di bawah 5MW yang tertinggi iaitu 1,245 lesen. Ianya merupakan jumlah tertinggi di negara ini dan sejajar dengan pembangunan di Pengerang.

The Johor Regional Office issued the highest number of Private Licenses below the capacity of 5MW at 1,245 licenses. This was the most in the nation and was in line with developments at Pengerang.

Pendaftaran Pepasangan
Registration of Installations



Pendaftaran Kontraktor

Kontraktor elektrik terbahagi kepada enam (6) kategori seperti berikut:

- Kontraktor Perkhidmatan Elektrik
- Kontraktor Elektrik
- Kontraktor Papan Tanda Elektrik
- Kontraktor Pembaikan Elektrik
- Pengilang Papan Suis
- Unit Pendawaian Persendirian

Sebanyak 3,771 perakuan Kontraktor Elektrik dalam kesemua kategori telah dikeluarkan pada 2018.

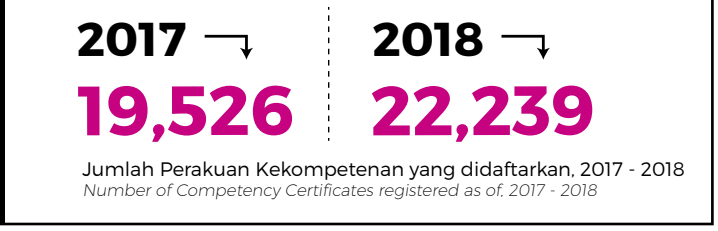
Registration of Contractors

There are six (6) categories of electrical contractors, as follows:

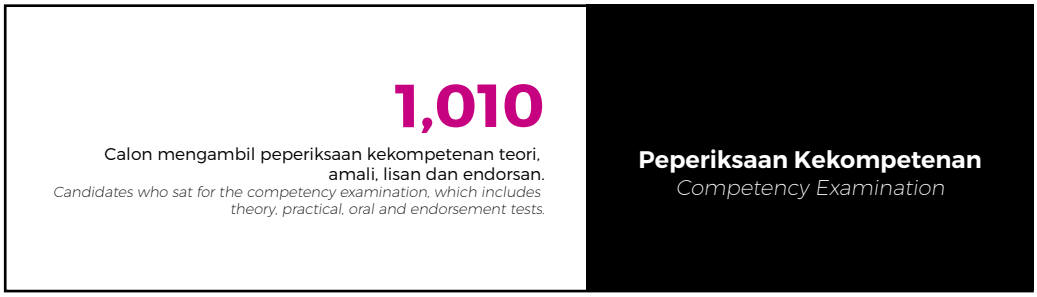
- *Electrical Services Contractor*
- *Electrical Contractor*
- *Electric Sign Contractor*
- *Electrical Repair Contractor*
- *Switchboard Manufacturers*
- *Private Wiring Unit*

A total of 3,771 Electrical Contractor certificates across all categories were issued in 2018.

Pendaftaran Orang Kompeten
Registration of Competent Persons



Jumlah Perakuan Kekompetenan yang didaftarkan, 2017 - 2018
Number of Competency Certificates registered as of, 2017 - 2018



Aktiviti-aktiviti Pemeriksaan dan Penguatkuasaan
Inspection and Enforcement Activities

Aktiviti penguatkuasaan dan pemeriksaan yang dijalankan pada 2018;

Enforcement and inspection activities carried out in 2018:

1,110 **Pemeriksaan pepasangan elektrik dan gas serta lesen premis industri dan komersial.**
Inspections of electrical and gas installations and licences of industrial and commercial premises.

109 **Pemeriksaan premis Kontraktor Elektrik dan tapak projek pembangunan.**
Inspections of Electrical Contractors' premises as well as construction sites.

106 **Pemeriksaan premis yang menjual kelengkapan elektrik yang dikawal selia oleh ST bagi memastikan kelengkapan yang dijual mendapat perakuan kelulusan (COA) dan telah ditanda dengan label SIRIM-ST.**
Inspections of premises selling electrical equipment regulated by the Commission to ensure that the equipment are approved (COA) and carry the SIRIM-ST label.

134 **Pemeriksaan pepasangan gas berpaip sedia ada di hospital, hotel dan restoran bagi memastikan ianya berfungsi dalam keadaan yang selamat.**
Inspections of existing piped gas installations at hospitals, hotels, and restaurants to ensure that they are functioning in safe working condition.

57 **Pemeriksaan kecekapan tenaga bagi premis yang menggunakan jumlah tenaga sehingga 3,000,000 kWj untuk tempoh 6 bulan berturut-turut.**
Inspections on the energy efficiency of premises that consume up to 3,000,000 kWh for 6 months consecutively.

Pemeriksaan dan audit pemegang lesen-lesen awam - Tenaga Nasional Berhad , Sabah Electricity Sdn. Bhd. (SESB) dan Penjana-penjana Tenaga Bebas (IPP) serta institusi awam seperti hospital awam untuk memastikan pepasangan dalam keadaan baik bagi menjamin keberterusan bekalan serta Indeks Purata Gangguan Bekalan Per Pengguna (SAIDI) yang mengukur prestasi perkhidmatan bekalan sentiasa dipantau dari semasa ke semasa.

Inspections and audits of public licence holders - Tenaga Nasional Berhad (TNB), Sabah Electricity Sdn Bhd (SESB) and Independent Power Producers (IPP) as well as public institutions such as public hospitals – to ensure that they are in order to secure the supply and to monitor the System Average Interruption Duration Index (SAIDI).

PENGUATKUASAAN
ENFORCEMENT

Pada 2018, pemeriksaan telah dijalankan ke atas 282 buah premis. Daripada pemeriksaan tersebut, sepuluh (10) kertas siasatan telah dibuka bagi kes penggunaan elektrik secara curang manakala kesalahan lain adalah seperti kelengkapan yang tiada kelulusan, gagal melantik pengurus tenaga elektrik dan kesalahan dalam aktiviti pembekalan gas.

In 2018, inspections were conducted on 282 premises. From these inspections, ten (10) investigation papers were initiated for the fraudulent use of electricity while the remainder were for unauthorised electrical equipment, failure to appoint energy managers and offence in gas supply activities.

Aktiviti penguatkuasaan telah dibahagikan kepada beberapa kategori:

The enforcement activities were split into several categories:

Orang Kompeten
Competent Persons

27

Premis industri telah diperiksa
Industrial premises inspected

10

Notis pelanggaran Akta Bekalan Elektrik 1990
Notices of violations of the Electricity Supply Act 1990

Pepasangan Elektrik
Electrical Installation

33

Premis telah diperiksa
Premises were inspected

16

Notis ketidakpatuhan
Notices of non-compliance

Pemeriksaan Pepasangan Gas
Inspection of Gas Installations

35

Premis telah diperiksa untuk memastikan pematuhan Akta Bekalan Gas 1993.
Premises were inspected to ensure they comply with the Gas Supply Act 1993.

Pemeriksaan Kelengkapan Elektrik
Inspection of Electrical Equipment

36

Pengilang dan penjual kelengkapan elektrik telah diperiksa di mana tumpuan diberikan kepada kelengkapan yang tidak memiliki COA daripada ST atau tanpa label SIRIM-ST.
Inspections were carried out on the manufacturers and sellers of electrical equipment, with the focus being on equipment that do not have a CoA from the Commission or without the SIRIM-ST label.

Pelesenan Persendirian
Private Licence

10

Lesen Persendirian diperiksa pada 2018 untuk memastikan pematuhan dengan Seksyen 9 dalam Akta Bekalan Elektrik 1990.
Private licenses were inspected in 2018 to ensure compliance with Section 9 of the Electricity Supply Act 1990.

Kontraktor Elektrik
Electrical Contractor

10

Kontraktor elektrik diperiksa untuk memastikan bahawa mereka memiliki Perakuan Pendaftaran seperti yang termaktub dalam Peraturan 75, Peraturan-peraturan Elektrik 1994.
Electrical contractors inspected to ascertain that they possess a Certificate of Registration as mandated by Regulation 75 in the Electricity Regulations 1994.

Operasi Banteras Aktiviti Haram (Ops BAH)

ST telah dijemput untuk menyertai Ops BAH bersama dengan 20 badan kawal selia dan agensi penguatkuasaan yang lain seperti Polis Diraja Malaysia (PDRM), Jabatan Imigresen, Agensi Anti Dadah Kebangsaan (AADK), Majlis Perbandaran Kuala Lumpur (DBKL), dan Jabatan Agama Islam Wilayah Persekutuan (JAWI). ST telah mengambil bahagian dalam tujuh (7) operasi yang melibatkan pemeriksaan ke atas pusat perjudian haram, kafe siber, kedai urut dan pusat hiburan untuk memastikan pemotongan bekalan elektrik yang lancar.

Ops BAH

The Commission was invited to participate in Ops BAH along with 20 other regulatory and enforcement agencies such as the Royal Malaysian Police (PDRM), the Immigration Department, the National Anti-Drug Agency (AADK), Kuala Lumpur City Hall (DBKL) and the Federal Territories Islamic Enforcement Agency (JAWI). The Commission took part in seven (7) operations involving checks on gambling dens, cyber cafes, massage parlours and entertainment centres to oversee the process of power supply termination.

PENTAULIAHAN INSTITUSI KEMAHIRAN TEKNIKAL
ACCREDITATION OF TECHNICAL INSTITUTIONS

Pentauliahan institusi kemahiran teknikal untuk mengendalikan kursus Kekompetenan Voltan Tinggi adalah penting demi melatih dan melahirkan lebih ramai Orang Kompeten Voltan Tinggi yang mahir dan berkepakaran untuk memenuhi keperluan industri. Pada 2018, UniKL-BMI telah mendapat pentauliahan daripada ST bagi mengendalikan pembelajaran dan peperiksaan kursus Penjaga Jentera (Voltan Tinggi). Buat masa ini, ST telah memberi pentauliahan kepada sejumlah tujuh (7) institusi kemahiran teknikal untuk menjalankan kursus Kekompetenan Voltan Tinggi.

The accreditation of technical institutions to operate High Voltage Competency courses is pertinent to train and produce more skilled and experienced High Voltage Competent Persons and meet industry needs. In 2018, UniKL-BMI has been accredited by the Commission to conduct training and examinations for Chargeman (High Voltage) courses. Currently, the Commission has accredited seven (7) technical institutions to conduct High Voltage Competency courses.

Institusi-institusi tersebut adalah seperti berikut:
Those institutions are as follows:

- ILSAS Bangi
- ILSAS Malim Nawar
- INSTEP Batu Rakit, Kuala Terengganu
- ADTEC Kemaman
- IKBN Kinarut, Sabah
- Pusat Latihan Teknikal SESB-ILSAS, Kota Belud, Sabah (Kursus Pencantum Kabel Voltan Tinggi)
- UniKL-BMI, Kuala Lumpur

PENYIASATAN
INVESTIGATIONS

51 Kertas Siasatan telah dibuka pada 2018 di bawah Akta Bekalan Elektrik 1990, Akta Bekalan Gas 1993, Peraturan-Peraturan Elektrik 1994, serta undang-undang lain yang berkenaan.

51 Investigation Papers were opened in 2018 under the Electricity Supply Act 1990, the Gas Supply Act 1993, the Electricity Regulations 1994, as well as other related laws.

Kertas Siasatan ***Investigation Paper***	**2017**	**2018**
Kes Kemalangan Elektrik *Electrical Accident Cases*	23	27
Pepasangan Elektrik dan Gas *Electrical and Gas Installation*	1	5
Kelengkapan Elektrik *Electrical Equipment*	13	3
Penggunaan Elektrik Secara Curang *Dishonest Use of Electricity*	6	10
Gangguan Bekalan Elektrik *Interruption of Electricity Supply*	1	3
Bekalan Gas Tanpa Lesen *Unlicensed Gas Supply*	0	0
Kontraktor Elektrik *Electrical Contractor*	0	0
Kes Kemalangan Gas *Gas Accident Cases*	3	2
Perlantikan Orang Kompeten *Appointment of Competent Persons*	0	0
Perlantikan Pengurus Tenaga Elektrik *Appointment of Energy Managers*	0	1
Jumlah *Total*	**47**	**51**

PENDAKWAAN/KOMPAUN
PROSECUTION/COMPOUND

Pendakwaan Dan Pengkompaunan
Prosecution and Compounding

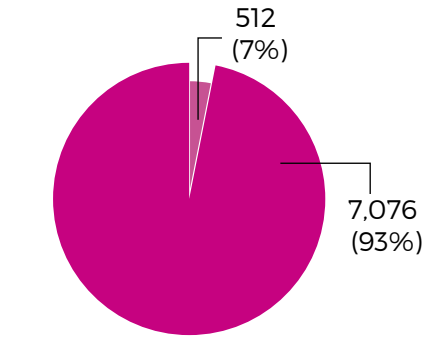
40 Kes yang dihantar kepada Timbalan Pendakwa Raya (TPR) untuk cadangan pengkompaunan
Cases proposed to the Deputy Public Prosecutor (DPP) for compounding

10 Kes yang dihantar kepada TPR untuk cadangan pendakwaan
Cases proposed to the DPP for trial

Jawatankuasa Siasatan ST
Energy Commission Investigation Committee

Sebagai badan kawal selia bagi keselamatan kerja-kerja elektrik, ST mempunyai kuasa untuk menggantung atau membatalkan secara mutlak Perakuan Kekompetenan. Ianya telah dijalankan oleh satu jawatankuasa ST di bawah Peraturan-peraturan Elektrik 1994.
As the regulatory body for safety in electricity works, the Commission has the authority to suspend or absolutely revoke the Certificate of Competency. This is carried out by a Committee set up under the Electricity Regulations 1994.

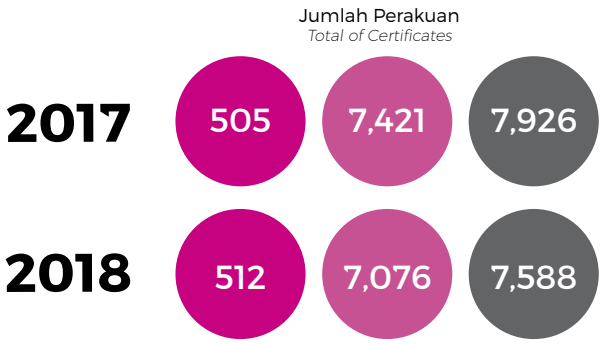
Perakuan Kekompetenan Elektrik Yang Dikeluarkan
Electrical Certificate of Competency



Melalui Peperiksaan Kendalian ST
Through Examinations by the Commission

Melalui Peperiksaan Kendalian Institusi Bertauliah
Through Examinations by Accredited Institutions

Perakuan Kekompetenan Elektrik Yang Dikeluarkan Dalam Dua (2) Tahun
Electrical Certificate of Competency Issued Over Two (2) Years



Peperikaan Kendalian ST
Examinations by the Commission

Peperiksaan Kendalian Institusi Bertauliah
Examinations by Accredited Institutions

Jumlah
Total

Perakuan Kekompetenan Gas
Gas Certificate of Competency

Kelas Kekompetenan *Competency Class*	Jumlah Perakuan Kekompetenan Gas yang telah Dikeluarkan *Number of Gas Competency Certificates Issued*	
	2017	**2018**
Jurutera *Engineer*	2	1
Penyelia Kejuruteraan Gas *Gas Engineering Supervisor*	8	10
Jurupasang Gas Kelas I *Gas Fitter Class I*	15	10
Jurupasang Gas Kelas II *Gas Fitter Class II*	27	6
Jurupasang Gas Kelas III *Gas Fitter Class III*	20	24
Jumlah ***Total***	**72**	**51**

PERAKUAN DAN PENDAFTARAN
CERTIFICATION AND REGISTRATION

Statistik Pengeluaran Perakuan Kelulusan/Pembaharuan bagi Mengimport/Mengilang dan Pameran Kelengkapan Elektrik

Statistics for Certificate of Approval 'Perakuan Kelulusan'/Renewal for Importing/Manufacturing and Exhibition of Electrical Equipment

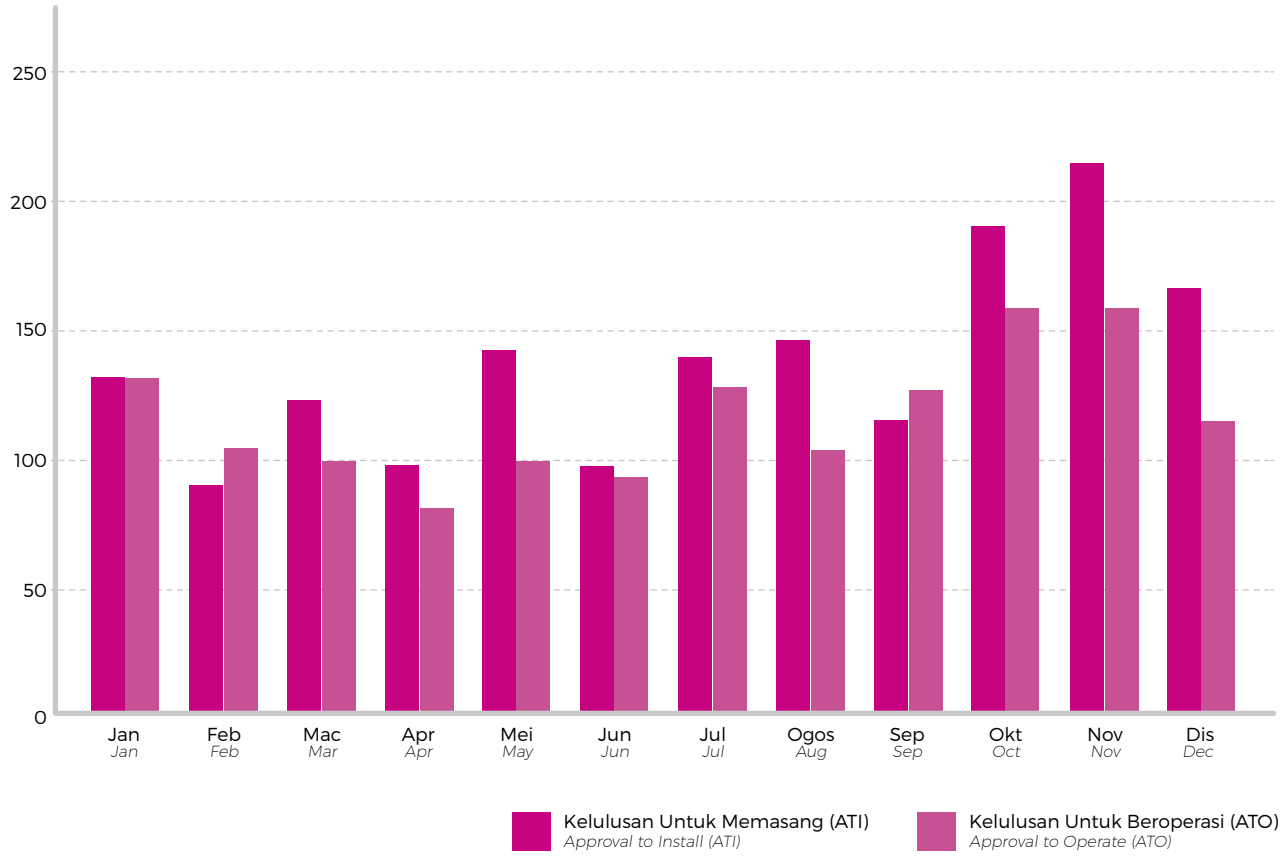
	PERAKUAN KELULUSAN *Certificate of Approval*			PEMBAHARUAN *RENEWAL*		
	Import *Import*	Kilang *Factory*	Pameran *Exhibition*	Import *Import*	Kilang *Factory*	Surat Pelepasan *Release Letter*
2016	8,085	1,306	31	3,124	1,192	2,425
	9,422			**4,316**		
2017	7,324	1,304	16	3,487	1,323	2,933
	8,644			**4,810**		
2018	8,941	1,398	8	3,461	1,217	3,315
	10,347			**4,678**		

Pendaftaran Kontraktor Gas, 2016-2018
Gas Contractor Registration, 2016-2018

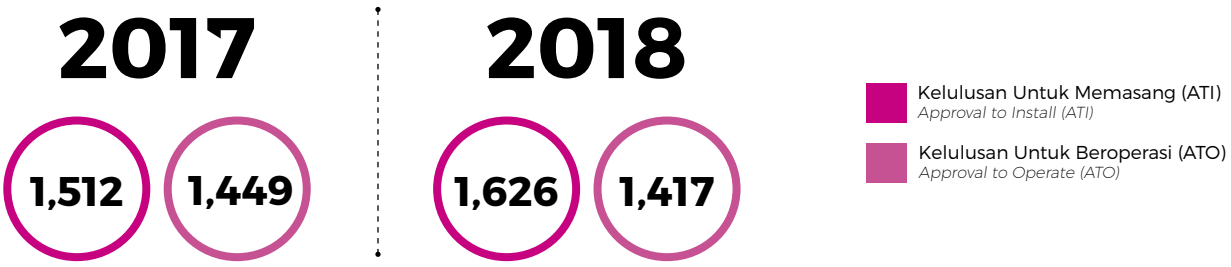
	Kelas A *Class A*	Kelas B *Class B*	Kelas C *Class C*	Kelas D *Class D*	Nombor *Number*
2016	42	38	18	7	105
2017	46	34	21	6	107
2018	**47**	**35**	**24**	**5**	**111**

	Baharu *New*	Pembaharuan *Renewal*
2018	**7**	**104**
2017	2	105

ATI dan ATO Yang Dikeluarkan, 2018
ATI and ATO Issued, 2018

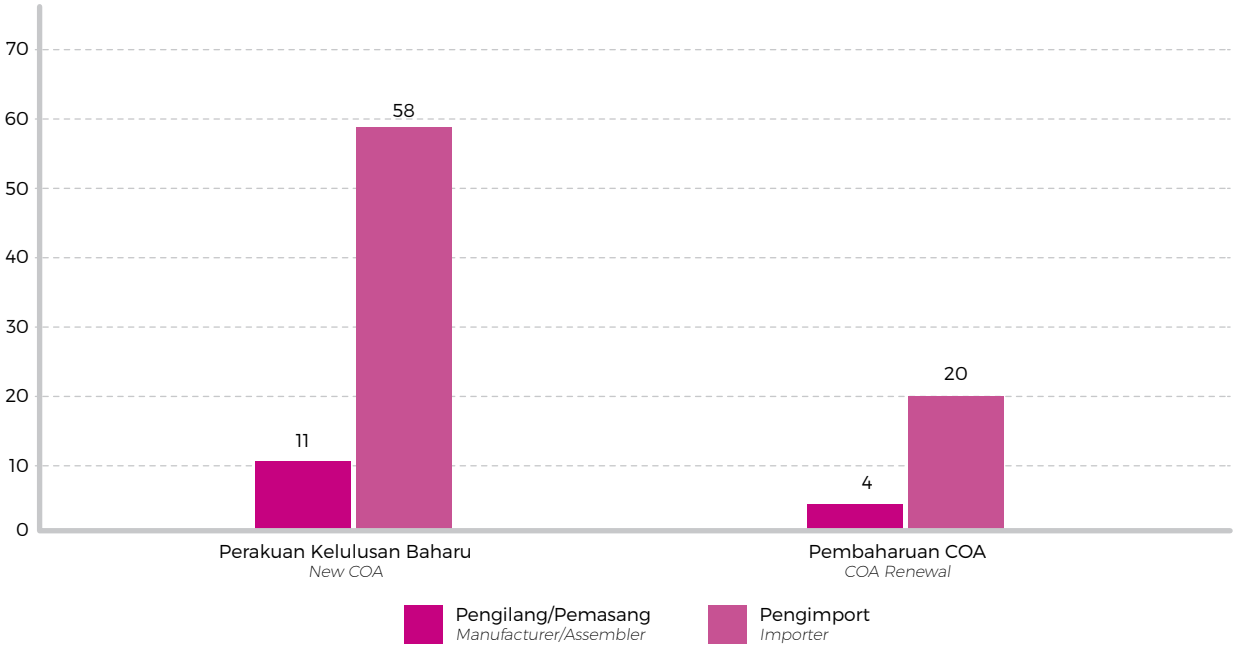


Jumlah ATI dan ATO Yang Dikeluarkan, 2017-2018
Number of ATI and ATO Issued, 2017-2018



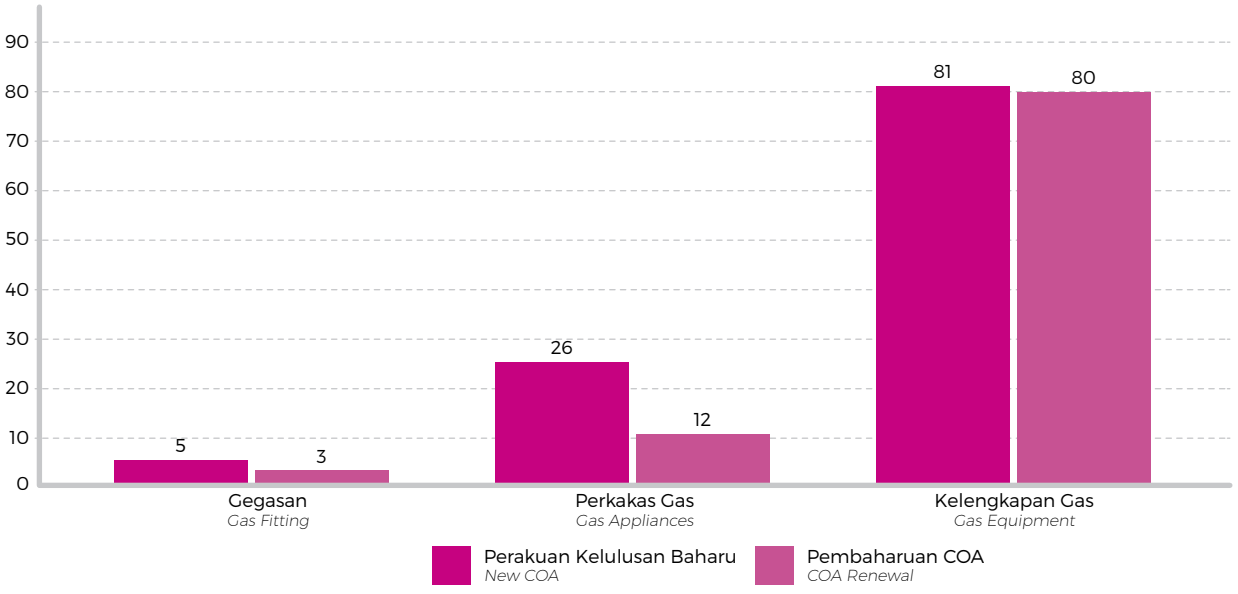
Perakuan Kelulusan Yang Dikeluarkan Bagi Memasang, Mengilang dan Mengimport Gegasan, Kelengkapan dan Perkakas Gas, 2018

COA Issued For Assembler, Manufacturer and Importer of Gas Fitting, Equipment and Appliances 2018



Perakuan Kelulusan Bagi Gegasan, Perkakas dan Kelengkapan Gas Yang Dikeluarkan, 2018

COA Issued for Gas Fitting, Appliances and Equipments, 2018



SEKURITI DAN KEMAMPANAN TENAGA
ENERGY SECURITY AND SUSTAINABILITY

BAB
CHAPTER

3

MEMASTIKAN SEKURITI BEKALAN DAN KEMAMPANAN TENAGA
ENSURING SUPPLY SECURITY AND ENERGY SUSTAINABILITY

Pada 2018, projek untuk memindahkan tenaga elektrik dari Laos ke Malaysia melalui rangkaian Thailand telah bermula selepas Perjanjian Pembelian Tenaga Pelbagai Hala telah ditandatangani. Perjanjian ini akan menambahkan sebanyak 100MW kepada Kapasiti Terpasang di Semenanjung Malaysia.

YB Menteri telah mengumumkan langkah-langkah sokongan dalam 2018 untuk menggalakkan penyertaan dalam skim Pemeteran Tenaga Bersih (NEM) yang lebih meluas. Bermula dari 2019, kos elektrik yang dieksport ke grid di bawah skim NEM boleh dijual pada tarif runcit yang sama untuk elektrik yang diimport dari grid oleh pengguna, dan pajakan Sistem Solar PV melalui penggunaan *Supply Agreement for Renewable Energy* (SARE) akan ditawarkan kepada pengguna.

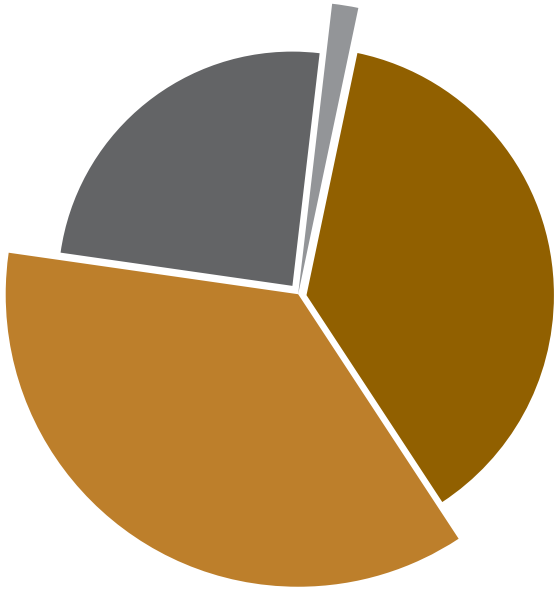
The project to transfer electricity from Laos to Malaysia through Thailand's network commenced in 2018, after the signing of the Energy Purchase and Wheeling Agreement (EPWA). This will add an additional 100MW to the installed capacity of Peninsular Malaysia.

The Minister also announced enhanced support measures in 2018 to encourage greater participation in the Net Energy Metering (NEM) scheme. Starting from 2019, the cost of electricity that is exported to the grid under the NEM scheme can be sold at the same retail tariff for electricity that is imported from the grid by the consumer, and leasing of the Solar PV System using the Supply Agreement for Renewable Energy (SARE) will be readily available to consumers.

PRESTASI SEKURITI DAN KEMAMPANAN TENAGA
ENERGY SECURITY AND SUSTAINABILITY PERFORMANCE

Status Keseluruhan Sektor Pembekalan Elektrik di Semenanjung Malaysia
Status of the Electricity Supply Sector in Peninsular Malaysia

Pecahan Jualan Mengikut Sektor, 2018
Share of Sales by Sector, 2018



40.9%
Industri
Industry

22.5%
Domestik
Domestic

34.6%
Komersial
Commercial

2%
Lain-lain
Others

Perbandingan Penggunaan Elektrik (GWj) Mengikut Sektor Di Semenanjung Malaysia, 2017 - 2018

Comparison of Electricity Consumption (GWh) by Sector in Peninsular Malaysia, 2017 - 2018

Sektor *Sector*	**Penggunaan Elektrik (GWj)** *Electricity Consumption (GWh)*	
	2017	**2018**
Domestik *Domestic*	**24,828**	**25,522**
Komersial *Commercial*	**39,086**	**39,265**
Industri *Industry*	**44,457**	**46,440**
Perlombongan *Mining*	**131**	**149**
Lampu Awam *Public lighting*	**1,482**	**1,476**
Pertanian *Agriculture*	**583**	**617**
Jumlah *Total*	**110,567**	**113,469**

(Sumber: TNB)
(Source: TNB)

Campuran Penjanaan dan Kapasiti Terpasang Di Semenanjung Malaysia, 2018

Generation Mix and Installed Capacity in Peninsular Malaysia, 2018

Campuran Penjanaan
Generation Mix

2017	**54%**	**40%**	**6%**
2018	**56%**	**40%**	**4%**

Kapasiti Terpasang
Installed Capacity

2017	**42%**	**48%**	**10%**
2018	**42%**	**48%**	**10%**

Arang Batu *Coal* | **Gas Asli** *Natural Gas* | **Hidro** *Hydro*

Tahun 2018 menyaksikan peningkatan penggunaan arang batu untuk penjanaan tenaga elektrik berbanding dengan hidro, sebagai sumber penjanaan yang lebih berpatutan. Selain itu, disebabkan kekurangan *force outages* pada 2018, loji arang batu juga menunjukkan catatan campuran penjanaan yang lebih baik berbanding pada tahun sebelumnya. 2018 juga menyaksikan fenomena musim kemarau di mana loji-loji hidro telah digunakan untuk menakung air atau sebagai *peaking plants* untuk digunakan apabila diperlukan sahaja.

The year 2018 saw an increase in the use of coal to generate electricity compared to hydro plants as a more cost-effective generator. Apart from that, due to less force outages in 2018, coal plants in terms of availability performed better than in the previous year. The year in review also saw a drought season where hydro plants were used to contain water or as peaking plants to be used as and when needed.

Status Keseluruhan Sektor Pembekalan Elektrik di Sabah

Bagi negeri Sabah, perancangan penjanaan elektrik adalah mencabar kerana berlakunya turun naik permintaan sepanjang tahun. Oleh itu, permintaan penggunaan elektrik pada 2018 adalah lebih tinggi daripada apa yang telah dijangkakan.

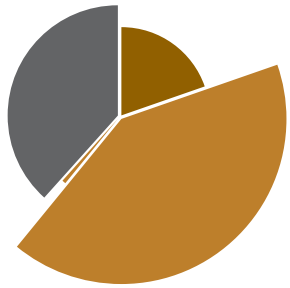
Status of the Electricity Supply Sector in Sabah

Planning how much electricity Sabah will need ahead of time is a challenging feat as demand constantly fluctuates throughout the year. As a result, demand for electricity in 2018 was higher than what was initially anticipated.

Perbandingan Kapasiti Boleh Harap Di Sabah, 2017 & 2018
Comparison of Dependable Capacity in Sabah, 2017 & 2018

2017	2018
1,247 MW	1,228 MW

Pembahagian Jualan Mengikut Sektor
Share of Sales by Sector



1%	Lain-lain *Others*
21%	Industri *Industry*
44%	Komersial *Commercial*
34%	Domestik *Domestic*

Perbandingan Kapasiti Penjanaan di Pantai Barat dan Pantai Timur Sabah, 2018
Comparison of Generation Capacity in the West Coast and East Coast of Sabah, 2018

Kapasiti Penjanaan di Pantai Barat *Generation Capacity in the West Coast*		Kapasiti Penjanaan di Pantai Timur *Generation Capacity in the East Coast*	
Gas Asli *Natural Gas*	1,124MW	Diesel/ MFO *Diesel/ MFO*	- MW
Diesel/ MFO *Diesel/ MFO*	- MW	Biojisim/ Biogas *Biomass/ Biogas*	28MW
Hidro *Hydro*	83MW	Hidro *Hydro*	1MW

Status Pembekalan Elektrik di Sabah, 2017-2018
Status of Electricity Supply in Sabah, 2017-2018

	2017	2018
Kapasiti Terpasang *Installed Capacity*	1,556 MW	1,531 MW
Kapasiti Boleh Harap *Dependable Capacity*	1,247 MW	1,228 MW
Permintaan Maksimum *Maximum Demand*	938 MW	955 MW
Penjanaan *Generation*	6,264 GWh	6,514 GWh

Perbandingan Bekalan Elektrik antara Pantai Barat dan Pantai Timur Sabah, 2018
Comparison of Electricity Supply in the West Coast and East Coast of Sabah, 2018

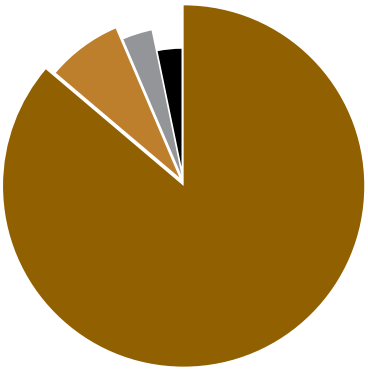
	Pantai Barat *West Coast*	Pantai Timur *East Coast*
Kapasiti Boleh Harap *Dependable Capacity*	1,048MW	179MW
Permintaan Maksimum *Maximum Demand*	654MW	301MW
Margin Rizab *Reserve Margin*	60%	-40%

Gas adalah bahan api utama di Sabah, di mana 86 peratus daripada penjanaan elektrik adalah terdiri daripada sumber gas. Walaupun tenaga boleh baharu seperti tenaga biojisim mempunyai potensi yang tinggi, terdapat persaingan dari segi penggunaannya. Ini adalah kerana biojisim mempunyai nilai yang tinggi jika dieksport, berbanding penggunaannya sebagai suatu sumber tenaga. Oleh yang demikian, beberapa loji biojisim telah ditutup pada 2018.

Gas is a major source of fuel in Sabah where 86 percent of electricity generated in Sabah comes from gas. While renewable energy such as biomass fuel has great potential to provide energy, there are some drawbacks in using them. Biomass fuel is more valuable as an export rather than an energy source. As such, several biomass plants ceased operations in 2018.

Campuran Penjanaan Elektrik dan Kapasiti Boleh Harap Mengikut Jenis Bahan Api di Sabah, 2018
Electricity Generation Mix and Dependable Capacity by Type of Fuel in Sabah, 2018

Campuran Penjanaan
Generation Mix



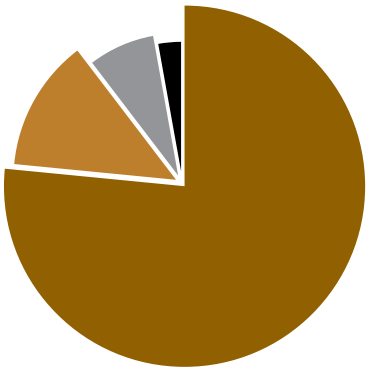
86% Gas *Gas*

6% Hidro *Hydro*

4% Diesel/MFO *Diesel/MFO*

3% Biojisim/Biogas *Biomass/Biogas*

Kapasiti Boleh Harap
Dependable Capacity



79% Gas *Gas*

12% Diesel/MFO *Diesel/MFO*

7% Hidro *Hydro*

2% Biojisim/Biogas *Biomass/Biogas*

INISIATIF UNTUK MENINGKATKAN PRESTASI SEKURITI DAN KEMAMPANAN TENAGA
INITIATIVES TO IMPROVE ENERGY SECURITY AND SUSTAINABILITY PERFORMANCE

PERJANJIAN PEMBELIAN TENAGA PELBAGAI HALA
ENERGY PURCHASE AND WHEELING AGREEMENT (EPWA)

Pada 27 September 2017, Malaysia telah menandatangani Perjanjian Pembelian Tenaga Pelbagai Hala dengan Laos PDR dan Thailand untuk menentukan terma berkaitan kadar serta aspek-aspek teknikal dan komersil bagi tujuan pemindahan tenaga dari Laos ke Malaysia melalui rangkaian di Thailand. Projek ini telah dilancarkan pada 1 Januari 2018 dan akan diteruskan sehingga 31 Disember 2019. Perjanjian ini akan menambahkan sebanyak 100MW kepada Kapasiti Terpasang di Semenanjung Malaysia.

On 27 September 2017, Malaysia signed an Energy Purchase and Wheeling Agreement (EPWA) with Laos PDR and Thailand to determine the rates, technical, and commercial terms to transfer electricity from Laos to Malaysia through Thailand's network. This project was executed on 1 January 2018 and will continue until 31 December 2019. This will add an additional 100MW to Peninsular Malaysia's Installed Capacity.

Sambungtara Laos-Thailand-Malaysia
Laos-Thailand-Malaysia (LTM) Interconnection

Melibatkan Pemindahan Tenaga Melebihi 10GWj Setakat Ini
Involves 10GWh of power transfer to date

Tenaga Boleh Baharu
Renewable Energy

Campuran Kapasiti TBB
RE Capacity Mix

2017	**3.02%**
2018	**4.21%**

Tarif Galakan
Feed-in Tariff (FiT)

2017	**386 MW**
2018	**455 MW**

Nota: Data termasuk kapasiti RE pada penjanaan *off-grid* dan yang disambung ke rangkaian pengagihan.
Note: Data includes RE capacity at off-grid generation and RE capacity connected to distribution network.

PEMETERAN TENAGA BERSIH (NEM)
NET ENERGY METERING (NEM)

Salah satu inisiatif yang diumumkan baru-baru ini adalah penambahbaikan Pemeteran Tenaga Bersih (NEM) yang diperkenalkan melalui satu mekanisme penyewaan tenaga solar di bawah program *Supply Agreement for Renewable Energy* (SARE).

One of the initiatives that was recently announced is the improvement of Net Energy Metering (NEM) through the introduction of a solar leasing mechanism using the Supply Agreement for Renewable Energy (SARE) programme.

PROJEK PENGGUNAAN GAS DI SEMENANJUNG (PGU)
PENINSULAR GAS UTILISATION (PGU) PROJECT

Pada 1982, PETRONAS telah melancarkan projek Penggunaan Gas Di Semenanjung (PGU), di mana saluran paip gas sepanjang 2,500km telah dipasang di Semenanjung Malaysia untuk membekalkan gas. Projek itu juga merangkumi Sistem Pengagihan Gas Asli (NGDS) bagi bekalan gas asli di Semenanjung Malaysia. Selain daripada itu, dua (2) Terminal Penggasan Semula telah dibangunkan untuk menerima, menyimpan dan menggas semula LNG.

Status Keseluruhan Projek PGU pada 2018:

- Pada 2018, sistem PGU di seluruh Semenanjung Malaysia adalah sepanjang 127.68km.
- Sejak 2017, satu projek untuk memperluaskan NGDS di Lembah Kinta telah dilancarkan untuk pembinaan saluran paip gas sepanjang 140km, yang akan memanfaatkan 44 pengguna industri di kawasan tersebut. Ianya dijangka akan disiapkan secara berperingkat dari September 2018 sehingga Februari 2019.
- Dari 2017 sehingga November 2018, sebanyak 109 projek telah dijalankan untuk tujuan pembinaan saluran paip gas sepanjang 127.68km. Pembangunan tersebut diteruskan sepanjang tahun 2018 untuk tujuan perluasan pasaran gas di Malaysia.

In 1982, PETRONAS began the Peninsular Gas Utilisation (PGU) project, which installed 2,500km of pipelines to supply gas to all of Peninsular Malaysia. Part of the PGU project is the Natural Gas Distribution System (NGDS), which distributes natural gas within Peninsular Malaysia. On top of this, two Regasification Terminals (RGT) were developed to receive, store and regasify LNGs.

Status of the PGU project in 2018:

- *As of 2018, the PGU system is 127.68km in length, spanning across Peninsular Malaysia.*
- *Since 2017, a project was launched to expand the NGDS in Kinta Valley with a pipeline length of 140km, which will benefit 44 industrial users within the area. It is expected to be completed in stages from September 2018 until February 2019.*
- *From 2017 until November 2018, 109 projects were completed with a total of 127.68km of pipeline built. These developments continued into the rest of the year, as relevant parties continuously work to expand the Malaysian gas market.*

Rangkaian Saluran Paip Projek Penggunaan Gas Di Semenanjung
The Peninsular Gas Utilisation Network

KECEKAPAN TENAGA
ENERGY EFFICIENCY

SESI *TOWN HALL* MESTECC MENGENAI KECEKAPAN TENAGA
MESTECC TOWN HALL ON ENERGY EFFICIENCY

Pada 20 Oktober 2018, sebuah sesi *Town Hall* telah diadakan oleh Kementerian Tenaga, Sains, Teknologi, Alam Sekitar dan Perubahan Iklim (MESTECC) bersama YB Yeo Bee Yin di Pusat Konvensyen Kuala Lumpur. Ia dianjurkan oleh ST dan MESTECC dan merupakan sebahagian daripada International Greentech and Eco Products Exhibition and Conference Malaysia (IGEM) 2018 dan telah menarik seramai lebih 200 peserta.

YB Yeo telah menggunakan sesi tersebut untuk mendapatkan perspektif yang lebih jelas mengenai isu kecekapan tenaga di Malaysia serta menggalakkan lagi perkongsian input, pendapat, cadangan dan penyelesaian daripada para pemain utama industri dan pihak berkepentingan untuk membangunkan rangka kerja polisi. Disebabkan sesi *Town Hall* tersebut bertujuan untuk mencari jalan penyelesaian, para peserta digalakkan untuk memberikan maklum balas dan cadangan semasa acara tersebut berlangsung melalui sebuah sesi soal jawab semasa serta selepas acara melalui atas talian.

Terdapat lima (5) perkara utama yang telah disimpulkan iaitu legislasi/polisi, promosi dan kesedaran, pembiayaan, kolaborasi dan Kontrak Prestasi Tenaga (EPC).

Setelah kesemua maklum balas dianalisis, isu berkenaan legislasi telah menerima 23 peratus input dan komen di mana kebanyakannya adalah mengenai isu berkenaan agensi mana yang patut menguatkuasakan dan melaksanakan EECA. Terdapat juga komen berkenaan pengukuhan kapasiti agensi yang patut bermula dari sekarang.

On 20 October 2018, a town hall session was held with the Minister of Energy, Science, Technology, Environment and Climate Change (MESTECC) YB Yeo Bee Yin at the Kuala Lumpur Convention Centre. Organised by the Energy Commission in collaboration with MESTECC, it was part of the International Greentech and Eco Products Exhibition and Conference Malaysia (IGEM) 2018 event and drew about 200 participants.

YB Yeo called the session to get a clearer perspective on the energy efficiency scene in Malaysia, and to encourage inputs, insights, suggestions and solutions from key industry players and stakeholders to develop the policy framework. As the town hall was meant to be solution-driven, participants were encouraged to deliver feedback and recommendations during the event at the question and answer session and after the event. This enabled participants to send their comments, suggestion and questions online.

There were five (5) key takeaways, which were legislation/ policy, promotion and awareness, funding, collaboration and Energy Performance Contract (EPC).

After the analysis of feedback, issues of legislation received 23 percent direct input and comments, most of which were on the issue of which agency should be enforcing and implementing EECA and also on building up the agency's capacity and that it should commence from now.

PROGRAM GERAN AUDIT TENAGA BERSYARAT (EACG) DI SEKTOR INDUSTRI DAN BANGUNAN KOMERSIAL

ENERGY AUDIT CONDITIONAL GRANT (EACG) PROGRAMME IN THE INDUSTRIAL AND COMMERCIAL BUILDINGS SECTOR

Program EACG di sektor industri dan komersial dibuka kepada pepasangan industri atau komersial dengan jumlah penggunaan tenaga elektrik minima 100,000 kWj sebulan. Di bawah program ini, pihak Kerajaan telah bersetuju menyediakan dana bagi menjalankan aktiviti audit tenaga oleh pihak Syarikat Perkhidmatan Tenaga (ESCO) di pepasangan industri dan komersial. Syarat yang dikenakan kepada pepasangan yang berjaya mendapatkan dana tersebut adalah melabur dalam menjalankan langkah-langkah penjimatan tenaga menyamai kos audit tenaga yang ditanggung oleh Kerajaan.

Pihak MESTECC telah melantik Malaysian GreenTech Corporation (MGTC) dan Sustainable Energy Development Authority (SEDA) sebagai agensi pelaksana, manakala ST berperanan sebagai koordinator keseluruhan program.

Objektif pelaksanaan program EACG adalah:

- Menyediakan kemudahan pembiayaan kewangan melalui geran selama tiga (3) tahun (2016, 2017 dan 2018) sebagai pemangkin pelaksanaan audit tenaga, bertujuan mengenal pasti jumlah penggunaan tenaga elektrik adalah dalam *Baseline*.
- Menyediakan platform bagi pelaksanaan langkah-langkah penjimatan tenaga berdasarkan laporan audit tenaga.
- Memastikan penjimatan penggunaan tenaga elektrik terhasil melalui pematuhan perjanjian pelaksanaan langkah-langkah penjimatan tenaga seperti dalam laporan audit tenaga.
- Menyediakan platform pembangunan kapasiti Pengaudit Tenaga bagi memenuhi permintaan aktiviti audit tenaga di sektor industri dan bangunan komersial.
- Memupuk kesedaran berkaitan kepentingan audit tenaga di kalangan pemilik industri dan bangunan komersial.
- Menarik minat institusi perbankan untuk membiayai projek-projek kecekapan tenaga.

The EACG programme in the commercial and industrial sectors is open to any industrial or commercial installations that consume a minimum of 100,000 kWh of electricity a month. Under this programme, the Government has agreed to provide a grant to Energy Services Company (ESCO) carrying out energy audit activities at commercial and industrial installations. The condition imposed on those who had successfully obtained this grant is that they need to invest in measures to equate the cost of saving energy with the cost of energy audit borne by the Government.

MESTECC appointed the Malaysian GreenTech Corporation (MGTC) and the Sustainable Energy Development Authority (SEDA) to implement the EACG programme, while the Commission is tasked with its coordination.

The purpose of the EACG programme include:

- *Providing financial support through this grant over the course of three (3) years (2016, 2017, and 2018) to catalyse the implementation of an energy audit, ensuring that electricity consumption is within the Baseline.*
- *Providing a platform to encourage energy-saving activities as per the energy audit report.*
- *Ensuring savings in electricity consumption by complying with energy conservation measures as per the energy audit report.*
- *Preparing a capacity development platform for Energy Auditors to meet energy audit activity demands in the industrial and commercial buildings sector.*
- *Raising awareness to business owners of the importance of energy audits.*
- *Encouraging the banking industry to finance energy efficiency projects.*

Pencapaian Program EACG, 2016 – 2018
Achievements of the EACGP Programme, 2016 – 2018

Jumlah Pencapaian *Achievements*	**Industri** *Industry*	**Komersial** *Commercial*
Permohonan Keseluruhan *Total Number of Applications*	**138**	**169**
Permohonan Ditolak *Rejected Applications*	**12**	**32**
Permohonan Diluluskan Jawatankuasa Pemandu *Applications Approved by the Steering Committee*	**126**	**137**
Permohonan Yang Menarik Diri *Self-Initiated Applications*	**18**	**28**
Permohonan yang Menandatangani Kontrak Perjanjian *Applications with Signed Contract Agreements*	**108**	**109**
Audit Tenaga Selesai *Completed Energy Audits*	**108**	**105**
Audit Tenaga Dalam Proses *Energy Audits in Progress*	**0**	**4**

PROGRAM RETROFIT BAGI BANGUNAN KERAJAAN
RETROFIT PROGRAMME FOR GOVERNMENT BUILDINGS

Sebagai sebahagian daripada konsep *Government Leads by Example*, Kerajaan telah mengamalkan program *Retrofit* di beberapa buah bangunan Kerajaan untuk menunjukkan potensi dan keberkesanan program ini. Skop program ini merangkumi penukaran lampu kepada jenis LED dan juga penukaran sistem hawa dingin kepada yang lebih cekap tenaga. Setakat ini, sebanyak 16 buah bangunan Kerajaan telah mengambil bahagian dalam program ini, termasuk Pejabat Perdana Menteri, Kementerian Kerja Raya dan 14 buah hospital Kerajaan.

As part of the Government Leads by Example concept, the Government has adopted the Retrofit programme in several Government buildings to show its potential and its effectiveness. The scope of this program includes changing old light bulbs to more efficient LEDs as well as replacing old air-cooling systems to newer and more efficient units. As of this report, a total of 16 Government buildings have taken part in this programme, including the Prime Minister's Office, the Ministry of Works, and 14 Government Hospitals.

Pencapaian Program Retrofit di Bangunan Kerajaan di bawah Rancangan Malaysia Ke-11 (11MP), 2017 & 2018

Achievements of Retrofitting Programme in Government Buildings under the 11MP, 2017 & 2018

2017

Penjimatan Tenaga (kWj) *Energy Savings (kWh)*	**2,922,721.00** 1,038,112	**Penjimatan Kos (RM)** *Cost Savings (RM)*	**1,066,793.17** 378,910.88	**Pengurangan CO_2 (tCO_2)** *CO_2 Reduction (tCO_2)*	**2,227.11** 791.04

2018

Penjimatan Tenaga (kWj) *Energy Savings (kWh)*	**2,843,024** 1,818,710	**Penjimatan Kos (RM)** *Cost Savings (RM)*	**1,037,703.76** 663,829.15	**Pengurangan CO_2 (tCO_2)** *CO_2 Reduction (tCO_2)*	**2,166.38** 1,385.86

Tarikh Siap *Completion Date*

Januari 2017 *January 2017* **(LED)**

Ogos 2017 *August 2017* **(CHILLER)**

September 2017 *September 2017* **(LED)**

- **Blok B1 hingga B8 Kompleks JPM, Putrajaya** *Blocks B1 until B8, Prime Minister's Office, Putrajaya*
- **Blok A & B, Kementerian Kerja Raya** *Blocks A & B, Ministry of Works*

* Penjimatan tenaga bagi tahun 2016 digunakan sebagai rujukan *(baseline).*

** Energy savings for the year 2016 used as a baseline.*

Pencapaian Program Retrofit di Hospital Kerajaan, Oktober 2016 - September 2017

Achievements of the Retrofit Programme in Government Hospitals, October 2016 – September 2017

Projek *Project*	**Status** *Status*	**Anggaran Penjimatan Tenaga (kWj)** *Estimated Energy Savings (kWh)*	**Anggaran Penjimatan Kos (RM)** *Estimated Cost Savings (RM)*	**Anggaran Pengurangan CO_2 (tCO_2)** *Estimated CO_2 Reduction (tCO_2)*
Penggantian Alat Hawa Dingin di Hospital Kulai, Johor *Air-Cooler replacement at Hospital Kulai, Johor*	**September 2016** *September 2016*	**2,384,640.00**	**870,393.60**	**1,817.00**
Penggantian Alat Hawa Dingin di Hospital Sungai Siput, Perak *Air-Cooler replacement at Hospital Sungai Siput, Perak*	**September 2017** *September 2017*	**1,367,760.00**	**499,232.40**	**1,042.33**
Penggantian Alat Hawa Dingin di Hospital Sandakan, Sabah *Air-Cooler replacement at Hospital Sandakan,*	**September 2017** *September 2017*	**381,024.00**	**139,073.76**	**290.34**
Penggantian Lampu kepada Jenis LED di lima (5) Hospital Terpilih *LED lighting replacement at five (5) Selected Hospitals:* *1. Hospital Melaka* *2. Hospital Ipoh* *3. Hospital Temerloh* *4. Hospital Kota Bahru* *5. Hospital Kota Kinabalu*	**Disember 2017** *December 2017*	**3,457,082.88**	**1,261,835.25**	**2,634.30**

NATIONAL ENERGY AWARDS 2018

Anugerah ini dianjurkan oleh MESTECC bagi memacu dan menggalakkan amalan terbaik dalam kecekapan tenaga dan tenaga boleh baharu (TBB) di Malaysia. *National Energy Awards* (NEA) 2018 mengenalpasti pencapaian tertinggi industri berdasarkan kategori berikut: Kecekapan Tenaga, TBB dan Kategori Khas.

Pemenang dalam kategori kecekapan tenaga diiktiraf untuk pelaksanaan amalan pengurusan tenaga bagi bangunan dan industri serta reka bentuk yang cekap tenaga. Pemenang kategori TBB pula telah melaksanakan teknologi yang menggunakan tenaga haba, solar dan biofuel. Untuk 'Kategori Khas – Bangunan Kementerian & Kerajaan' pula, anugerah diberikan untuk bangunan-bangunan Kementerian dan Kerajaan berdasarkan penggunaan tenaga tahunan serta *Building Energy Intensity (*BEI) mereka.

Dengan cara ini, NEA menonjolkan penyertaan dari sektor awam dan swasta yang telah mentransformasikan operasi serta bangunan menjadi lebih cekap tenaga, serta melaksanakan inisiatif TBB bagi mengurangkan pelepasan karbon dengan jayanya. Para pemenang NEA juga telah mewakili Malaysia di *ASEAN Energy Awards.*

Organised by MESTECC to drive and promote best practices in energy efficiency and renewable energy in Malaysia, the inaugural National Energy Awards (NEA) 2018 recognised the highest achievers in the industry according to these categories: Energy Efficiency, Renewable Energy and Special Category.

The winners in the energy efficiency category were recognised for implementing energy management practices in buildings and industries, and innovative energy efficient designs. While the winners in the renewable energy category applied renewable energy technologies that incorporated thermal, solar or biofuels. As for the 'Special Category – Ministry & Government Building', there were honorary mentions of Ministry and Government buildings based on their annual energy consumption patterns and Building Energy Intensity (BEI).

This way, NEA highlights both public and private sector participants that transformed their operations and buildings to become more energy efficient, or those that successfully implemented renewable energy initiatives to reduce their carbon footprint. Furthermore, the NEA winners also went on to represent Malaysia at the ASEAN Energy Awards.

ASEAN ENERGY AWARDS 2018 (ENERGY MANAGEMENT, ENERGY EFFICIENT BUILDING AND GREEN BUILDING AWARDS)

ASEAN Energy Awards merupakan pencapaian tertinggi dalam bidang tenaga di Asia Tenggara.

Kejayaan usaha serantau ini dikukuhkan lagi dengan penubuhan Lembaga Hakim yang diwakili oleh kesemua negara ASEAN – Malaysia, Brunei Darussalam, Kemboja, Indonesia, Laos, Myanmar, Filipina, Singapura, Thailand dan Vietnam.

The ASEAN Energy Awards is Southeast Asia's highest accolade for excellence in the field of energy.

The success of this regional endeavour has been reinforced with the establishment of the Board of Judges represented by all ASEAN Member States – Malaysia, Brunei Darussalam, Cambodia, Indonesia, Laos PDR, Myanmar, the Philippines, Singapore, Thailand and Vietnam.

Objektif pertandingan ini adalah untuk mempromosikan dan menyebarkan amalan terbaik dalam pengurusan tenaga dan reka bentuk hijau yang ditonjolkan atau diguna pakai untuk bangunan dan industri-industri di negara-negara ASEAN. Ia juga menggalakkan penyertaan semua sektor dalam mengguna pakai dan melaksanakan pengurusan tenaga dan langkah-langkah kecekapan tenaga yang kreatif ke arah pemuliharaan tenaga bagi meningkatkan peluang perniagaan serta mengurangkan pelepasan karbon mereka.

Wakil Malaysia yang telah memenangi *ASEAN Energy Awards 2018 (Energy Management, Energy Efficient Buildings and Green Building Awards*) adalah:

Kategori: *ASEAN EE&C Best Practices Competition for Energy Management in Buildings and Industries*

a) **Sub-kategori: *Small and Medium Building***
Cofreth (M) Sdn Bhd HQ (Tempat Kedua)
b) **Sub-kategori: *Large Building***
Ibu Pejabat Jabatan Kerja Raya (Pemenang)
c) **Sub-kategori: *Small and Medium Industry***
Top Glove Sdn Bhd (Tempat Ketiga)
d) **Sub-kategori: *Large Industry***
IOI Edible Oils Sdn Bhd (Tempat Ketiga)

Kategori: *ASEAN EE&C Best Practices Competition for Energy Efficient Buildings and Green Buildings*

a) **Sub-kategori: *Large Green Building***
Ibu Pejabat Perbadanan Kemajuan Negeri Selangor (PKNS) (Pemenang)
Amanjaya Specialist Centre (Tempat Ketiga)
b) **Sub-kategori: *Retrofitted Building***
Pejabat Perdana Menteri (Tempat Kedua)

The objectives of the competition are to promote and disseminate best practices in energy management and green designs demonstrated or applied in buildings and industries in ASEAN member countries. It is also to encourage all sector participation in adopting and implementing innovative and creative energy management and energy efficiency approaches towards energy conservation in order to enhance business growth as well as reduce their carbon footprint.

Malaysian winners of the ASEAN Energy Awards 2018 (Energy Management, Energy Efficient Buildings and Green Building Awards) are as follows:

Category: ASEAN EE&C Best Practices Competition for Energy Management in Buildings and Industries

a) Sub-category: Small and Medium Building
Cofreth (M) Sdn Bhd HQ (1st Runner-up)
b) Sub-category: Large Building
Public Works Department HQ (Winner)
c) Sub-category: Small and Medium Industry
Top Glove Sdn Bhd (2nd Runner-up)
d) Sub-category: Large Industry
IOI Edible Oils Sdn Bhd (2nd Runner-up)

Category: ASEAN EE&C Best Practices Competition for Energy Efficient Buildings and Green Buildings

a) Sub-category: Large Green Building
Perbadanan Kemajuan Negeri Selangor (PKNS) HQ (Winner)
b) Sub-category: Retrofitted Building
Prime Minister Office (1st Runner-up)

PELABELAN INTENSITI TENAGA BANGUNAN
BUILDING ENERGY INDEX (BEI)

Malaysia telah mengambil inisiatif untuk memantau kecekapan tenaga bangunan-bangunan Kerajaan melalui penggunaan Pelabelan Intensiti Tenaga Bangunan (BEI). BEI adalah nisbah antara kadar penggunaan tenaga sesebuah bangunan secara tahunan dengan Keluasan Lantai Bersih (*Net Floor Area – NFA*). Pelabelan prestasi BEI untuk bangunan-bangunan Kerajaan merupakan langkah awal untuk:

1) Mewujudkan kesedaran mengenai kecekapan tenaga;
2) Mempercepatkan pelaksanaan inisiatif bangunan cekap tenaga;
3) Mengurangkan kos yang ditanggung oleh Kerajaan;
4) Menggalakkan pembinaan lebih banyak bangunan cekap tenaga.

Kementerian Tenaga, Sains, Teknologi, Alam Sekitar Dan Perubahan Iklim (MESTECC) melaksanakan program pelabelan BEI untuk bangunan-bangunan Kerajaan dengan kerjasama ST bermula suku keempat tahun 2018. Program ini dilaksanakan secara berperingkat dari 2018 sehingga 2023 dan dijangka sebanyak 5,000 bangunan Kerajaan akan dilabelkan sepanjang tempoh lapan tahun ini. Setiap bangunan Kerajaan kini diwajibkan mempamerkan label penarafan bintang yang diterima.

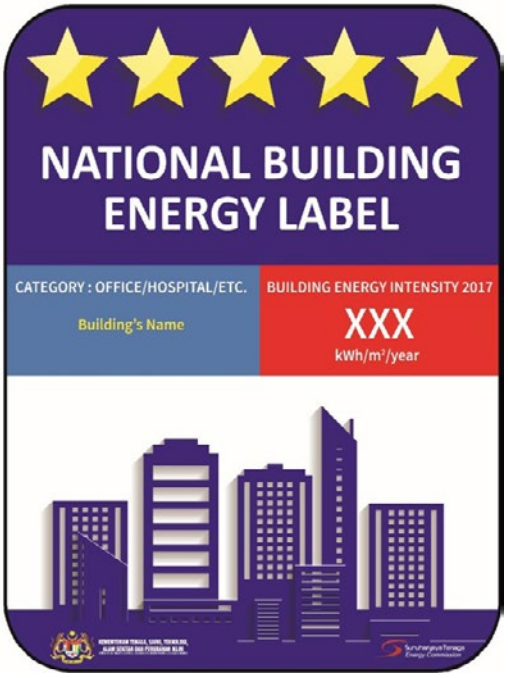
Melalui inisiatif ini, dijangkakan bahawa penjimatan tenaga dapat mencapai sehingga 902 GWj (iaitu sebanyak RM329 juta) dan sebanyak 626 kt CO_2 pelepasan gas rumah hijau akan dapat dikurangkan.

Malaysia has taken the initiative to monitor their Government building's efficiency through the adoption of Building Energy Index (BEI) performance labelling. Defined as the annual rate of energy consumption ratio of a building to the Net Floor Area (NFA), it allows building owners to monitor the use of electricity and make comparisons with other buildings. BEI performance labelling in Government buildings is a preliminary step to:

1) Create awareness on energy efficiency;
2) Accelerate the implementation of more energy efficient buildings.;
3) Reduce expenses borne by the Government;
4) Encourage more energy-efficient properties.

The Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC) implemented this program in collaboration with the Energy Commission from the fourth quarter of 2018. It will be implemented in stages starting from 2018 to 2023 and it is expected that 5,000 Government buildings will be labelled within 8 years. It is mandatory for the star rating label to be displayed in each Government building.

With these initiatives in place, it is estimated that energy savings can amount to 902 GWh (equivalent to RM329 million) and greenhouse gas emissions can be reduced by approximately 626 kt of CO_2 equivalent.



INTENSITI ELEKTRIK
ELECTRICITY INTENSITY

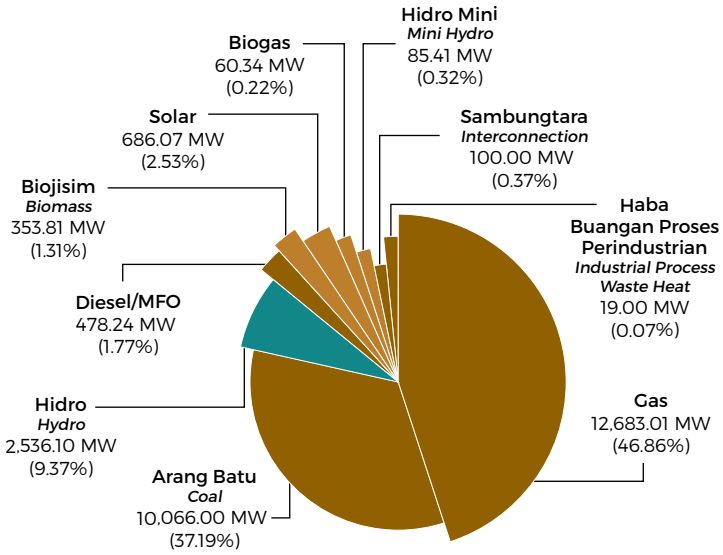
GWj/RM juta KDNK pada harga malar 2015
GWh/RM million GDP at 2015 prices

	1Q	2Q	3Q	4Q	Keseluruhan *(Overall)*
2017	0.1027	0.1066	0.1026	0.0984	0.1025
	0.0546	0.0564	0.0548	0.0523	0.0545
2018	0.0997	0.1055	0.1010	0.0961	0.1005
	0.0530	0.0565	0.0540	0.0519	0.0538

Semenanjung Malaysia *Peninsular Malaysia*
Sabah *Sabah*

KAPASITI TERPASANG 2018
INSTALLED CAPACITY 2018

Kapasiti Terpasang Semenanjung 2018 (termasuk yang bersambung di talian pengagihan dan *off-grid.*)
Peninsular Installed Capacity 2018 (including those connected at the distribution level and off-grid.)



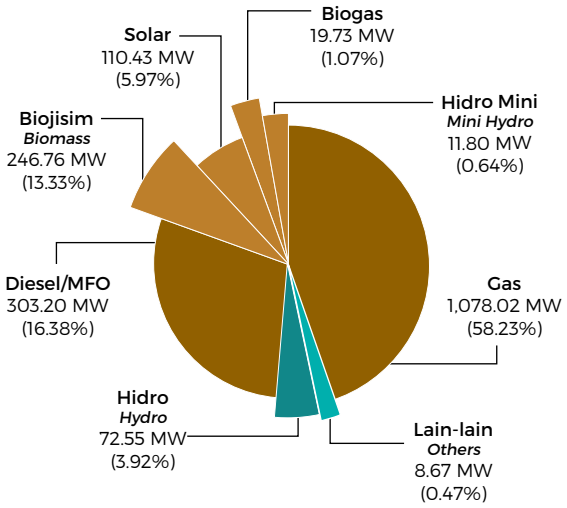
Jumlah
Total
27,067.98 MW
(100.00%)

TBB + Hidro
RE + Hydro
3,721.73 MW
(13.75%)

TBB
RE
1,185.63 MW
(4.38%)

Tenaga Boleh Baharu (TBB)
Renewable Energy (RE)
Tenaga Tidak Boleh Baharu
Non-Renewable Energy
Hidro
Hydro

Kapasiti Terpasang Sabah 2018 (termasuk yang bersambung di talian pengagihan dan *off-grid.*)
Sabah Installed Capacity 2018 (including those connected at the distribution level and off-grid.)



Jumlah
Total

1,851.16
MW
(100.00%)

TBB + Hidro
RE + Hydro

461.27
MW
(24.92%)

TBB
RE

388.72
MW
(21.00%)

- Tenaga Boleh Baharu (TBB) *Renewable Energy (RE)*
- Tenaga Tidak Boleh Baharu *Non-Renewable Energy*
- Hidro *Hydro*
- Lain-lain *Others*

HARGA BAHAN API
FUEL PRICES

Harga Gas Berpaip Yang Dikawal Selia Pada 2018 (RM/mmBtu)
Regulated Piped Gas Price 2018, (RM/mmBtu)

Tempoh *Period*	**Sektor Kuasa** *Power Sector*	**GMB** *GMB*	**Pelanggan GMB** *GMB Customers*	**Lain-lain Pelanggan Industri** *Other Industrial Customers*
Januari-Jun *January-June*	**24.20**	**26.05**	**32.52**	**30.35**
Julai-Disember *July-December*	**25.70**	**27.55**	**32.69**	**31.85**

PROJEK PENJANAAN BAHARU LSS
LSS NEW GENERATION PROJECT

Jumlah Bidaan Yang Disenarai Pendek Di Semenanjung Malaysia Pada 2018
Number of Shortlisted Bidders in Peninsular Malaysia, 2018

Pakej Kapasiti *Capacity Package*	Bilangan Bidaan Yang Disenarai Pendek *No of Shortlisted Bidders*
Pakej P1 *Package P1* *(1MWac to 5.99MWac)*	6
Pakej P2 *Package P2* *(6MWac to 9.99MWac)*	11
Pakej P3 *Package P3* *(10MWac to 30MWac)*	13
Jumlah *Total*	30

Jumlah Bidaan Yang Disenarai Pendek Di Sabah Dan Labuan Pada 2018
Number of Shortlisted Bidders in Sabah and Labuan, 2018

Pakej Kapasiti *Capacity Package*	Bilangan Bidaan Yang Disenarai Pendek *No of Shortlisted Bidders*
Pakej S1 *Package S1* *(1MWac to 5.99MWac)*	8
Pakej S2 *Package S2* *(6MWac to 10MWac)*	3
Jumlah *Total*	11

PENGGUNAAN ELEKTRIK DAN GAS BERPAIP
CONSUMPTION OF ELECTRICITY & PIPED GAS

Penggunaan Elektrik (GWj) Mengikut Sektor Di Semenanjung Malaysia Pada 2018
Electricity Consumption (GWh) by sector in Peninsular Malaysia, 2018

Sektor *Sector*	Domestik *Domestic*	Komersial *Commercial*	Industri *Industry*	Perlombongan *Mining*	Lampu Awam *Public Lighting*	Pertanian *Agriculture*	Jumlah *Total*
Penggunaan Elektrik (GWj) *Electricity Consumption (GWh)*	25,522	39,265	46,440	149	1,476	617	113,469

Sumber: TNB
Source: TNB

Penggunaan Gas Asli (mmBtu) Mengikut Sektor Bagi Gas Malaysia Berhad (GMB) dan Sabah Energy Corporation (SEC) pada 2018
Natural Gas Consumption (mmBtu) by Sector of Gas Malaysia Berhad (GMB) and Sabah Energy Corporation (SEC), 2018

	Domestik *Domestic*	Komersial *Commercial*	Industri *Industry*	Jumlah *Total*
GMB *GMB*	26,154	1,014,255	190,751,158	191,791,567
SEC *SEC*	0	0	322,911	322,911

KAPASITI TERMINAL PENGGASAN SEMULA
CAPACITY OF REGASIFICATION TERMINALS

Perspektif Infrastruktur Gas Di Malaysia
Perspective of Gas Infrastructure in Malaysia

Terminal Penggasan Semula *Regasification Terminal*	RGT Sg Udang	RGT Pengerang
Kapasiti (MTPA) *Capacity (MTPA)*	**3.8**	**3.5**

PENGELUARAN LESEN AWAM DAN PERSENDIRIAN
PUBLIC AND PRIVATE LICENCES ISSUED

Lesen Awam dan Persendirian (5MW dan Ke Atas) yang Dikeluarkan, 2017 - 2018
Issuance of Public and Private Licences (5MW and above), 2017 – 2018

	2017	2018
Lesen Awam (*Co-Generation*) *Public Licences (Co-Generation)*	2	0
Lesen Awam (NEDA) *Public Licences (NEDA)*	0	1
Lesen Awam (Pengagihan) *Public Licences (Distribution)*	40	48
Lesen IPP *IPP Licences*	4	0
Lesen Persendirian (*Co-Generation*) *Private Licences (Co-Generation)*	2	3
Lesen Awam (LSS) *Public Licences (LSS)*	4	11
Lesen Awam (NEM) *Public Licences (NEM)*	3	33
Lesen Awam Penjanaan Tenaga Boleh Baharu (TBB) *Public Licences for Generation of Renewable Energy (RE)*	72	26
Lesen Persendirian (5MW dan ke atas) *Private Licences (5MW and above)*	6	4
Lesen Provisional *Provisional Licences*	18	13
Jumlah *Total*	**151**	**139**

Bagi Lesen Awam Penjanaan Tenaga Boleh Baharu (TBB), berlaku pengurangan ketara daripada tahun 2017 sebanyak 72 lesen kepada 26 lesen bagi tahun 2018 kerana polisi Feed in tariff (FIT) bagi solar telah dihentikan oleh pihak kerajaan dan diganti kepada polisi solar Pemeteran Tenaga Bersih. Perubahan polisi ini telah menyumbang kepada peningkatan pengeluaran lesen NEM daripada 3 lesen pada tahun 2017 kepada 33 lesen pada tahun 2018.

For Public Licenses for Generation of Renewable Energy, there was a significant reduction from 72 licenses in 2017 to 26 licenses for 2018 as the Government's Feed in tariff (FIT) policy was terminated by the Government and replaced with the Net Energy Metering (NEM) scheme. This policy change has contributed to the increase in the issuance of NEM licenses from 3 licenses in 2017 to 33 licenses in 2018.

PENGUATKUASAAN *EFFICIENT MANAGEMENT OF ELECTRICAL ENERGY REGULATION* (EMEER) 2018
ENFORCEMENT OF EFFICIENT MANAGEMENT OF ELECTRICAL ENERGY REGULATION (EMEER) 2018

28

Pepasangan yang telah diaudit pada 2018
Audited installations in 2018

PENCAPAIAN PELAN TINDAKAN KECEKAPAN TENAGA KEBANGSAAN (NEEAP)
ACHIEVEMENTS OF THE NATIONAL ENERGY EFFICIENCY ACTION PLAN (NEEAP)

2017	2018
45.42 GWj / GWh	**104.23** GWj / GWh

Jumlah penjimatan dicapai daripada Program EACG di Sektor Industri dan Komersial serta Retrofit di Bangunan Kerajaan
Total savings achieved from EACG in Industry and Commercial Sectors as well as Retrofit Programme in Government Sector

Sehingga *As of* **2017** — **949**

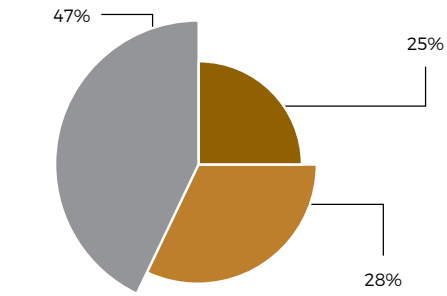
Sehingga *As of* **2018** — **1,105**

Jumlah Keseluruhan Pengurus Tenaga Elektrik Berdaftar (PTE)
Overall Total of Registered Electrical Energy Managers (REEM)

Bagi tahun *For the year* **2017** — **165**

Bagi tahun *For the year* **2018** — **156**

Jumlah PTE
Total of REEM



- **Program EACG di Sektor Industri**
  EACG in the Industry Sector
- **Program EACG di Sektor Komersial**
  EACG in the Commercial Sector
- **Program Retrofit di Sektor Kerajaan**
  Retrofit Programme in tha Government Sector

Penjimatan (GWj) Terkumpul 2016-2018
Cummulative Savings (GWh) 2016-2017

	2016-2017	2016-2018
	20.98 GWj / GWh	**75.72** GWj / GWh
	14.78 GWj / GWh	**16.91** GWj / GWh
	9.66 GWj / GWh	**11.6** GWj / GWh
Jumlah *Total*	**45.42** GWj / GWh	**104.23** GWj / GWh

KECEKAPAN EKONOMI DAN KEMAMPUAN
ECONOMIC EFFICIENCY AND AFFORDABILITY

BAB
CHAPTER

4

MENINGKATKAN KECEKAPAN EKONOMI INDUSTRI DAN KEMAMPUAN PENGGUNA

ENHANCING ECONOMIC EFFICIENCY OF THE INDUSTRY AND CONSUMER'S AFFORDABILITY

2018 merupakan titik permulaan untuk Tempoh kawal Selia Kedua (RP2) bagi tarif TNB di bawah mekanisme Kawal Selia Berasaskan Insentif (IBR). Dalam persekitaran di mana harga bahan api adalah berubah-ubah, IBR telah terbukti berkesan untuk ST melaksanakan rangka kerja penetapan tarif yang cekap dan telus. Pengetahuan dan pelajaran yang tidak ternilai dari pelaksanaan RP1 telah membolehkan pemurnian penting dibuat dalam RP2 untuk memastikan tarif yang lebih efektif kos dan adil.

Pasaran gas Malaysia telah mengalami pencapaian penting dengan pelaksanaan rangka kerja Akses Pihak Ketiga (TPA). TPA membolehkan pihak lain selain Petronas dan Gas Malaysia untuk mengambil bahagian dalam pengimportan, pengangkutan, penggasan semula, penghantaran, pengedaran dan peruncitan gas asli. Dalam jangka panjang, gas asli akan memainkan peranan penting dalam peralihan ke arah tenaga yang bersih pada masa hadapan. Oleh itu, pasaran bekalan gas yang kompetitif dan terbuka akan menggalakkan peningkatan kemampanan, kualiti perkhidmatan, kecekapan dan sekuriti.

2018 marks the starting point of the Second Regulatory Period (RP2) for TNB tariff under the incentive-based regulation mechanism (IBR). In an environment where fuel price is fluctuating, IBR had proven to be effective for the Commission to implement an efficient and transparent tariff setting framework. The invaluable lessons learnt from the implementation of RP1 had enabled crucial refinements to be made in RP2 to ensure a more cost-effective and fair tariff.

The Malaysian gas market experienced a key milestone with the implementation of the Third-Party Access (TPA) framework. The TPA allows other parties aside from Petronas and Gas Malaysia to participate in the importation, shipping, regasifying, transmitting, distributing and retailing of natural gas. In the long run, natural gas will play an important role in the transition towards a clean energy future. Therefore, a competitive and open gas supply market will encourage improved sustainability, service quality, efficiency and security.

INISIATIF UNTUK MENINGKATKAN PRESTASI KECEKAPAN EKONOMI DAN KEMAMPUAN

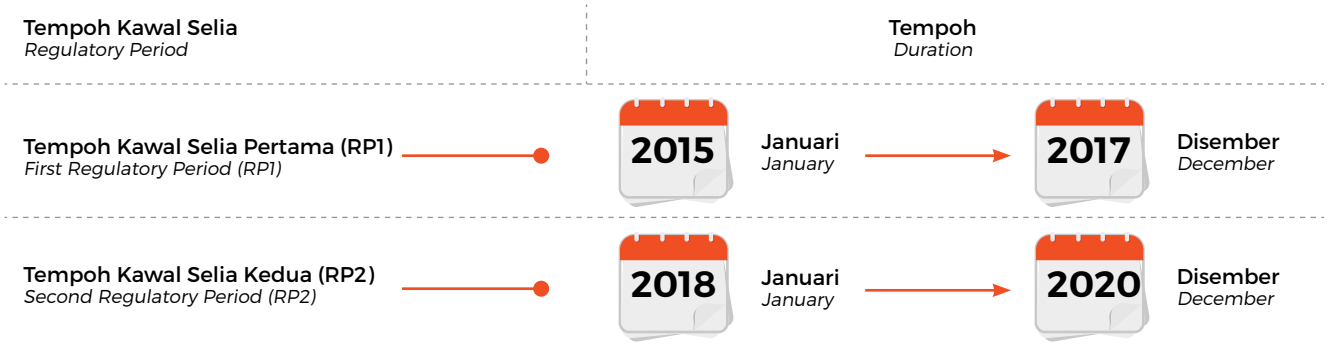
INITIATIVE TO IMPROVE PERFORMANCE OF ECONOMIC EFFICIENCY AND AFFORDABILITY

Bagi mengawal selia sektor pembekalan elektrik negara dengan lebih berkesan dan memastikan kecekapan ekonomi, ST telah menetapkan kaedah penetapan tarif elektrik dibuat berdasarkan mekanisme Kawal Selia Berasaskan Insentif (IBR).

Buat masa ini, tempoh kawal selia IBR disemak semula setiap tiga (3) tahun.

Towards better regulation of the electricity supply sector and to increase the economic efficiency of the industry, the Commission established a tariff setting framework based on the Incentive Based Regulatory (IBR) mechanism.

Currently, the IBR regulatory period is reviewed every three (3) years.



Pelaksanaan mekanisme IBR yang lancar dalam tempoh RP1 telah membawa kepada pihak Kerajaan untuk meluluskan pelaksanaan mekanisme IBR untuk RP2 pada bulan Disember 2017.

Semakan semula mekanisme IBR membawa kepada pelarasan semula kadar tarif asas dalam tempoh RP2 sebanyak 2.4 peratus. Walau bagaimanapun, kenaikan kadar tarif asas ini tidak memberi kesan kepada pengguna kerana kadar tarif elektrik yang ditunjukkan dalam jadual tarif elektrik TNB adalah kekal sehingga penghujung tempoh RP2.

The success in the implementation of the IBR mechanism during RP1 led to the Government approving its implementation for RP2 in December 2017.

Under IBR RP2, the base tariff is adjusted by a 2.4 percent increase from the previous tariff. However, this increase in tariff will not affect consumers as the tariff rates shown in TNB's electricity tariff schedule will be maintained until the end of the RP2 period.

Tempoh Kawal Selia *Regulatory Period*	**Kadar Tarif Asas** *Base Rate Tariff*
Tempoh Kawal Selia Pertama (RP1) *First Regulatory Period (RP1)*	**38.53** sen/kWj *sen/kWh*
Tempoh Kawal Selia Kedua (RP2) *Second Regulatory Period (RP2)*	**39.45** sen/kWj *sen/kWh*

Antara komponen lain yang terlibat dalam semakan semula IBR dalam tempoh RP2 adalah:
Other components involved in the adjustment of IBR during RP2 are:

Penetapan hasil TNB dengan *Weighted Average Cost of Capital (WACC)* pada kadar
Determining TNB's returns on the Weighted Average Cost of Capital (WACC) at **7.3%**

Pelaksanaan inisiatif-inisiatif khas bagi menyokong dasar Kerajaan iaitu:
The implementation of special initiatives to support Government policy, such as:

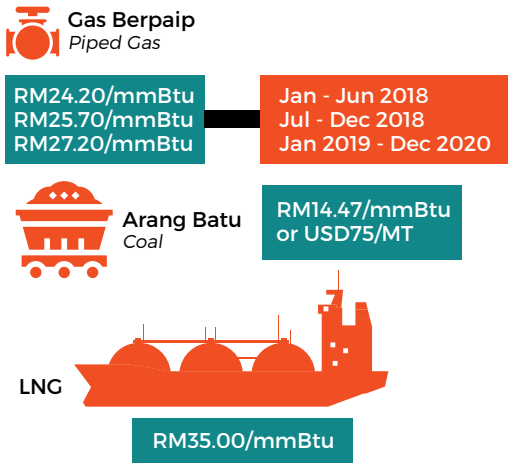
A **Pemasangan 1.5 juta unit meter pintar bagi tempoh 2018 hingga 2020 dengan memberi tumpuan kepada kawasan-kawasan bandar;**
The installation of 1.5 million smart meters between 2018 to 2020, with a focus on urban areas;

B **Pembangunan rangkaian gentian optik dengan kos RM134 juta bagi melengkapkan rangkaian sedia ada;**
The development of fibre optic networks costing RM134 million to complement the existing networks;

C **Pemasangan *light-emitting diodes (LED)* di bandar-bandar utama dengan kos RM734 juta bagi menggalakkan amalan cekap tenaga.**
The installation of light-emitting diodes (LEDs) in major cities costing RM734 million to promote energy efficient practices.

Mengekalkan pemberian rebat sebanyak 1.52 sen/kWj kepada semua pengguna elektrik di Semenanjung kecuali pengguna domestik dengan penggunaan elektrik sebanyak 300 kWj dan ke bawah sebulan bermula 1 Januari 2018 hingga 30 Jun 2018.
Maintaining rebates at 1.52 sen/kWh to all electricity users in Peninsular Malaysia, except for users with an electricity consumption of 300 kWh and below per month, from 1 January 2018 to 30 June 2018.

Penetapan semula harga asas bahan api seperti berikut:
Revaluation of base fuel price as follows:



PENYEDIAAN GARIS PANDUAN RP2 IBR
PREPARATION OF IBR GUIDELINE IN RP2

Bagi memastikan pelaksanaan mekanisme IBR dalam tempoh RP2 berjalan seperti yang dirancang, ST telah meminda garis panduan yang dikeluarkan semasa RP1 iaitu '*Guidelines on Electricity Tariff Determination Under Incentive Based Regulation (IBR) for Peninsular Malaysia 2018*'. Selain itu, garis panduan terkini yang dikeluarkan bagi IBR dalam tempoh RP2 ini juga merujuk kepada amalan-amalan terbaik pelaksanaan semakan tarif di negara-negara lain. Ianya direka untuk memacu kecekapan TNB, menggalakkan inovasi dan mendorong kejayaan.

To ensure the implementation of the IBR mechanism in RP2 runs as planned, the Commission amended the 'Guidelines on Electricity Tariff Determination Under Incentive-Based Regulation (IBR) for Peninsular Malaysia 2018'. The IBR guidelines issued in RP2 is based on the best practices of tariff setting mechanism from other countries. It is designed to drive the efficiency of TNB, encourage innovation and incentivise success.

Antara penambahbaikan garis panduan RP2 adalah:

Other improvements made for RP2 include:

Pengenalan tatacara Pelarasan Hasil Tahunan *(Annual Revenue Adjustments - ARA)* *The introduction of Annual Revenue Adjustments (ARA)*	**Menetapkan had pulangan pada pihak TNB sebanyak 2.5% sekiranya berlaku pengurangan pada Kadar Purata Jualan (ASP) TNB** *Setting of the recovery limit to 2.5% if there is under-recovery on TNB's Average Selling Price (ASP)*	**Pelarasan bagi pendapatan bukan tarif/pendapatan lain** *Adjustment for non-tariff income/other income*
Pelarasan kadar purata tarif yang dibenarkan untuk over/under recovery *Adjustment of allowed average tariff for over/under recovery*	**Pelarasan kutipan daripada caj sambungan pengguna** *Adjustment of collection from customer's connection charges*	**Pelarasan tempoh bagi unjuran hasil tahunan (ARA)** *Adjustment of ARA projection period value*

PELAKSANAAN MEKANISME IMBALANCE COST PASS-THROUGH (ICPT) 2018
IMPLEMENTATION OF IMBALANCE COST PASS-THROUGH (ICPT) 2018

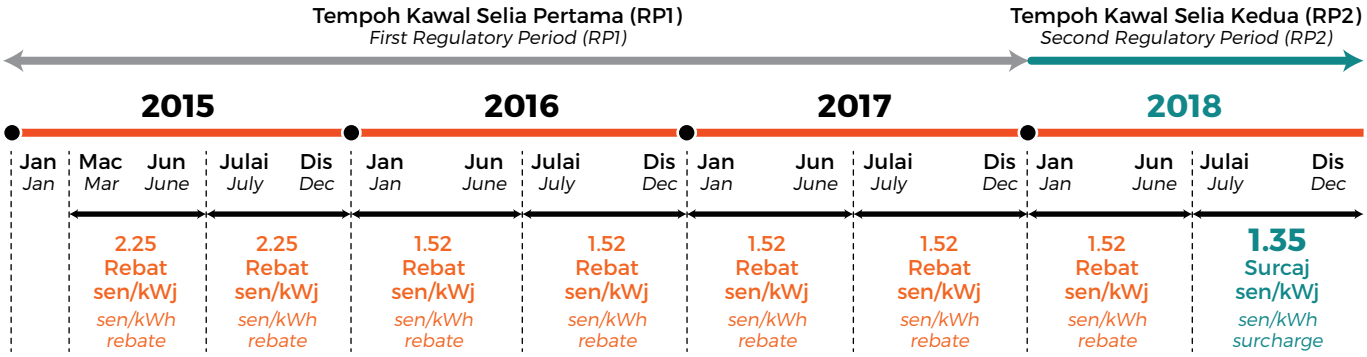
Antara komponen utama di bawah pelaksanaan IBR ialah mekanisme *Imbalance Cost Pass Through (ICPT)* yang disemak setiap enam (6) bulan dengan memantau perubahan kos di luar kawalan TNB. Kos luar kawalan adalah kos bahan api yang digunakan dalam sektor penjanaan, berbanding kos yang diunjurkan semasa penetapan tarif asas mekanisme IBR. Perbezaan ini akan disalurkan kepada pengguna sama ada dalam bentuk rebat atau surcaj. Rebat akan diberikan kepada pengguna sekiranya harga bahan api dalam tempoh penilaian ICPT lebih rendah berbanding kos asas IBR. Sebaliknya, surcaj dikenakan sekiranya harga bahan api semasa meningkat melebihi kos asas mekanisme IBR.

Sepanjang pelaksanaan mekanisme ICPT bermula 2015 sehingga Jun 2018, sebanyak RM6.33 bilion telah dilepaskan kepada pengguna dalam bentuk rebat.

One of the key components of the implementation of IBR is the Imbalance Cost Pass-Through (ICPT) mechanism, which is reviewed every six (6) months by monitoring actual changes in cost beyond the control of TNB. This is mainly the cost of fuel used in the energy generation sector, compared to the projected cost during the setting of IBR's base tariff. This difference will be channelled to the consumers either in the form of rebates or surcharges. Rebates will be given to consumers if the fuel price during the ICPT valuation period is lower than the IBR's base fuel cost. However, a surcharge is imposed if the current fuel price increase exceeds the base fuel cost of the IBR mechanism.

During the implementation of the ICPT mechanism from 2015 until June 2018, RM6.33 billion was passed back to consumers in the form of rebates.

Kadar Rebat dan Surcaj yang Dikenakan Sepanjang RP1 dan RP2 ICPT, 2015-2018
The Rebate Rate and Surcharge Imposed Through RP1 and RP2 ICPT, 2015-2018



Semakan ICPT untuk tempoh kedua 2018 iaitu 1 Julai 2018 hingga 31 Disember 2018 menyaksikan kali pertama kadar surcaj dilepaskan kepada pengguna TNB di Semenanjung, pada kadar 1.35 sen/kWj. Kos surcaj tersebut tidak dapat dielakkan kerana peningkatan kos bahan api arang batu yang mendadak dan di luar jangkaan. Kenaikan harga ini merupakan faktor utama yang menyebabkan kos penjanaan meningkat sebanyak RM698.19 juta atau 1.35 sen/kWj.

In the second half of 2018, from 1 July to 31 December, for the very first time a surcharge was passed on to TNB's consumers in Peninsular Malaysia, at 1.35 sen/kWh. This was unavoidable due to the sudden and unexpected increase in the cost of coal. This increase in price was the main factor that led to the energy generation cost of RM698.19 million or 1.35 sen/kWh.

Harga Unjuran Arang Batu
Projected Price of Coal

USD75 / **metrik tan** / ***metric tonne***

Harga Sebenar Arang Batu
Actual Price of Coal

USD94.71 / **metrik tan** / ***metric tonne***

Oleh itu, bagi mengurangkan impak pelepasan kos surcaj kepada pengguna, pihak Kerajaan memutuskan hanya pengguna bukan domestik sahaja dikenakan kos surcaj sebanyak 1.35 sen/kWj, manakala kos surcaj bagi pengguna domestik akan ditampung sepenuhnya oleh dana Kumpulan Wang Industri Elektrik (KWIE).

In order to alleviate the surcharge cost on consumers, the Government decided that only non-domestic users will be charged a surcharge of 1.35 sen/kWh, while the surcharge for domestic consumers will be fully borne by the Electricity Industry Fund (KWIE).

KOMPONEN HARGA BAHAN API DALAM PENETAPAN KOS ICPT
THE COMPONENT FUEL PRICE IN DETERMINING ICPT COSTS

Perubahan harga bahan api yang digunakan dalam sektor penjanaan memainkan peranan penting dalam penetapan kos ICPT setiap enam (6) bulan. Komponen bahan api utama dalam penetapan tarif elektrik di Semenanjung adalah gas berpaip, arang batu dan gas asli cecair (LNG). Harga gas berpaip adalah di bawah kawalan pihak Kerajaan dan di bawah pelan rasionalisasi subsidi Kerajaan, harga gas berpaip tersebut akan dinaikkan sebanyak RM1.50/mmBtu setiap enam (6) bulan sehingga mencapai harga pasaran. Harga bagi arang batu dan LNG pula adalah berdasarkan harga pasaran semasa dunia.

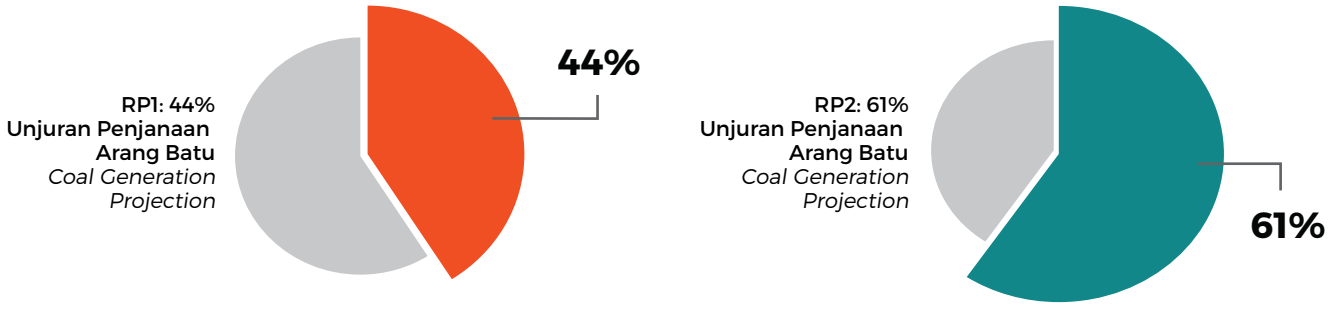
Dalam tempoh RP2 pelaksanaan mekanisme IBR, perubahan harga pasaran arang batu berbanding harga asas yang ditetapkan memainkan peranan penting dalam penepatan kos ICPT yang perlu dilepaskan kepada pengguna sama ada dalam bentuk rebat atau surcaj. Ini adalah kerana arang batu adalah komponen bahan api terbesar dalam penjanaan tenaga elektrik di Semenanjung iaitu sebanyak 61%, disebabkan oleh harganya yang lebih murah dan kompetitif berbanding gas dan LNG. Jumlah penggunaan gas dalam tempoh RP2 IBR pula dikurangkan kepada 840 mmscfd berbanding 1,355 mmscfd semasa RP1.

The change in the price of fuel used for the energy sector plays an important role in determining the cost of ICPT every six (6) months. The primary fuel components used to determine the electricity tariff in Peninsular Malaysia are piped gas, coal, and Liquefied Natural Gas (LNG). The cost of piped gas is under the control of the Government and it is set to see an increase of RM1.50/mmBtu every six (6) months until it reaches the market price as part of the Government's subsidy rationalisation plan. Prices of coal and LNG are determined by current market prices.

The higher cost of coal, as compared with the projected price, was a major factor in determining ICPT cost during RP2 that is passed on to consumers in the form of rebates or surcharge. This is because coal, which is cheaper than gas and LNG, has become the most used fuel component for electricity generation in Peninsular Malaysia, accounting for 61% of electricity generated. On the other hand, gas consumption during this period went down to 840 mmscfd from 1,355 mmscfd in RP1.

Penggunaan Arang Batu dan Gas Dalam Sektor Penjanaan Semasa RP1 dan RP2 IBR
Coal and Gas Consumption in Electricity Generation During RP1 and RP2 IBR

Arang batu sebagai bahan api dominan dalam campuran bahan api semasa RP2
Coal is the dominant fuel in the fuel mix during RP2



Pengurangan penggunaan gas semasa RP2
Reduction in gas volume in RP2

RP1: 1,355 mmscfd → **RP2: 840 mmscfd**

USAHA MENINGKATKAN KECEKAPAN PRESTASI KEWANGAN DAN OPERASI UNTUK SABAH ELECTRICITY SDN. BHD. (SESB)

EFFORTS TO INCREASE THE FINANCIAL AND OPERATIONAL PERFORMANCE OF SABAH ELECTRICITY SDN. BHD. (SESB)

Meskipun perancangan ST untuk melaksana mekanisme IBR dalam penetapan tarif elektrik di Sabah sedang dalam pertimbangan Kerajaan, inisiatif-inisiatif dalam komponen mekanisme IBR tersebut masih diteruskan selaras dengan peruntukan dalam syarat-syarat lesen dan juga garis panduan mekanisme IBR untuk SESB. Ia meliputi perkara-perkara seperti berikut:

Penetapan Pengukur Prestasi (KPI) bagi Entiti- Entiti Bisnes SESB di Bawah Pelaksanaan IBR dan Pemantauan KPI SESB di Bawah Jawatankuasa Kerja IBR

Pihak ST juga bertanggungjawab dalam memastikan prestasi SESB sebagai utiliti pembekalan elektrik di Sabah berada pada paras yang memuaskan memandangkan pihak Kerajaan telah membantu dari segi kewangan, baik daripada segi operasi mahupun jua keperluan infrastruktur yang baharu. Oleh itu, bagi tujuan pemantauan prestasi dan juga selaras dengan pelaksanaan IBR pada masa akan datang, kadar pengukur prestasi bagi setiap entiti bisnes SESB telah pun ditetapkan pada tahun 2018.

Cadangan pemantauan bagi kadar pengukur prestasi di Sabah dilaksanakan berdasarkan skim insentif/penalti (*symmetric*), penalti sahaja (*asymmetric*) atau pemantauan (*monitoring*) sahaja. Namun, ianya belum melibatkan implikasi kewangan memandangkan pelaksanaan IBR jua belum dimulakan lagi di Sabah dan sekiranya ia bermula kelak, implikasi kewangan ini hanya akan mula diambil kira bagi tempoh regulatori kedua dan tahun-tahun seterusnya.

Laporan KPI TNB sedang dibincangkan dalam Mesyuarat Jawatankuasa IBR oleh ST untuk pemantauan dan tindakan selanjutnya:

Even though the Commission's plan to introduce the IBR mechanism as part of the electricity tariff setting in Sabah is being considered by the Government, the initiatives that form a part of the IBR mechanism can still proceed as planned, in line with the provisions as stated in the license's conditions as well as the guidelines for the implementation of the IBR mechanism for SESB. The initiatives include:

Set of KPI Measures for SESB Business Entities Under the IBR and Monitoring of SESB KPI Under the IBR Work Committee

The Commission is tasked to ensure that SESB's performance as an electricity supply utility in Sabah is at a satisfactory level as it has received financial assistance from the Government in the form of operational costs or new infrastructural needs. Thus, for the purpose of performance monitoring and also in line with the implementation of IBR in the future, the KPI for every SESB business entity was set in 2018.

Monitoring suggestions for KPI in Sabah are implemented based on a scheme of incentives/penalties (symmetric), only penalty (asymmetric) or only monitoring. However, those suggestions do not include the financial implications since the IBR mechanism is yet to be implemented in Sabah, and if so, the financial implications will only be taken into account for the second regulatory period and the following years.

TNB's KPI Report, under discussion at the IBR Committee meeting by the Commission for further monitoring and follow-up action, is as follows:

Petunjuk Prestasi Utama (KPI) bagi Setiap Entiti Perniagaan SESB dan Laporan KPI, 2018

Key Performance Indicators (KPIs) for Each SESB Business Entity and KPI Report, 2018

Urusniaga *Business*	Kod *Code*	Pengukur Prestasi *Performance Indicators*	Unit	Had Batas Bawahan *Lower Bound Cap*	Sasaran Batasan Bawahan *Lower Bound Target*	Sasaran Batasan Atasan *Upper Bound Target*	Had Batas Atasan *Upper Bound Cap*	KPI 2018 *KPI 2018*
Khidmat Pelanggan *Customer service*	CSPI1	SAIDI	Minit / Pelanggan/ Tahun *Mins/Customer/Year*	250	200	150	100	267.87 (Excl) 389.80 (All)
	CSPI2	Perkhidmatan Sambungan Baharu *New Service Connection*	%	70	80	-	-	88.96
	CSPI3	Program Pengurusan Keselamatan Berkesan *Effective Safety Management Program*	Bilangan kemalangan elektrik *No. of electrical accidents*	Pemantauan (Tidak lebih daripada 8) *Monitoring (Not more than 8)*				21
	CSPI4.1	Indeks Pelaksanaan Projek *Project Delivery Index*	Bulan *Months*	4	4	0	0	1.31
	CSPI4.2	Program Penyelenggaraan Berkesan *Effective Maintenance Program*	Kadar Kegagalan Peralatan Utama *Major Equipment Failure Rate*	1.70	1.70	1.30	1.30	0.79
			Kadar Kegagalan Kabel *Cable Failure Rate*	8.0	8.0	4.0	4.0	5.77
	CSPI5.1	Aduan Pelanggan *Customer Complaint*	%	70	80	-	-	94.4
	CSPI5.2	Pengurangan dalam Sistem Kerugian *Reduction in System Losses*	%	15	15	10	10	17.13
Penghantaran (TX) *Transmission (TX)*	TXPI1	Minit Sistem *System Minutes*	Minit *Minutes*	60	60	-	-	42.97
	TXPI2	Indeks Pelaksanaan Projek (PDI) *Project Delivery Index (PDI)*	Bulan *Months*	6	6	0	0	2.59
	TXPI3	Program Penyelenggaraan Efektif *Effective Maintenance Program*	Kadar Gangguan Transformer *Transformer Tripping Rate*	27.0	27.0	18.2	18.2	12.12
			Kadar Gangguan Talian *Line Tripping Rate*	3.3	3.3	1.5	1.5	1.62
Sistem Pengendali (SO) *System Operator (SO)*	SOPI1.1	Peristiwa Kehilangan Bekalan di Kawasan Yang Luas *Wide Area Loss of Supply Event*	Bilangan Kejadian *No. of Events*	1	1	0	0	0
	SOPI1.2	Jumlah Bekalan Elektrik Terputus *Total Blackout*	Bilangan Kejadian *No. of Events*	1	1	0	0	0
	SOPI2	Pelarasan Penghantaran *Dispatch Adjustment*	%	Pemantauan (Tidak lebih daripada 2.0) *Monitoring (Not more than 2.0)*				1.16
Pembeli Tunggal (SB) *Single Buyer (SB)*	SBPI1	Jangkaan Beban Terkemudian *Day Ahead Load Forecast Deviation*	%	10.0	5.0	2.5	1.0	2.15
	SBPI2	Kos Purata Sistem *System Average Cost*	%	Pemantauan (Tidak lebih daripada 2.0) *Monitoring (Not more than 2.0)*				-1.50
	SBPI3	Pemantauan terhadap Program Inisiatif Pengurangan Kerugian Sistem *Monitoring on Initiative of System Reduction Losses Programmes*	%	70	80	90	100	95.3

Insentif dan Penalti *Symmetrical*

Penalti *Asymmetrical*

Pemantauan *Monitoring*

Penalti/Diluar Lingkungan *Penalty / Out-of-the Range*

Service Level Agreement (SLA) dan _Non-Service Level Agreement (Non-SLA)_ bagi Stesen-Stesen Janakuasa Milik SESB

Selaras dengan hasrat ST supaya pihak SESB dapat meningkatkan kecekapan prestasi perkhidmatan pembekalan elektrik di bawah syarat lesen 28 (4) *"The licensee shall plan, develop, design, operate and maintain its generation system in accordance with the Grid Code, good engineering standard, prudent utility practice or such standard as the Licensee may, with the approval of the Director General, adopt from time to time"*, adalah perlu supaya proses memuktamadkan penetapan kadar Service Level Agreement (SLA) dan Non-Service Level Agreement (Non-SLA) bagi stesen-stesen janakuasa milik SESB diteruskan.

Kadar yang telah dimuktamadkan turut mengambil kira stesen-stesen jana kuasa SESB yang telah berusia, penamatan operasi berdasarkan keputusan Jawatankuasa Perancangan Pelaksanaan Pembekalan Elektrik dan Tarif (JPPPET), pemberian subsidi atau geran daripada pihak Kerajaan dan juga penangguhan pelaksanaan IBR di Sabah.

Service Level Agreement (SLA) and Non-Service Level Agreement (Non-SLA) For SESB Owned Power Stations

In line with the Commission's expectation that SESB will raise its level of performance as per Condition 28 (4) of the Electricity Supply License: "The licensee shall plan, develop, design, operate and maintain its generation system in accordance with the Grid Code, good engineerings standard, prudent utility practice or such standard as the Licensee may, with the approval of the Director General, adopt from time to time", the process of finalising the rate of Service Level Agreement (SLA) and Non-Service Level Agreement (Non-SLA) for SESB's power generation plants must continue.

The rate that has been finalised must take into account the age of SESB's power generation plants, termination of operations based on the decision by the Committee for the Planning and Implementation of Electricity Supply and Tariff, subsidy or grant hand-outs from the Government and also the postponement of the IBR mechanism in Sabah.

Bantuan Subsidi Kerajaan Kepada SESB

Bagi tahun 2018, subsidi daripada pihak Kerajaan bagi menampung kos pembekalan elektrik di Sabah masih lagi diteruskan. Jumlah yang telah diluluskan untuk diberikan oleh pihak Kementerian Kewangan (MoF) adalah sebanyak RM461 juta yang merangkumi subsidi bahan api disel, subsidi solar, dan subsidi sokongan tarif. Subsidi bahan api telah diberikan oleh Kerajaan sejak tahun 2005 lagi. Subsidi solar mula diberikan pada penghujung tahun 2017 selari dengan kemasukan projek penjanaan berasaskan solar, manakala subsidi sokongan tarif telah diberikan bermula pada tahun 2018 dengan mengambil kira tiada kenaikan tarif yang sepatutnya dan juga pelaksanaan IBR yang telah tertangguh beberapa kali di Sabah.

Kesemua subsidi ini telah dipertimbang untuk diberikan oleh Kerajaan dengan mengambil kira harga pasaran adalah lebih tinggi berbanding jumlah yang dapat ditanggung oleh pihak SESB. Kadar purata tarif elektrik semasa iaitu 34.52 sen/kWj di Sabah adalah lebih rendah daripada kos pembekalan sebenar sebanyak 55.68 sen/kWj (tanpa subsidi bahan api). Pemberian subsidi ini dijangka akan diteruskan pada masa akan datang selagi tarif elektrik di Sabah tidak dapat menampung kos pembekalan elektrik sebenar.

Government Subsidy Assistance To SESB

The Government continued to subsidise the cost of electricity supply in Sabah in 2018. The Ministry of Finance approved RM461 million for diesel subsidies, solar subsidies and tariff support subsidies. The Government issued fuel subsidies since 2005. Solar subsidies were distributed by end-2017, in line with the intake of solar-based generation projects, while tariff support subsidies were issued starting 2018, taking into account that no tariff hikes took place and that the implementation of the IBR mechanism has been suspended a few times in Sabah.

The Government considered the issuance of all these subsidies based on the fact that the market price was higher compared to the amount spent by SESB. The current average rate of electricity tariff in Sabah, at 34.52 sen/kWh, was much lower than actual supply cost, at 55.68 sen/kWh (with no fuel subsidies). The issuance of subsidies is expected to continue in the future until such a time when Sabah's electricity tariff can no longer support the actual cost of electricity supply.

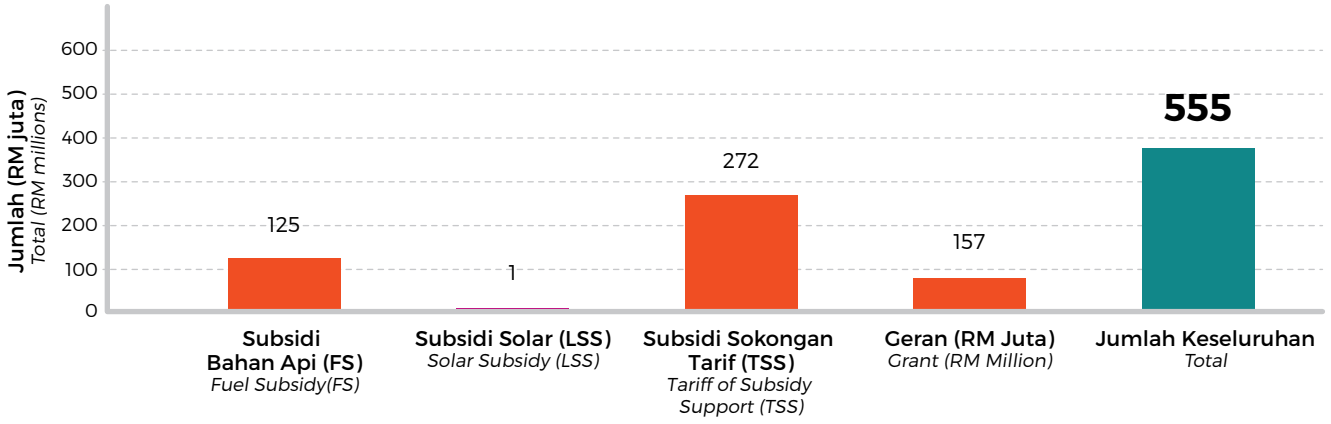
Dari segi kelulusan pula, pemberian subsidi ini perlu melalui beberapa proses semakan sebelum permohonan tersebut dikemukakan kepada Kementerian Kewangan Malaysia untuk kelulusan.

Pemberian subsidi ini akan diteruskan sehingga tarif elektrik di Sabah dapat menampung kos pembekalan elektrik sebenar. Sejurus itu, inisiatif berterusan akan dilaksana untuk memulihkan kedudukan kewangan SESB dengan kerjasama Kerajaan Negeri Sabah.

In terms of approvals, the provision of subsidies goes through several revision processes before the application is forwarded to the Ministry of Finance for approval.

This subsidy will continue until electricity tariffs in Sabah can cover the real cost of supplying electricity. Moving forward, initiatives are continuously being taken to restore SESB's financial position through collaborative efforts with the State Government of Sabah.

Pemberian Subsidi dan Geran bagi Industri Pembekalan Elektrik di Sabah, 2018
Subsidies and Grants Provision for Electric Supply Industry in Sabah, 2018



PELAKSANAAN MEKANISME KOS GAS UNTUK DILEPASKAN (GCPT) DI BAWAH RANGKA KERJA IBR SECARA KONSISTEN
IMPLEMENTATION OF GAS COST PASS-THROUGH (GCPT) WITH THE CONSISTENCY OF THE IBR FRAMEWORK

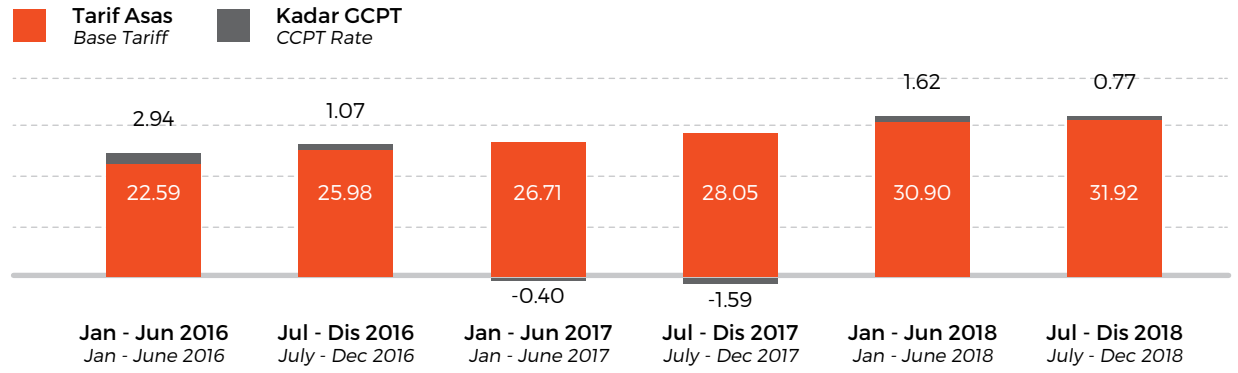
Pelaksanaan mekanisme Kos Gas Untuk Dilepaskan (GCPT) di bawah rangka kerja IBR bagi Gas Malaysia Berhad (GMB) bermula pada 2016 sebagai tempoh percubaan dan diteruskan dalam RP1 bermula 2017 sehingga 2019.

GCPT merupakan mekanisme pelepasan perbezaan antara kos gas yang diunjurkan dalam tarif asas dengan kos gas sebenar kepada pengguna pada setiap enam (6) bulan. Kadar GCPT yang dilepaskan kepada pengguna adalah sama ada berbentuk rebat atau surcaj, dan ini bergantung kepada kos gas sebenar yang berubah setiap bulan berdasarkan harga pasaran.

The implementation of Gas Cost Pass-Through (GCPT) under the IBR framework for Gas Malaysia Berhad (GMB) commenced in 2016 during a trial period and has continued into RP1 from 2017 until 2019.

The GCPT is the mechanism of passing through to consumers the difference in projected gas costs in the base tariffs with the actual price of gas every six (6) months. The GCPT rate passed through to the consumer will be either a rebate or surcharge, and this will depend on the actual gas cost, which changes monthly based on market price.

Tarif Asas dan Kadar GCPT GMB, 2016 – 2018
GMB Base Tarif and GCPT Rate, 2016 – 2018



PERSEDIAAN KAWAL SELIA TARIF KEMUDAHAN GAS
PREPARATION OF GAS FACILITIES TARIFF REGULATION

Garis Panduan bagi Penetapan Tarif Penggunaan Kemudahan Gas

Di bawah Akta Bekalan Gas (Pindaan) 2016 [A1515], satu Garis Panduan Bagi Penetapan Tarif Bagi Penggunaan Kemudahan-Kemudahan Gas telah dibangunkan untuk membolehkan ST mengawal selia penetapan tarif yang cekap, telus dan adil bagi fasiliti gas.

Guidelines on Determination of Tariff for the Utilisation of Gas Facilities

Under the Gas Supply (Amendment) Act 2016 [A1515], Guidelines on Determination of Tariff for the Utilisation of Gas Facilities were developed to enable the Commission to regulate efficient, transparent, and non-discriminatory tariff setting for gas facilities.

Tiga (3) garis panduan yang diwujudkan untuk setiap kemudahan gas adalah:
The three (3) guidelines developed for each gas facilities are:

A *Guidelines on Determination of Regasification Facility Tariff under IBR*

B *Guidelines on Determination of Gas Transportation Facility Tariff under IBR*

C *Guidelines on Determination of Gas Distribution Facility Tariff under IBR*

Panduan tersebut telah berkuatkuasa pada Ogos 2018.
These guidelines were enforced in August 2018.

Penetapan Tarif Kemudahan Gas Bagi Tempoh Perintis 2019

Proses penetapan tarif bagi akses kemudahan gas bagi tempoh perintis 2019 bermula pada Ogos 2018 dengan penyerahan cadangan tarif kemudahan gas oleh pemegang lesen kemudahan gas yang terlibat.

Cadangan tarif gas yang telah diserahkan oleh pemegang lesen adalah berdasarkan pada garis panduan yang telah diwujudkan dan dikuatkuasakan oleh ST.

Cadangan tarif gas telah diluluskan oleh YAB Perdana Menteri pada Disember 2018 dan mula berkuatkuasa dari 1 Januari 2019 sehingga 31 Disember 2019. Tarif bagi kemudahan gas yang diluluskan adalah:

- Tarif bagi penggunaan terminal penggasan semula milik Regas Terminal (Sg. Udang) Sdn. Bhd. pada kadar RM3.518/mmBtu/hari.
- Tarif bagi penggunaan terminal penggasan semula milik Pengerang LNG (TWO) Sdn. Bhd. pada kadar USD0.637/GJ/hari.
- Tarif bagi penggunaan talian paip penghantaran milik Petronas Gas Bhd. pada kadar RM1.072/GJ/hari.

Determination of Gas Facilities Tariff for Pilot Period 2019

The tariff determination process for the access of gas facilities for the pilot period of 2019 began in August 2018 with the submission of proposed gas facilities tariffs by the gas facility licensees involved.

Gas tariff proposals submitted by the licensees are based on guidelines developed and enforced by the Commission.

Proposed gas tariff proposals were approved by the Honourable Prime Minister in December 2018 and came into force from 1 January 2019 until 31 December 2019. The tariffs for approved gas facilities are:

- *Tariff for the utilisation of regasification terminals owned by Regas Terminal (Sg. Udang) Sdn. Bhd. at RM3.518 / mmBtu / day.*
- *Tariff for the utilisation of regasification terminal by Pengerang LNG (TWO) Sdn. Bhd. at USD0.637 / GJ / day.*
- *Tariff for the utilisation of transmission pipeline owned by Petronas Gas Bhd at RM1.072 /GJ/day.*

Kemajuan Sistem Akses Pihak Ketiga (TPA)

Dalam usaha untuk meliberalisasikan pasaran gas, ST telah melaksanakan sistem TPA yang membolehkan pihak ketiga mengakses saluran gas berpaip daripada PETRONAS Gas dan Gas Malaysia Berhad (GMB). Bermula dengan penguatkuasaannya pada 16 Januari 2017, ST telah menjalankan pelbagai langkah untuk memastikan sistem tersebut beroperasi dengan lancar. Antaranya ialah menyemak dan meluluskan Aturan Kemasukan bagi memastikan bahawa pemilik saluran gas berpaip telah mengasingkan sejumlah dana untuk program ini, mengeluarkan 18 lesen TPA untuk pengiriman, penggasan semula, pengangkutan, pengagihan dan pengimportan ke terminal penggasan semula di samping meningkatkan kesedaran mengenai sistem TPA.

Progress of The Third Party Access (TPA) System

In its endeavour to liberalise the gas market, the Commission implemented the TPA system, which allows third parties to access the piped gas lines from Petronas Gas and Gas Malaysia Berhad (GMB). Beginning with its enforcement on 16 January 2017, the Commission has taken great efforts to ensure the system operates smoothly, which includes reviewing and approving Access Arrangements, ensuring owners of piped gas lines set funds aside for this programme, issuing 18 TPA licences for shipping, regasification, transportation, distribution, and import into regasification terminals, as well as raising awareness of the TPA system.

Penguatkuasaan Rangka Kerja TPA Bermula 16 Januari 2017
Enforcement of TPA Framework 16 January 2017

- **Akta Bekalan Gas (Pindaan) 2016**
- **Peraturan-Peraturan Bekalan Gas (Pindaan) 2017**
- **Kod TPA Untuk Saluran Paip RGT, Penghantaran & Pengagihan**
- **Garis Panduan Untuk Permohonan Lesen**
- **Garis Panduan Untuk Persaingan**
- **Garis Panduan Untuk Menetapkan Stesen Pemeteran Pemindahan Jagaan**
- **Garis Panduan Untuk Penyerahan Pelan Perniagaan**
- **Garis Panduan Untuk Penentuan Tarif Kemudahan Pengagihan, Pengangkutan Dan Penggasan Semula Gas Menggunakan Kawal Selia Berasaskan Insentif (IBR)**

- *Gas Supply (Amendment) Act 2016*
- *Gas Supply (Amendment) Regulations 2017*
- *TPA Codes for RGT, Transmission & Distribution pipeline*
- *Guidelines on Licence Application*
- *Guidelines on Competition*
- *Guildelines for Setting up Custody Transfer Metering Station at Entry and Exit Point*
- *Guideline on Submission of Business Plan*
- *Guidelines on Determination of Gas Distribution, Transportation and Regasification Facility Tariff Under Incentive-Based Regulation (IBR)*

Susunan Akses Oleh Pengendali Aset *Access Arrangement (AA) by Asset Operators*	**Ringfencing GMB & Petronas** *Ringfencing of GMB & Petronas*	**Lesen TPA** *TPA Licences*	**Penglibatan Pemain Industri** *Market Engagement*
• **AA RGT Pengerang Oleh Pengerang LNG (TWO) Sdn. Bhd. (Disiap Dan Diterbitkan)** • **AA RGT Sg. Udang Oleh Terminal Regas (Sg. Udang) Sdn. Bhd. (Disiap Dan Diterbitkan)** • **Sistem Pengangkutan Gas AA PGU (Disiap Dan Diterbitkan)** • **Saluran Paip Pengedaran AA Oleh Gas Malaysia Berhad (Sedang Berjalan)** • **Audit Teknikal Dijalankan Di RGT Pengerang, RGT Sg. Udang Dan GTU** • *AA RGT Pengerang by Pengerang LNG (TWO) Sdn. Bhd. (completed and published)* • *AA RGT Sg. Udang by Regas Terminal (Sg. Udang) Sdn. Bhd. (completed and published* • *AA PGU Gas Transportation System (completed and published)* • *AA Distribution Pipeline by Gas Malaysia Berhad (in progress)* • *Technical audit conducted at RGT Pengerang, RGT Sg. Udang and GTU*	**Syarikat-syarikat Yang Di-ringfencingkan:** *The companies that are ringfenced:* • *Gas Malaysia Distribution S/B (DistCo)* • *Gas Malaysia Energy and Services S/B (ShipCo)* • *PETRONAS Energy & Gas Trading*	• **Lesen Pengimportan Ke Terminal Penggasan Semula (7)** • **Lesen Pengiriman (5)** • **Lesen Penggasan Semula (2)** • **Lesen Pengangkutan (3)** • **Lesen Pengagihan (1)** • *Import into Regasification Terminal Licence (7)* • *Shipping Licence (5)* • *Regasification Licence (2)* • *Transportation Licence (3)* • *Distribution Licence (1)*	• **Sesi Perkongsian TPA Bersama Penganalisis: EPF, BIMB, Affin Hwang, HLIB, CLSA** • **Sesi Perkongsian TPA Bersama Pemain Berpotensi: Shell, TNB Fuel, BB Energy, Tokyo Gas, Mitsubishi** • **Sesi Perkongsian TPA Di MGA Tea Talk: "Pembaharuan Pasaran Gas Di Malaysia: Trend Global Dan Akses Pihak Ketiga"** • **Sesi Perkongsian TPA Di Seminar Pelaburan Kebangsaan Yang Dijalankan Oleh MIDA** • *TPA Sharing Session (analyst): EPF, BIMB, Affin Hwang, HLIB, CLSA* • *TPA Sharing Session (potential player): Shell, TNB Fuel, BB Energy, Tokyo Gas, Mitsubishi* • *TPA Sharing Session at MGA Tea Talk: "Gas Market Reforms in Malaysia: Global Trend and Third Party Access"* • *TPA Sharing Session at National Investment Seminar conducted by MIDA*

HARGA ASAS BAHAN API SEKTOR TENAGA (ARANG BATU, LNG DAN GAS PAIP TERKAWAL) PADA RP2 (2018-2020) Vs HARGA SEBENAR SEMASA PENILAIAN ICPT 2018

POWER SECTOR BASE FUEL PRICE (COAL, LNG AND REGULATED PIPED GAS) IN RP2 (2018-2020) Vs ACTUAL PRICE DURING ICPT REVIEW IN 2018

Arang Batu Import
Imported Coal

Jangkaan Harga Asas bagi Bahan Api RP2 *RP2 Base Fuel Price Forecast*	Harga Sebenar (Semakan ICPT) *Actual Price (ICPT Review)*	
	Jan - Jun 2018 *Jan - Jun 2018*	Jul - Dis 2018 *Jul - Dec 2018*
RM14.47/mmBtu **RM315.90/MT**	**RM17.13/mmBtu** **RM373.92/MT**	**RM18.06/mmBtu** **RM394.15/MT**

LNG Import
Imported LNG

Jangkaan Harga Asas bagi Bahan Api RP2 *RP2 Base Fuel Price Forecast*	Harga Sebenar (Semakan ICPT) *Actual Price (ICPT Review)*	
	Jan - Jun 2018 *Jan - Jun 2018*	Jul - Dis 2018 *Jul - Dec 2018*
RM35.00/mmBtu	**RM30.52/mmBtu**	**RM32.44/mmBtu**

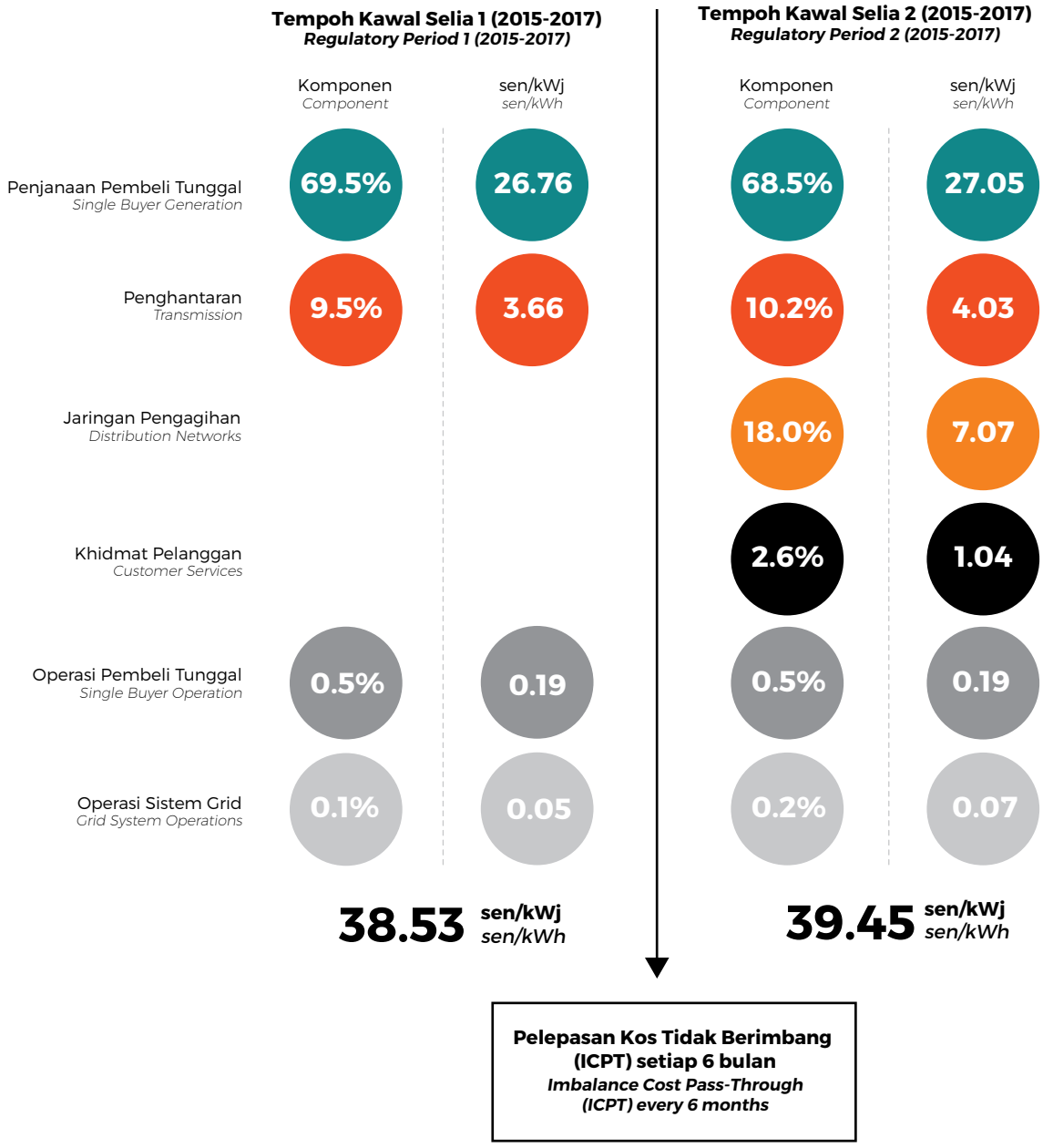
Gas Paip Terkawal
Regulated Piped Gas

Jangkaan Harga Asas bagi Bahan Api RP2 *RP2 Base Fuel Price Forecast*	Harga Sebenar (Semakan ICPT) *Actual Price (ICPT Review)*	
Jan - Jun 2018 *Jan - Jun 2018* **RM24.20/mmBtu** Jul - Dis 2018 *Jul - Dec 2018* **RM24.20/mmBtu** Jan 2019 - Dis 2020 *Jan 2019 - Dec 2020* **RM27.20/mmBtu**	Jan - Jun 2018 *Jan - Jun 2018* **RM24.20/mmBtu**	Jul - Dis 2018 *Jul - Dec 2018* **RM25.70/mmBtu**

KOS TARIF ELEKTRIK KOMPONEN DI BAWAH RANGKA KERJA IBR BAGI RP1 DAN RP2

RP1 AND RP2 ELECTRICITY TARIFF COST COMPONENTS UNDER IBR FRAMEWORK

Tarif Asas untuk RP2 adalah 39.45 sen/kWj (RP1: 38.53 sen/kWj), Peningkatan Sebanyak 2.4% daripada RP1
The Base Tariff for RP2 is 39.45 sen/kWh (RP1: 38.53 sen/kWh), an increase of 2.4% from RP1



KUALITI KAWAL SELIAAN DAN PENYAMPAIAN PERKHIDMATAN

REGULATORY QUALITY AND SERVICE DELIVERY

BAB
CHAPTER

5

MENINGKATKAN KUALITI KAWAL SELIA
ENHANCING REGULATORY QUALITY

ST terus mengorak langkah bersama sektor tenaga yang sedang melalui tempoh transformasi. Pada tahun 2018, organisasi kami telah mengalami proses penstrukturan semula untuk mengukuhkan organisasi supaya lebih tangkas, berfokus, bersinergi dan mengayakan tugas. Kami akan meneruskan usaha untuk berkonsultasi dan berkomunikasi secara berkala dengan entiti yang dikawal selia dan pihak berkepentingan utama untuk meningkatkan tahap keberkesanan. Keputusan dan fungsi pengawalseliaan akan dilaksanakan dengan penuh integriti untuk memastikan wujudnya keyakinan terhadap rejim pengawalseliaan.

Tanpa sebarang keraguan, kami akan menghadapi cabaran teknikal, ekonomi, kapasiti dan kawal selia yang sukar di sepanjang jalan, oleh itu kami memerlukan kerangka dasar kawal selia berasaskan prestasi yang dipelajari dari amalan baik antarabangsa untuk mengemudikan perjalanan kita. Undang-undang dan pengawalseliaan yang direka dengan teliti dianggap tidak akan berkesan jika ia tidak dikuatkuasakan secara menyakinkan. Inilah tunggak visi kami, iaitu untuk menjadi badan kawal selia sektor tenaga bertaraf dunia yang berkesan dan berwibawa untuk membantu membentuk masa depan sektor tenaga Malaysia.

The Commission is moving along with the energy sector which is undergoing a period of transformation. In 2018, our organisation underwent a restructuring process to strengthen itself so that it is more agile, focused, synergistic and job enriching. We will continue to have regular and purposeful engagements with the regulated entities and key stakeholders to improve outcomes. Regulatory decisions and functions will be executed with the utmost integrity to ensure that there is always confidence in the regulatory regime.

Without any doubt, we will be facing tough technical, economic, capacity and regulatory challenges along the way, hence we need workable performance-based regulatory policy frameworks based on lessons learnt from international good practices to guide us along the way. However, even a meticulously designed legal and regulatory framework is deemed ineffective if it is not enforced credibly. Hence, our vision to be a regulator of a world class energy sector that is effective and authoritative to assist in shaping the future of the sector.

PELAN PERNIAGAAN SURUHANJAYA TENAGA
THE ENERGY COMMISSION'S BUSINESS PLAN

Pelan Perniagaan ST diadakan untuk memberi panduan mengenai hala tuju industri tenaga pada masa hadapan, seiring dengan permintaan tenaga yang semakin meningkat. Pelan Perniagaan ini berfungsi sebagai panduan untuk merancang, melaksanakan dan memantau kemajuan industri dengan lebih sistematik dalam tempoh masa yang disasarkan. Secara ringkasnya, ianya dapat merealisasikan visi ST sebagai badan kawal selia sektor tenaga yang bertaraf dunia serta berkesan dan berwibawa. ST juga akan sentiasa mengkaji semula Pelan Perniagaan ini bagi mengenal pasti bidang-bidang yang memerlukan penambahbaikan bagi membolehkannya terus maju ke hadapan pada masa yang akan datang.

The Commission's Business Plan charts the energy industry's future direction, as its demand continues to grow. The Business Plan serves as a guide to systematically plan, implement and monitor the industry's progress within the targeted period. In short, it lays down the path towards realising the Commission's vision in becoming a world-class energy regulator that is both effective and authoritative. Moreover, the Commission will also constantly review its Business Plan in order to identify areas for further improvement to scale to greater heights in the future.

Visi dan Matlamat ST
The Commission's Vision and Goals

Penggerak *Enablers*	
5	Kualiti kawal selia dan pelaksanaan perkhidmatan *Regulatory quality and service delivery*
6	Pembangunan kapasiti dan keupayaan *Capacity and capability building*

Bagi merealisasikan visi tersebut, ST akan menambahkan usahanya berdasarkan empat (4) Teras Strategik yang disokong oleh dua (2) penggerak seperti di atas.

Teras pertama diberikan fokus yang optimum bagi memastikan bekalan tenaga yang berterusan dengan tahap piawaian tertinggi serta perlindungan terhadap kepentingan para pengguna. Objektif-objektif ini akan dicapai melalui pelaksanaan inisiatif-inisiatif berikut:

- Perancangan untuk daya harap sistem.
- Pembangunan persekitaran yang kompetitif dalam pasaran elektrik dan industri gas berpaip.
- Penambahbaikan tadbir urus industri.
- Penambahbaikan mekanisme sedia ada untuk bersiap sedia menghadapi persekitaran industri yang sentiasa berubah.
- Penambahbaikan peralatan kawal selia serta pemantauan berterusan untuk memastikan kepatuhan terhadap piawaian perkhidmatan.

In realising the vision, the Commission will intensify its efforts based on the four (4) Strategic Thrusts, supported by its two (2) Enablers as seen above.

Firstly, reliability and service quality of electricity and piped gas industries are given optimal focus to ensure continuous energy supply at the highest standards and protection of consumers' interests. These objectives are to be achieved through the execution of the following initiatives:

- *Planning for system reliability,*
- *Development of a competitive environment in the electricity market and piped gas industry,*
- *Enhancing industry governance,*
- *Enhancing existing mechanism in anticipation of the evolving industry environment,*
- *Enhancing regulatory instruments and continuous monitoring for compliance with service standards.*

Keselamatan merupakan aspek penting di dalam pengawalseliaan oleh ST. Objektif utama di bawah teras ini ialah bagi memastikan semua pemegang taruh dilindungi melalui pengamalan budaya keselamatan. Ini dapat dicapai melalui inisiatif strategik termasuk pembangunan berterusan kod-kod dan garis-garis panduan, penggalakan kawal selia kendiri, pengukuhan aktiviti-aktiviti penguatkuasaan, peningkatan kecekapan dan kebolehan mengendalikan prosedur-prosedur keselamatan serta pemupukan dan penambahbaikan budaya keselamatan secara keseluruhan di dalam lanskap tenaga negara.

Objektif di dalam teras ketiga adalah untuk meningkatkan daya harap, aksesibiliti, kecekapan dan kualiti bekalan elektrik bagi memenuhi permintaan yang semakin meningkat dan sekali gus menggalakkan pertumbuhan ekonomi negara. Untuk mencapai objektif ini, beberapa inisiatif telah dikenalpasti termasuk usaha mempelbagaikan sumber, strategi bahan api fosil yang berdasarkan ramalan 20 tahun dan juga campuran bahan api bukan fosil yang terdiri daripada 20 peratus tenaga boleh baharu menjelang 2025.

Teras yang terakhir adalah bagi memastikan bekalan elektrik dan gas berpaip ditetapkan pada harga yang berpatutan bagi melindungi kepentingan pihak pengguna dan pengeluar.

Safety in the supply and utilisation of electricity and piped gas has always been an important aspect of regulation for the Commission. The main objective under this thrust is to ensure that all stakeholders' interests are well protected by cultivating a culture of safety. This is attained by numerous strategic initiatives which include the continuous development of safety codes and guidelines, the promotion of self-regulation in the industry, the strengthening of enforcement activities, the increase in competency and capability in handling safety procedures and the overall embedding and improving of safety cultures within the national energy landscape.

Meanwhile, under the energy security and sustainability thrust, the main objective is to enhance reliability, accessibility, efficiency and quality of electricity supply to meet increasing demand and boost the nation's economic growth. The strategy towards achieving this objective lies within several key initiatives which includes the diversification of resources, a fossil fuel strategy that is based on a 20-year forecast and a non-fossil fuel mix consisting of 20 percent renewable energy by 2025.

The economic efficiency and affordability in the electricity and piped gas industry thrust ensures that electricity and gas supply are reasonably priced in the interest of both the consumers and producers.

PELAKSANAAN PINDAAN STRUKTUR ORGANISASI ST
RESTRUCTURING OF THE COMMISSION'S ORGANISATIONAL STRUCTURE

ST telah meluluskan cadangan pindaan struktur organisasi ST yang dilaksanakan melalui Projek *To Review and Enhance Organisational Capacity and Capability of Suruhanjaya Tenaga* pada 2018.

Struktur organisasi ST yang baharu ini disesuaikan dengan keperluan semasa industri tenaga yang sentiasa dinamik dan mencabar. Ianya juga dapat menjadikan organisasi ini lebih fokus kepada fungsi strategik di samping turut membolehkan fungsi operasi dilaksanakan dengan lebih cekap. Struktur organisasi yang baharu ini juga turut menyediakan lebih peluang kenaikan kerjaya kepada kakitangan dan seterusnya berupaya mengekalkan bakat yang berpotensi tinggi di ST. Ianya juga diharap dapat menarik lebih ramai tenaga pakar untuk berkhidmat dengan ST.

As part of the "To Review and Enhance Organisational Capacity and Capability of Suruhanjaya Tenaga" Project, the proposed amendments to the Commission's organisational structure was approved in 2018.

Due to the current needs of the energy industry that is ever dynamic and challenging, the Commission saw it fit to restructure its organisation to meet those needs. The restructuring will enable the Commission's organisation to be more focused on its strategic function as well as allowing its operational function to be conducted in a more efficient manner. The restructuring will also provide a wider avenue for employee's career advancement and thus, retain high potential talent in the workplace. It is also hoped that the new organisational structure will be able to attract more experts to work with the Commission.

Pelaksanaan pindaan struktur organisasi daripada *"Sectoral-based"* kepada *"Functional-based"* melibatkan beberapa perubahan, antaranya:

The organisational restructuring from Sector-based to Functional-based involves several changes, including:

- Perubahan nama Jabatan dan Unit bagi mencerminkan fungsi dan tugas dengan lebih tepat serta peningkatan dalam fungsi perancangan strategik;
- *The change of departments' and units' titles to better reflect function and role, and improve on strategic planning function;*

- Pewujudan unit-unit baharu kerana terdapat keperluan untuk lebih fokus dan efektif dalam fungsi dan tanggungjawab setiap unit;
- *The creation of new units due to the need for a more focused and effective function and role of every unit;*

- Pemindahan Unit ke Jabatan yang lain untuk menyatukan fungsi dan memastikan kerja yang mereka lakukan bersesuaian dengan fungsi.
- *The transfer of units to relevant departments due to splitting of functions and/or suitability of function and task;*

- Pewujudan jawatan Ketua Pegawai Operasi dan tambahan jawatan baharu Eksekutif bagi memantapkan keperluan sumber manusia untuk melaksanakan sepenuhnya fungsi dan tanggungjawab ST.
- *The introduction of the Chief Operating Officer and new additional Executive roles so that human resources needs are maintained, thereby allowing the Commission to execute its function and role.*

Pindaan struktur organisasi ini telah berkuatkuasa pada 1 Ogos 2018.

The amendment to the organisation structure took effect on 1 August 2018.

MENAMBAHBAIK PENYAMPAIAN PERKHIDMATAN
IMPROVING SERVICE DELIVERY

Beberapa pembaharuan dalam penyampaian perkhidmatan telah dibuat bagi memastikan kemudahan kepada pengguna. Antaranya adalah:

Several improvements to the delivery of services have been made to ensure the ease of use for consumers. Among them include:

Menambahbaik Sistem *e-Electricity*
Improving the e-Electricity System

Memudahkan proses pentadbiran, pengurusan pemantauan, dan percetakan elektronik bagi lesen dan surat e-Electricity, dan membawa kepada penambahbaikan dalam laporan bulanan di samping peningkatan dalam aktiviti lesen baharu, selaras dengan matlamat ST.

Simplification of the administration process, monitoring management, and electronic printing of licenses and e-Electricity letters, leading to improved generation of monthly reports along with an increase in new licence activities, as per the Commission's goals.

Meningkatkan Laman Web
Enhancing the Website

Rekabentuk laman sesawang https://www.st.gov.my telah ditingkatkan untuk memastikan ia adalah lebih mesra-pengguna, interaktif, dan menyerlahkan imej ST sebagai badan pengawal-selia tenaga di Malaysia.

The interface of the website https://www.st.gov.my was enhanced to ensure that it is user-friendly, interactive, and helps highlight the Commission's image as an energy regulatory body in Malaysia.

PASUKAN PELAN KESINAMBUNGAN PERKHIDMATAN SURUHANJAYA TENAGA
THE ENERGY COMMISSION'S SERVICE CONTINUITY PLANNING TEAM

Pasukan Pelan Kesinambungan Perkhidmatan telah ditubuhkan sebagai langkah proaktif untuk mengenalpasti sebarang faktor yang mungkin akan mengganggu atau menghalang ST dalam menjalankan tugas mereka.

Terdapat tiga (3) komponen utama iaitu Pasukan Tindakbalas Kecemasan, Pasukan Komunikasi Krisis dan Pasukan Kesinambungan Perkhidmatan ICT.

Penambahbaikan yang berterusan terhadap Dokumen Pelan Kesinambungan Perkhidmatan Suruhanjaya Tenaga memastikan bahawa sebarang gangguan perkhidmatan yang mungkin akan berlaku dapat dikurangkan dan juga memastikan ST beroperasi dengan normal.

The Service Continuity Planning Team was formed as a proactive measure against any factors that may disrupt or prevent the Commission from providing its services.

The three (3) main components of this team are the Emergency Response Team, Crisis Communication Team, and ICT Service Continuity Team.

Continuous improvements of the Energy Commission's Services Continuity Plan Document minimises any service interruption should an incident occur, thus ensuring the Commission functions as normal.

SURVEILLANCE AUDIT (TAHUN PERTAMA) MS ISO/IEC 27001:2013 SISTEM PENGURUSAN KESELAMATAN MAKLUMAT (ISMS)
FIRST YEAR SURVEILLANCE AUDIT MS ISO / IEC 27001: 2013 INFORMATION SECURITY MANAGEMENT SYSTEM (ISMS)

Diadakan pada 12 dan 13 Disember oleh SIRIM QAS *International*, Audit Pemantauan *(Surveillance Audit)* merupakan audit keberkesanan ST dalam perlaksanaan ISMS, yang telah diperolehi oleh ST daripada SIRIM pada 22 Disember 2017. Proses-proses yang telah dinilai termasuklah pengurusan, operasi, dan pengurusan risiko serta penambahbaikan yang berterusan untuk pengurusan keselamatan maklumat di Unit Pengurusan Maklumat dan Teknologi serta penambahbaikan terhadap ST secara keseluruhan.

Keputusan audit telah mengukuhkan komitmen ST untuk mencapai *standard* ISMS ISO / IEC 27001 : 2013.

Held on 12 and 13 December by SIRIM QAS International, the Surveillance Audit is an audit of the Commission's effectiveness in implementing the ISMS, which the Commission obtained from SIRIM on 22 December 2017. Processes assessed include management, operation, and risk management and continuous improvement of information security management at the Information Management and Technology Unit as well as the Commission as a whole.

The audit results affirm the Commission's commitment to meeting the standards of the ISMS ISO / IEC 27001: 2013.

PERSEDIAAN AUDIT PEMANTAUAN PERTAMA PENSIJILAN ISO 9001: 2015 SISTEM PENGURUSAN KUALITI
PREPARATION FOR THE FIRST ISO 9001: 2015 QUALITY MANAGEMENT SYSTEM SURVEILLANCE AUDIT

Pengiktirafan ISO 9001: 2015 diterima berikutan penyediaan perkhidmatan yang cekap dan mesra pengguna merangkumi:

- Pengeluaran Pelesenan Pepasangan Persendirian
- Pengeluaran Perakuan Kekompetenan Elektrik
- Pengeluaran Kelulusan Pendaftaran Orang Kompeten Elektrik
- Pentauliahan Institusi Latihan
- Pengeluaran Kelulusan Kelengkapan Elektrik
- Pengeluaran Perakuan Pendaftaran Pepasangan Elektrik

ISO 9001: 2015 certification received for efficient and customer friendly services encompassing:

- *Issuance of License for Private Installation*
- *Issuance of Certificate of Electrical Competency*
- *Issuance of Approval for the Registration of Electrical Competent Person*
- *Accreditation of Training Institutions*
- *Issuance of Approval of Electrical Equipment*
- *Issuance of Certificate for the Registration of Electrical Installation*

- Pengeluaran Perakuan Pendaftaran Kontraktor Elektrik
- Pengeluaran Perakuan Pendaftaran Pengurus Tenaga Elektrik

2018 - ST telah menambah skop perkhidmatan untuk pensijilan ISO9001:2015 Sistem Pengurusan Kualiti:

- Penguatkuasaan
- Pendakwaan
- Penyiasatan
- Operasi Gas

Audit ke atas *Change to Approval (CTA)* telah dilaksanakan oleh badan pensijilan *Lloyd's Register Quality Assurance (LRQA)* untuk memastikan bahawa permohonan oleh ST telah dilaksanakan.

- *Issuance of Certificate for the Registration of Electrical Contractors*
- *Issuance of Certificate for the Registration of Electrical Energy Managers*

2018 – The Commission requests for scope of activities in ISO9001: 2015 Quality Management System to include:

- *Enforcement*
- *Prosecution*
- *Investigations*
- *Gas Operations*

Change to Approval (CTA) audit was carried out by the Lloyd's Register Quality Assurance (LRQA) certification body to ascertain that the Commission's application had been fulfilled.

PENGURUSAN RISIKO
RISK MANAGEMENT

Berkuatkuasa mulai 1 Ogos 2018, ST telah memperkenalkan pengurusan risiko kawal selia di bawah kawalan Jabatan Undang-Undang dan Pengurusan Risiko. Unit Pengurusan Risiko Kawal Selia ditubuhkan untuk bertanggungjawab bagi pembangunan dan pelaksanaan pengurusan risiko di ST.

Program dan aktiviti telah dirancang untuk mewujudkan kesedaran tentang pengurusan risiko kawal selia di dalam ST. Suatu model analisa dan sistematik akan dibangunkan untuk mengenalpasti risiko berdasarkan visi, misi dan nilai ST. Hasil dari proses ini akan menentukan tindakan sewajarnya yang mesti diambil bagi mengendali dan mengurangkan risiko yang telah dikenalpasti. Pengurusan risiko yang efektif memainkan peranan penting dalam memastikan pertumbuhan mampan ST dan akan mempertingkatkan integriti dan reputasi ST sebagai badan kawal selia bagi sektor bekalan tenaga.

With effect from 1 August 2018, the Commission introduced regulatory risk management under the purview of the Legal and Risk Management Department. A Regulatory Risk Management Unit was established to be responsible for the development and implementation of risk management of the Commission.

Programs and activities have been planned to create awareness of regulatory risk management within the Commission. An analytical and systematic model will be developed to identify risks based on the Commission's vision, mission and values. The result of this process will determine appropriate actions that must be taken to handle and mitigate identified risks. Effective risk management plays an essential role in ensuring sustainable growth and will enhance the integrity and reputation of the Commission as the regulatory body for the energy supply sector.

PEMBANGUNAN PERUNDANGAN BEKALAN TENAGA DALAM 2018
DEVELOPMENT OF ENERGY SUPPLY LAWS IN 2018

Pindaan Peraturan dan Perintah serta penggubalan Perintah, Kod, Garis Panduan dan Panduan Baharu dalam 2018
Amendments to Regulations and Order and New Order, Codes, Guidelines and Guides in 2018

	Pindaan *Amendments*	Baharu *New*	Jumlah *Total*
Peraturan *Regulations*	5	-	5
Perintah *Orders*	1	1	2
Kod *Codes*	-	1	1
Garis Panduan *Guidelines*	-	10	10
Panduan *Guides*	-	7	7

Dalam usaha untuk bergerak selari dengan amalan terkini dan kemajuan teknologi dalam sektor bekalan tenaga, ST meneruskan pelbagai inisiatif berkaitan perundangan bekalan tenaga pada tahun 2018. Inisiatif tersebut termasuk pindaan kepada Peraturan-Peraturan dan Perintah serta menggubal Perintah, Kod, Garis Panduan dan Panduan yang baharu.

Akta Bekalan Elektrik 1990 [Akta 447] dan Akta Bekalan Gas 1993 [Akta 501] yang dipinda pada 2015 dan 2016 masing-masing adalah asas kepada inisiatif yang telah dilaksanakan oleh ST.

Pembangunan di atas akan memastikan bahawa perundangan bekalan tenaga kekal relevan, bermanfaat dan mantap dalam mengawal selia sektor bekalan tenaga. Di antara inisiatif pada 2018 adalah:

- Pindaan Peraturan-Peraturan Elektrik 1994
- Pindaan Peraturan-Peraturan Bekalan Pemegang Lesen 1990
- Pindaan Peraturan Pengurusan Tenaga Elektrik Dengan Cekap 2008
- Pindaan Peraturan-Peraturan Bekalan Gas 1997
- Pindaan Peraturan-Peraturan Bekalan Gas (Pengkompaunan Kesalahan) 2006
- Pindaan Perintah Bekalan Gas (Kesalahan Boleh Dikompaun) 2006

In its effort to keep abreast with the latest practices and technological advancement in the energy supply sector, the Commission continued with various initiatives on the energy supply laws governing the sector in 2018. The initiatives involved the making of amendments of Regulations and Order and new Order, Codes, Guidelines and Guides.

The Electricity Supply Act 1990 [Act 447] and the Gas Supply Act 1993 [Act 501] which were amended in 2015 and 2016 respectively form the basis for the initiatives by the Commission.

This development will ensure that the legislation on energy supply remains relevant, beneficial and robust in regulating the energy supply sector. In 2018, the initiatives included:

- *Amendment to Electricity Regulations 1994*
- *Amendment to Licensee Supply Regulations 1990*
- *Amendment to Efficient Management of Electrical Energy Regulations 2008*
- *Amendment to Gas Supply Regulation 1997*
- *Amendment to Gas Supply Regulation (Compounding Offences) 2006*
- *Amendment to Gas Supply Orders (Compoundable Offences) 2006*

Selain daripada itu, ST juga sedang menggubal Perintah baharu iaitu *Electricity Supply (Electricity Industry Fund) (Contribution by Licensee)* Order 2018. Satu Kod baharu juga telah diperkenalkan iaitu *Electrical Safety Infrastructure Code for Licensees 2018*.

Garis panduan baharu telah dibangunkan dan setelah didaftarkan oleh ST ia akan menggariskan prosedur wajib dan keperluan-keperluan lain bagi melengkapi perundangan bekalan tenaga yang lain.

Panduan baharu (yang tidak bersifat wajib) juga telah dibangunkan untuk memberikan perincian dan penjelasan berkenaan perkara-perkara yang berkaitan dengan perundangan.

Senarai Garis Panduan dan Panduan baharu adalah seperti berikut:

In addition, the Commission is drafting a new Order i.e. the Electricity Supply Fund (Contribution by Licensee) Order 2018. A new Code has also been introduced i.e. the Electrical Safety Infrastructure Code for Licensees 2018.

New guidelines were developed and upon their registration by the Commission will provide compulsory procedures and other requirements to complement the other energy supply legislation.

New guides (which are non-compulsory) were also developed to provide details and explanation on matters related to the legislation.

A list of the new Guidelines and Guides is as follows:

Garis Panduan dan Peraturan pada 2018
New Guidelines and Regulations in 2018

Garis Panduan
Guidelines

- *Guidelines on Obligation to Submit Business Plan (Electricity)*
- *Guidelines on Submission of Gas Business Plan (Electricity)*
- *Guidelines for Audit of Licensees*
- *Single Buyer Rules and GSO Guideline for Sabah*
- *Guidelines for Proper Accounts by the Licensee*
- *Guidelines on License Application*
- *Guidelines on Modification, Variation, Review or Revocation of the Malaysian Gas Third Party Access Codes, Guidelines and/or Directions*
- *Guidelines on Gas Tariff Determination*
- *Guidelines on Electricity Disconnection Procedures for Dishonest Use of Electricity Cases*
- *Guidelines on Reimbursement for Property Damage Due to Negligence of Licensee*

Panduan
Guides

- *Guide on Minimum Energy Performance for Microwaves*
- *Guide on Minimum Energy Performance for Washing Machines*
- *Guide on Step-In Right by Commission*
- *Guide on Dispute Resolution for Electricity Sector*
- *Competition Generation Guide for the Electricity Sector*
- *Guide on Complaint Procedures for Competition*
- *Guide on Issuance of Certificate of Approvals and Labelling of Domestic Gas Cooking Appliance*

PENYATA AUDIT DALAMAN
STATEMENT OF INTERNAL AUDIT

Ringkasan

Fungsi Audit Dalaman (AD) adalah bagi membantu Jawatankuasa Audit untuk melaksanakan tugas dan tanggungjawabnya. Aktiviti AD adalah bebas dari operasi ST dan fungsi utama AD adalah untuk memberi keyakinan kepada Jawatankuasa Audit mengenai keberkesanan proses tadbir urus dan kawalan dalaman ST. Proses ini menggunakan pendekatan berasaskan risiko dalam menentukan aktiviti audit dalaman yang perlu diberi penekanan supaya ianya selaras dengan Misi dan Visi ST.

Bagi tahun kewangan 2018, AD telah mengeluarkan 12 laporan audit daripada pelaksanaan 11 aktiviti yang dirancang, satu (1) aktiviti audit tidak dirancang dan 12 aktiviti audit susulan sebagai langkah pembetulan. Antara perkara yang disemak termasuk proses Pejabat-Pejabat Kawasan, perolehan, pengurusan aset, projek, kewangan, pentadbiran, pengurusan kenderaan, teknologi maklumat dan komunikasi, audit dalaman ISO 27001 dan pengurusan Kumpulan Wang Industri Elektrik (KWIE). Laporan Audit Dalaman telah dikeluarkan kepada pihak Pengurusan Tertinggi yang merangkumi peluang penambahbaikan, penemuan audit, maklumbalas pengurusan dan tindakan pembetulan bagi perkara yang berisiko tinggi dan yang mempunyai kawalan dalaman yang lemah. Pihak Pengurusan Tertinggi sejurusnya merangkakan tindakan pembetulan dan pencegahan, serta tarikh sasaran untuk melaksanakan tindakan penyelesaian tersebut. Manakala, perkara yang memerlukan peluang penambahbaikan yang signifikan dan / atau yang menunjukkan kekurangan kawalan dalaman yang kritikal dibentangkan kepada Jawatankuasa Audit untuk dibincangkan. Di samping itu, prosedur kawalan dalaman ST bagi perkara-perkara yang disemak semula juga dibentangkan kepada Jawatankuasa Audit untuk pertimbangan. Pihak Pengurusan Tertinggi ST turut hadir dalam Mesyuarat Jawatankuasa Audit untuk memberi maklum balas terkini mengenai peluang penambahbaikan proses operasi yang telah dikenal pasti oleh AD yang telah dilaksanakan.

Overview

The Internal Audit (IA) function is to assist the Audit Committee in performing its duties and responsibilities. The IA activity is independent of the Commission's operations and its primary function is to provide assurance to the Audit Committee on the effectiveness of governance and internal control processes within the organisation. The process uses a risk-based approach to determine the priorities of the internal audit activities, consistent with the Mission and Vision of the Commission.

During the Financial Year 2018, IA issued 12 audit reports arising from the execution of 11 planned audit activities, one (1) ad-hoc audit activity and twelve (12) follow-up audits on the corrective actions. The areas reviewed included the Regional Offices' processes, procurement, asset management, projects, finance, administration, fleet management, information and communication technology, the ISO 27001 internal audit and operations of the Electricity Industry Fund (EIF). Internal Audit Reports were issued to the Commission's Management, containing improvement opportunities, audit findings, management responses and corrective actions in areas with significant risks and internal control deficiencies. The Commission's Management then provided the corrective and preventive actions along with deadlines to execute the actions. Reports that require significant improvement opportunities and / or show critical control deficiencies were tabled to the Audit Committee for deliberation. Additionally, the Commission's internal control procedures for areas reviewed were also tabled to the Audit Committee for their deliberation. The Commission's Management team were also present at the Audit Committee meetings to provide feedback on the progress of business process improvement opportunities identified by the IA that was carried out.

Encik Petrus Gimbad merupakan Pengerusi Jawatankuasa Audit bermula daripada 1 September 2014 dan bersara daripada jawatan tersebut pada 31 Ogos 2018. Datuk Allauddin Bin Haji Anuar pula adalah ahli Jawatankuasa Audit bermula daripada 1 Jun 2017 dan bersara daripada jawatan tersebut pada 28 Oktober 2018. Perlantikan anggota ST yang baharu berkuatkuasa 20 Disember 2018. Mereka adalah Datuk Dr. Ong Peng Su sebagai Pengerusi Jawatankuasa Audit, Profesor Ulung Prof. Dr. Rajah Rasiah dan Puan Adlin Binti Abd. Majid sebagai ahli Jawatankuasa Audit.

Selain ahli-ahli Jawatankuasa Audit, Ketua Audit Dalaman dan Setiausaha ST, yang juga Setiausaha Jawatankuasa Audit turut hadir dalam Meyuarat Jawatankuasa Audit. Ketua Pegawai Eksekutif (KPE) dan pegawai-pegawai lain juga dijemput ke mesyuarat Jawatankuasa Audit untuk membincangkan perkara-perkara yang berkaitan dengan bidang kuasa masing-masing.

Mr Petrus Gimbad, who was the Chairman of the Audit Commitee since 1 September 2014, retired from the position on 31 August 2018. Datuk Allauddin Bin Haji Anuar, who was a member of the Audit Committee from 1 June 2017, retired on 28 October 2018. Effective 20 December 2018, the new Commission members took their place. Datuk Dr. Ong Peng Su was appointed as Chairman of the Audit Committee, while Distinguished Professor Dr. Rajah Rasiah and Ms. Adlin Binti Abd. Majid became members of the Audit Committee.

Aside from Audit Committee members, attendees during the meetings included the Head of the Internal Audit and the Commission's Secretary, who is also the Secretary to the Audit Committee. The Chief Executive Officer (CEO) and other officers were also invited to the meetings to deliberate on matters under their jurisdiction.

Tarikh Mesyuarat Jawatankuasa Audit yang telah diadakan pada tahun kewangan adalah seperti berikut:
The dates where the Audit Committee meetings were held during the Financial Year are as follows:

MESYUARAT JAWATANKUASA AUDIT
AUDIT COMMITTEE MEETING

1/2018	2/2018	3/2018
5 FEBRUARI *FEBRUARY* 2018	2 APRIL *APRIL* 2018	23 JULAI *JULY* 2018

KEBEBASAN DAN OBJEKTIVITI
INDEPENDENCE AND OBJECTIVITY

Objektif keseluruhan AD adalah untuk menyediakan pendekatan audit yang sistematik dan berdisiplin kepada Jawatankuasa Audit dan pihak Pengurusan tertinggi seperti berikut:

The overall objective of the IA is to provide the Audit Committee and the Management with systematic and disciplined audit approaches to:

- Menilai dan menambahbaik pengurusan penilaian risiko ST.
  Evaluate and improve risk assessment of the Commission.
- Penilaian bebas terhadap kawalan dalaman dan proses tadbir urus.
  Independent assessment of internal control and governance processes.
- Memberi cadangan untuk penambahbaikan yang berterusan.
  Provide recommendations for continuous improvement.

AD juga berperanan untuk memberi jaminan bebas terhadap keberkesanan dan kecekapan ST dalam melaksanakan peranan kawal selianya bagi industri pembekalan elektrik dan gas berpaip di Semenanjung Malaysia dan Sabah untuk memastikan bekalan elektrik dan gas berpaip yang disalurkan kepada pengguna adalah terjamin, berdaya harap, selamat dan dibekalkan pada harga yang berpatutan.

IA also serves to provide independent assurance of the Commission's effectiveness and efficiency in implementing its regulatory roles on the electricity and piped gas supply industries in the Peninsula and Sabah to ensure that the supply of electricity and piped gas to consumers is secure, reliable, safe and at an affordable price.

SKOP KERJA
SCOPE OF WORK

AD menggunakan pendekatan berasaskan risiko dalam membangunkan rancangan audit tahunan. Skop perkara yang diaudit mengambil kira risiko strategik dan operasi, hasil audit yang terdahulu dan juga sebarang permintaan oleh Pengurusan Kanan / Jawatankuasa Audit yang selaras dengan objektif strategik ST. Pelan audit tahunan akan dikaji semula secara berkala untuk menampung perubahan risiko serta persekitaran operasi.

IA conducts a risk-based approach during the development of the annual audit plan. The coverage of auditable areas takes into consideration the strategic and operational risks, audit history and any request by the Commission's Senior Management / Audit Committee that are aligned with the Commission's strategic objectives. The annual audit plan is reviewed periodically to cater for changes in risk exposure and operating environment.

Liputan AD *audit universe* merangkumi fungsi tadbir urus, pengurusan risiko dan kajian semula kawalan dalaman yang tidak terhad kepada Pejabat Kawasan, perolehan, projek, kejuruteraan, perakaunan dan kewangan, sumber manusia, teknologi maklumat dan komunikasi, pengurusan kenderaan, pengawalseliaan ekonomi dan perancangan, hal ehwal dan perkhidmatan korporat, pengurusan aset, audit dalaman ISO 27001 dan ISO 9001, dan pengurusan KWIE.

The IA audit universe includes the governance, risk management and a review of controls in the areas of, but not limited to, Regional Offices, procurement, projects, engineering, accounting and finance, human resources, information and communication technology, administration, fleet management, economic regulation and planning, corporate affairs and services, asset management, ISO 27001 and ISO 9001 internal audits, and the operations of the EIF.

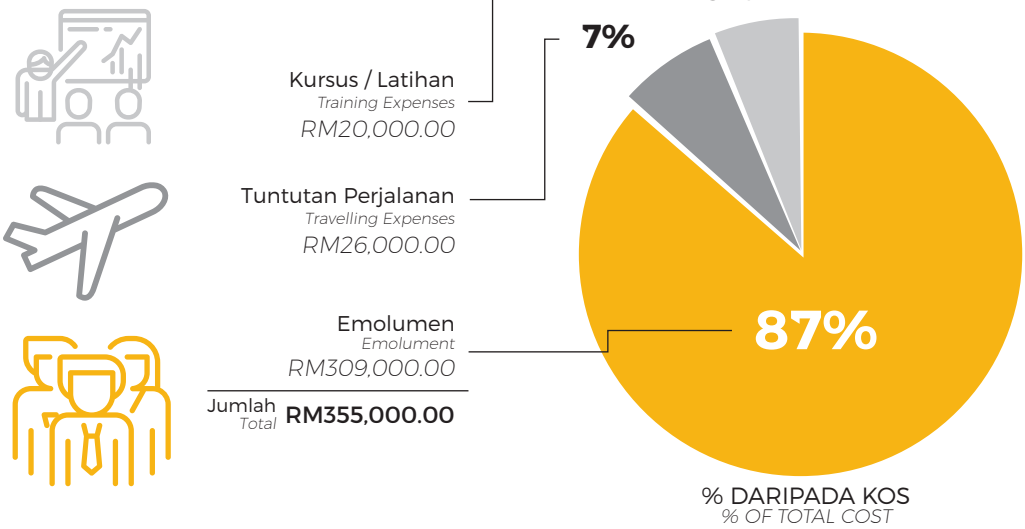
SUMBER AUDIT DALAMAN
INTERNAL AUDIT RESOURCES

Sehingga 31 Disember 2018, unit AD terdiri daripada tiga (3) juruaudit yang merupakan kakitangan ST dengan latar belakang bidang perakaunan, kewangan dan perniagaan.

As of 31 December 2018, the IA unit consists of a total of three (3) auditors comprising the Commission's staff from accounting, finance and business backgrounds.

Bagi tahun kewangan 2018, AD telah membelanjakan sejumlah RM355,000.00.

In the Financial Year 2018, IA spent a total of RM355,000.00.



PROGRAM LATIHAN DAN PENINGKATAN KUALITI
TRAINING AND QUALITY IMPROVEMENT PROGRAM

AD terus komited untuk memastikan kakitangan ST adalah kompeten dalam memenuhi keperluan persekitaran perniagaan yang sentiasa berubah. Kira-kira RM20,000.00 telah dibelanjakan untuk latihan dalam bidang kemahiran pengauditan, kemahiran teknikal, kemahiran perniagaan, pengurusan strategik dan pembangunan sahsiah diri.

The IA is continuously committed to ensure that the Commission's staff are competent in meeting the needs of the ever changing business environment. About RM20,000.00 was spent on training in the areas of auditing skills, technical skills, business acumen, strategic management and personal development.

Amalan AD umumnya mematuhi Rangka Kerja Amalan Profesional Antarabangsa (IPPF) bagi Pengauditan Dalaman oleh Institut Juruaudit Dalaman (IIA). AD sentiasa berusaha untuk menyediakan perkhidmatan berkualiti tinggi dan memberi nilai tambah kepada Jawatankuasa Audit dan ST dengan piawaian etika dan profesionalisme yang tertinggi.

IA practices generally comply with the International Professional Practices Framework (IPPF) on Internal Auditing by the Institute of Internal Auditors (IIA). IA also constantly strives to provide high quality, value-added services to the Audit Committee and the Commission, adhering to the highest ethical and professional standards.

PEMBANGUNAN KAPASITI DAN KEUPAYAAN
CAPACITY AND CAPABILITY BUILDING

BAB
CHAPTER

6

MENINGKATKAN PEMBANGUNAN KAPASITI DAN KEUPAYAAN ORGANISASI

ENHANCING CAPACITY AND CAPABILITY DEVELOPMENT OF THE ORGANISATION

Pada tahun 2018, empat *job families* telah dikenalpasti ketika mengkaji semula kerangka kompetensi fungsi di bawah projek *"To Review and Enhance Organisational Capacity Suruhanjaya Tenaga"* iaitu Kawal Selia Ekonomi, Perancangan dan Pembangunan Industri, Operasi Industri dan Kawalselia Keselamatan dan Penguatkuasaan & Penyelarasan Kawasan. Program leadership assessment juga dijalankan di kalangan Pengurusan Tertinggi dan Pengurusan Pertengahan untuk menilai potensi kakitangan serta kelebihan dan kekurangan mereka sebagai sebahagian daripada usaha dalam perlaksanaan struktur organisasi ST yang baharu.

ST menggalakkan pengekalan kakitangan melalui amalan terbaik tenaga kerja yang merangkumi persekitaran kerja yang baik dan gabungan kakitangan dengan kepakaran dan latar belakang yang berbeza. Selama bertahun-tahun, ST telah mengalami peningkatan dalam sumber manusia dengan jumlah kakitangan sebanyak 327 orang pada tahun 2018. Dari segi usaha kelestarian dan Tanggungjawab Sosial Korporat (CSR), kakitangan digalakkan untuk mengambil bahagian dalam aktiviti pemeliharaan alam sekitar dan acara-acara untuk meningkatkan kesedaran seperti Program Touchpoint dan Cabaran Kecekapan Tenaga yang diadakan di sekolah.

In 2018, four job families were identified during the review of the Functional Competency Framework under the "To Review and Enhance Organisational Capacity Suruhanjaya Tenaga" project, namely Economic Regulation, Industry Planning and Development, Industry Operations and Safety Regulation and Enforcement & Regional Operations.
A leadership assessment programme was also conducted among the top and middle management to evaluate employees' potential and their strengths and weaknesses as part of the effort in implementing the newly restructured organisation.

The Commission encourages staff retention through best workforce practices that includes a good working environment and a good mix of staff with diverse expertise and background. Through the years, the Commission has experienced a steady growth in its human resource with a total of 327 staff in 2018. In terms of sustainability efforts and Corporate Social Responsibility (CSR), staff are encouraged to participate in environmental preservation activities and events to raise awareness such as the Touchpoint Programme and Energy Efficiency Challenge held in schools.

KAJIAN SEMULA DAN PENAMBAHBAIKAN KERANGKA KOMPETENSI SURUHANJAYA TENAGA

REVIEW AND ENHANCEMENT OF THE COMMISSION'S COMPETENCY FRAMEWORK

Dalam menjalankan fungsi dan tanggungjawab ST sebagai badan kawal selia industri tenaga negara, faktor pembangunan kapasiti kakitangan sentiasa merupakan salah satu agenda penting ST.

Pada 2018, satu kajian semula dan penambahbaikan kerangka kompetensi fungsi *(Functional Competency Framework)* ST telah dimulakan di bawah projek *To Review and Enhance Organisational Capacity and Capability* ST. Kajian ini dimulakan dengan mengenalpasti empat (4) *Job Families* di ST. *Job Families* yang terlibat adalah:

1. Kawalselia Ekonomi
2. Perancangan dan Pembangunan Industri
3. Operasi Industri
4. Kawalselia Keselamatan dan Penguatkuasaan & Penyelarasan Kawasan

The development of employee capacity has always been one of the Commission's main agendas as part of its function and responsibility as the nation's energy regulator.

In 2018, the review and improvement of the Functional Competency Framework under the To Review and Enhance Organisational Capacity and Capability Suruhanjaya Tenaga project commenced. Four (4) Job Families were identified:

1. *Economic Regulation*
2. *Industry Planning and Development*
3. *Industry Operations*
4. *Safety Regulation and Enforcement & Regional Operations*

Sebanyak empat (4) *Job Family Champions* dan 20 *Subject Matter Experts* telah dilantik dari kalangan kakitangan ST untuk memberikan input dan maklumbalas terhadap pindaan dan penambahbaikan kerangka kompetensi ST. Beberapa bengkel dan sesi perbincangan telah mula dilaksanakan pada 2018. Kerangka kompetensi fungsi yang baharu akan dibentangkan untuk kelulusan ST sewajarnya.

Four (4) Job Family Champions and 20 Subject Matter Experts were selected among the Commission's staff to provide input and feedback to the review and improvement of the Functional Competency Framework. Starting October 2018, several workshops and discussions were held as part of this effort. A new Functional Competency Framework will be proposed pending the Commission's approval.

Seterusnya, program-program pembangunan kompetensi kakitangan ST akan dilaksanakan berasaskan kerangka kompetensi fungsi *(Functional Competency Framework)* yang telah dibangunkan.

Subsequently, employee competency development programmes will be carried out based on developed functional competency framework.

PROGRAM *LEADERSHIP ASSESSMENT*
LEADERSHIP ASSESSMENT PROGRAMME

Selaras dengan pelaksanaan struktur organisasi ST yang baharu, serta sebagai salah satu usaha dalam pembangunan kompetensi kakitangan, satu program penilaian *"Leadership Assessment"* turut dilaksanakan.

As part of its effort in implementing the newly restructured organisation and also in developing employees' competency, the Commission commenced the Leadership Assessment programme.

Penilaian ini dilaksanakan terhadap kakitangan di kategori Pengurusan Tertinggi dan Pengurusan Pertengahan ST yang bertujuan untuk menilai potensi kakitangan serta mengenalpasti kelebihan dan kekurangan kakitangan dari segi kompetensi dalam melaksanakan fungsi masing-masing. Hasil penilaian ini juga boleh digunakan untuk tujuan latihan dan pembangunan serta kenaikan aras kerjaya kakitangan. Hasil penilaian ini juga telah diambil kira dalam merangka program pembangunan *Middle Management Development Programme* dan *Top Management Leadership Programme* di ST.

The Leadership Assessment programme was conducted amongst the Commission's top and middle management teams. The aim of the programme is to evaluate employees' potential and identify their strengths and weaknesses, thus their level of competency in performing their specific functions. The results of the programme can also be used for training and development purposes as well as gauging career advancement levels. The results of the programme were also taken into consideration in formulating the Middle Management Development programme and Top Management Leadership Programme at the Commission.

PENERBITAN
PUBLICATIONS

ST menerbitkan maklumat dan statistik serta bahan rujukan lain yang memenuhi keperluan semasa industri tenaga di Malaysia.

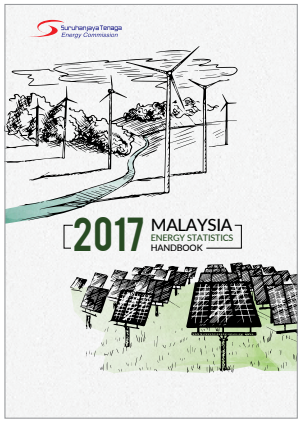
The Commission publishes information and statistics to be used as reference materials that cater to the needs of the Malaysian energy industry.

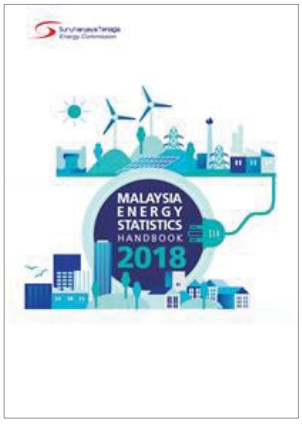
Maklumat dan Statistik Sektor Tenaga

Information and Statistics on Energy Industry

- Maklumat Prestasi dan Statistik Industri Pembekalan Elektrik di Malaysia 2017.
- *Malaysia Energy Statistics Handbook 2017.*
- *Malaysia Energy Statistics Handbook 2018.*
- *Laporan Prestasi Keselamatan Elektrik 2016.*

- *Performance and Statistical Information on the Electricity Supply Industry in Malaysia 2017.*
- *Malaysia Energy Statistics Handbook 2017.*
- *Malaysia Energy Statistics Handbook 2018.*
- *Electrical Safety Performance Report 2016.*

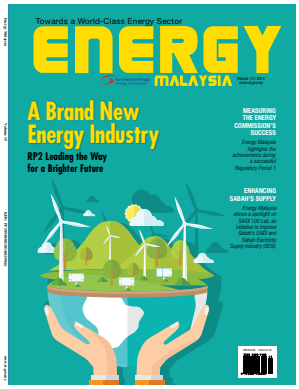


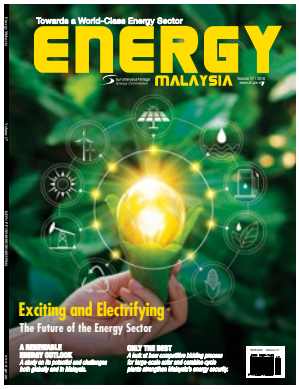


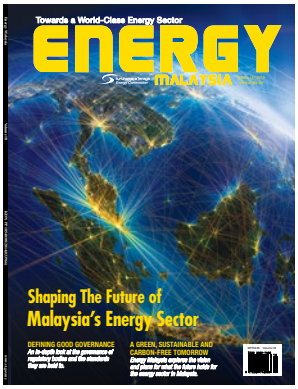
Majalah *Energy* Malaysia
Energy Malaysia Magazine

Antara topik-topik yang diberi penekanan dalam majalah Energy Malaysia terbitan ST ialah:
Among the topics highlighted in ST's Energy Malaysia Magazine:

- *Energy Malaysia Volume 14 - "The Transition" Strengthening the Future of Energy in Malaysia*
- *Energy Malaysia Volume 15 - "A Brand New Energy Industry" RP2 Leading the Way for a Brighter Future*
- *Energy Malaysia Volume 16 - "Revolutionising the Energy Sector" Industry 4.0 Transforms Malaysia's Energy Industry*
- *Energy Malaysia Volume 17 - "Exciting and Electrifying" The Future of the Energy Sector*
- *Energy Malaysia Volume 18 - "Shaping The Future of Malaysia's Energy Sector"*



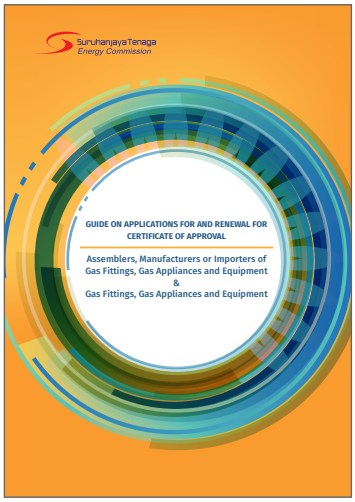


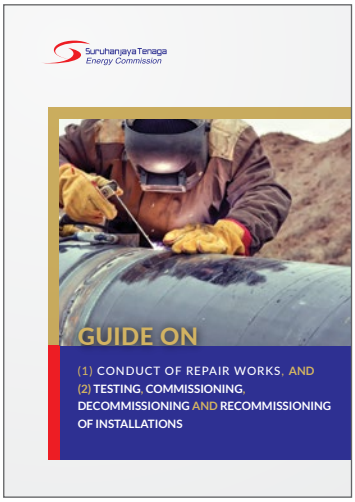


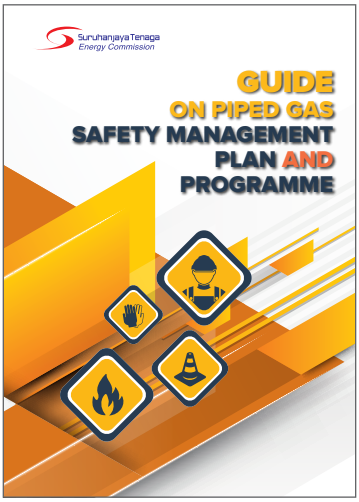
Panduan/Garis Panduan
Guides/Guidelines

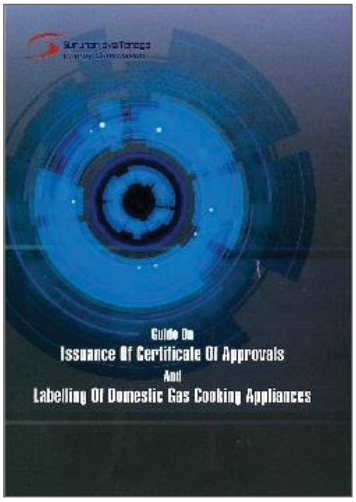
Sepanjang 2018, sebanyak enam (6) Panduan/Garis Panduan telah diterbitkan:
As of 2018, six (6) Guides/Guidelines were published:

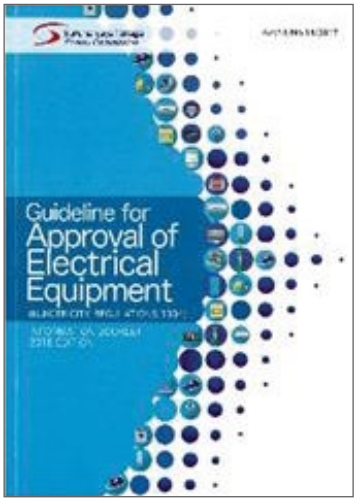
- *Guide on Applications for and Renewal for Certificate of Approval - Assemblers, Manufacturers or Importers of Gas Fittings, Gas Appliances and Equipment & Gas Fittings, Gas Appliances and Equipment.*
- *Guide On Conduct of Repair Works, and Testing, Commissioning, Decommissioning and Recommissioning of Installations.*
- *Guide on Piped Gas Safety Management Plan and Programme.*
- *Guide on Issuance of Certificate of Approvals and Labelling of Domestic Gas Cooking Appliances.*
- *Guideline for Approval of Electrical Equipment (Electricity Regulations 1994) Information Booklet 2018 Edition.*
- *Guideline on Gas Installations at Launderettes and Premises Using Similar Installations.*

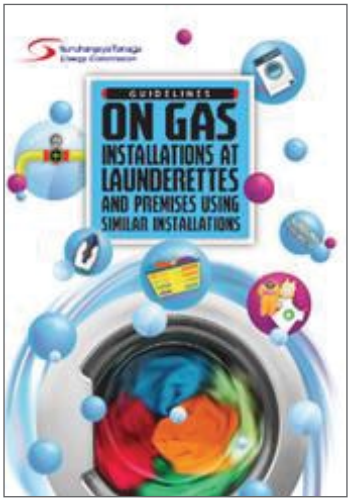












LAPORAN KEMAMPANAN
SUSTAINABILITY REPORT

ST juga turut memberikan penekanan terhadap pembangunan kemampanan melalui pengekalan tenaga kerja, pemeliharaan alam sekitar serta penambahbaikan untuk komuniti.

The Commission also promotes sustainability through staff retention, environmental preservation and community enhancement.

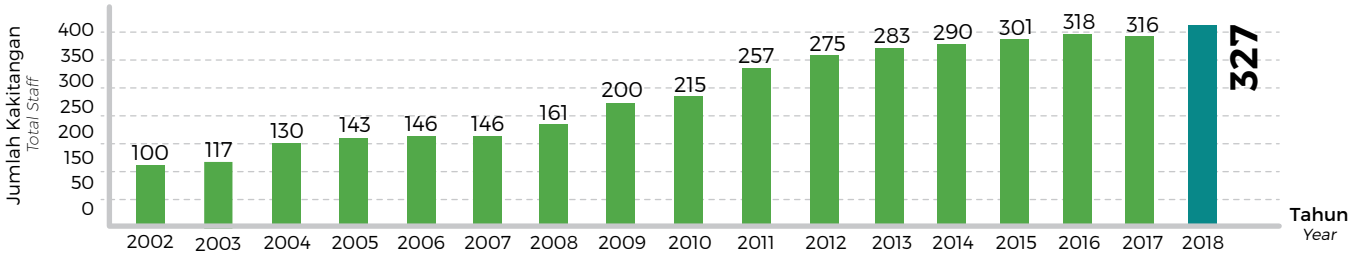
TEMPAT KERJA
WORKPLACE

Penambahan bilangan kakitangan ST setiap tahun jelas menggambarkan prestasi ST dalam mengekalkan tenaga kerja. ST adalah komited dalam menyediakan persekitaran kerja yang baik agar kakitangan sentiasa berinspirasi dan bermotivasi.

The steady growth in the number of staff throughout the years is reflective of the Commission's good track record for staff retention. The Commission aims to inspire and motivate employees by harbouring a good working environment.

Statistik Demografik Kakitangan
Staff Demographic Statistics

Bilangan Kakitangan, 2002-2018
Number of Staff, 2002-2018



Komposisi Kakitangan
Staff Composition

Pecahan Kakitangan Mengikut Jabatan
Staff Segmentation by Department

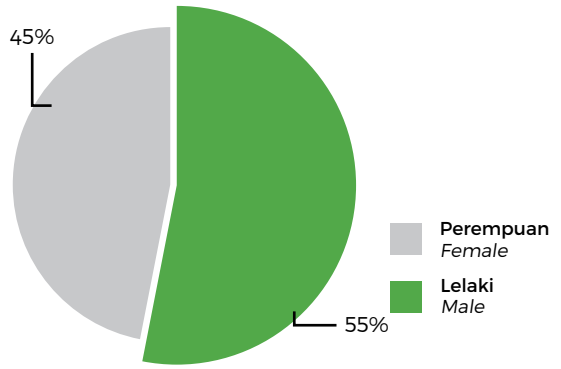
Pecahan Kakitangan Mengikut Lokasi
Staff Segmentation by Location

360
Jawatan tetap yang diluluskan
Approved permanent positions

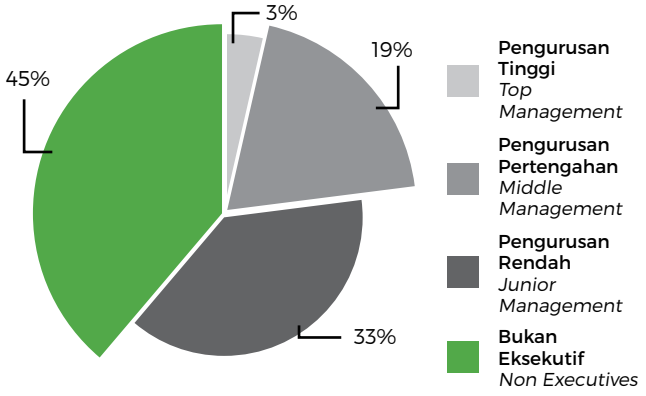
327 **91%**
Jawatan yang telah diisi
Positions that have been filled

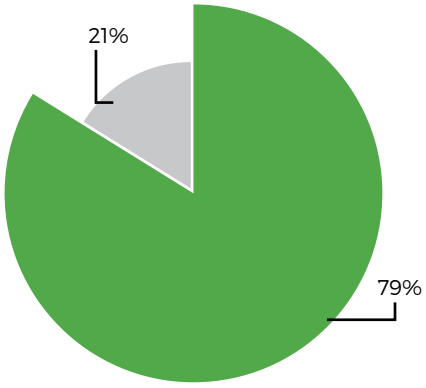
Eksekutif *Executive*		Bukan Eksekutif *Non-Executive*
160	Ibu Pejabat *Headquarters*	56
+		+
59	Pejabat Kawasan *Regional Offices*	52
=		=
219 Jawatan Eksekutif *Executive Positions*		**108** Jawatan Bukan Eksekutif *Non-Executive Positions*

Jantina
Gender



Kategori
Category





Bidang Pengajian
Field of Study

- **Bidang Kejuruteraan: Elektrikal, Elektrikal / Elektronik, Mekanikal, Kimia, dan sebagainya**
  Engineering fields: Electrical, Electrical / Electronic, Mechanical, Chemical, etc.
- **Bidang pengajian lain: Undang-undang, Ekonomi, Kewangan, Perakaunan, Pentadbiran Perniagaan, Sains Komputer, Komunikasi Massa**
  Other fields of study: Law, Economics, Finance, Accounting, Business Administration, Computer Science, Mass Communication

Kejuruteraan *Engineering*
Bidang lain *Other fields*

Kakitangan ST terdiri daripada graduan yang mempunyai latar belakang dan pengalaman professional yang pelbagai. ST memberikan peluang yang sama rata kepada semua kakitangan, yang dapat dilihat dari pecahan komposisi kakitangan ST yang saksama.

With a diversity of expertise and background, the Commission gives equal opportunity to all staff members, and this is reflected in the composition of its staff.

ALAM SEKITAR
ENVIRONMENT

Memandangkan ST kini dalam peralihan ke arah kawal selia pembekalan tenaga yang lebih lestari, kakitangan ST juga turut memainkan peranan dalam pemeliharaan alam sekitar tanpa mengira lokasi mahupun masa. Setiap sumbangan, sama ada dilakukan di dalam mahupun di luar organisasi, adalah bernilai, tidak kira besar atau kecil.

- **Penanaman Pokok Paya Bakau**

Bagi memelihara kepelbagaian biologi hutan sekunder dan kawasan paya seluas 800 ekar di Taman Alam Kuala Selangor, kakitangan ST telah mengambil inisiatif menanam anak pokok bakau. Perancangan awalnya adalah untuk menanam 200 anak pokok, namun kakitangan ST telah berjaya menanam 220 anak pokok bakau pada hari tersebut.

Melalui usaha ini, anak-anak pokok bakau ini apabila membesar sepenuhnya akan memberi impak yang baik pada persekitaran di sekelilingnya, di mana setiap 2.5 ekar kawasan pokok bakau (kira-kira 3,000 batang pokok) mampu menyerap sebanyak 1.5 tan CO_2 setiap tahun serta mengurangkan jejak karbon. Pokok bakau yang telah membesar sepenuhnya juga mampu bertindak sebagai penghadang semula jadi bagi ancaman paras air yang tinggi.

With the Commission transitioning towards a more sustainable energy supply regulation, all the Commission's employees are also doing their part for the environment, when and where they can. Whether it is done from within or outside the workplace, big or small, every action counts.

- *Mangrove Tree Planting*

In an effort to preserve the 800 acres of biodiversity within the secondary forests and wetlands of the Kuala Selangor Nature Park, the Commission's staff took on the initiative to plant mangrove saplings there. While the Commission originally planned to plant 200 mangrove saplings, the staff managed to plant a total of 220 saplings that day.

Through these environmental efforts, the saplings, once fully grown, will enhance the environment in the surrounding area, as every 2.5 acres of trees (approximately 3,000 in number) will absorb approximately 1.5 tonnes of CO_2 per year and reduce the carbon footprint. Furthermore, the fully-grown mangrove trees will act as an effective natural buffer against the threat of high water levels.

Pokok bakau ditanam oleh kakitangan ST di Taman Alam, Kuala Selangor.
The Commission's staff carefully planting mangrove trees at the Kuala Selangor Nature Park.

KOMUNITI
COMMUNITY

Setiap tahun, demi meningkatkan kesedaran di kalangan komuniti mengenai keselamatan elektrik dan gas berpaip serta kecekapan tenaga, ST secara sukarela menjalankan pelbagai inisiatif-inisiatif Tanggungjawab Sosial Korporat (CSR).

Every year, the Commission volunteers to raise awareness among the community on electrical and piped gas safety and energy efficiency through various Corporate Social Responsibility (CSR) initiatives.

- ***Program Touchpoint***

Program Touchpoint mendidik komuniti setempat berkenaan keselamatan elektrik dan gas berpaip bagi mempertingkatkan keselamatan dalam penggunaan serta mengelakkan kemalangan dan kecurian elektrik. Dilancarkan pada 2012, program Touchpoint ini bermula dengan inisiatif membantu mangsa banjir di Pahang. Program ini kemudiannya dikenalpasti sebagai salah satu inisiatif yang terbaik bagi mewujudkan kesedaran di kalangan masyarakat.

- *Touchpoint Programme*

The Touchpoint Programme educates the community on electrical and piped gas safety to improve safety in usage and prevent electrical accidents or thefts. Launched in 2012, the Touchpoint Programme was first initiated to aid flood victims in Pahang. The programme was then discovered as one of the best ways to create public awareness among the community.

Ir. Md Rasdi Abdullah, Pengarah Kawasan ST bagi Negeri Selangor dan Wilayah Persekutuan (KL & Putrajaya) memberi taklimat kepada pelajar Sekolah Tahfiz Darul Furqan, Padang Balang mengenai keselamatan penggunaan elektrik melalui program Touchpoint

Ir. Md Rasdi Abdullah, the Commission's Regional Director for the state of Selangor and the Federal Territories (KL & Putrajaya) briefing the students of Sekolah Tahfiz Darul Furqan, Padang Balang on electrical safety through the Touchpoint programme.

- ***EE Challenge***

Pertandingan *Energy Efficiency (EE) Challenge* adalah tertumpu kepada sekolah menengah dan bertujuan untuk menggalakkan para pelajar bukan sahaja untuk menjimatkan penggunaan tenaga elektrik, malah untuk mengunakannya dengan cekap. Setakat 2018, kesemua sekolah yang terlibat dalam cabaran ini telah berjaya mencatatkan penjimatan tenaga sebanyak 428,311 kWj, dengan nilai keseluruhan sebanyak RM134,147.00.

- *EE Challenge*

Specifically targeting secondary schools, the Energy Efficiency (EE) Challenge encourages students to reduce energy consumption and enhance energy efficiency. The challenge managed to get schools to save a total of 428,311 kWh of electricity worth RM134,147.00 as of 2018.

Sebanyak 112 sekolah telah mengambil bahagian pada 2018, dan jumlah ini mencatatkan peningkatan yang amat ketara berbanding 7 sekolah yang telah mengambil bahagian pada 2014. Peningkatan ni menunjukkan bahawa kesedaran dan keinginan untuk mengambil bahagian dalam program tersebut semakin meningkat. Daripada 112 sekolah yang telah mengambil bahagian pada 2018, 83 sekolah telah menghantar laporan lengkap, menggambarkan semangat pelajar-pelajar terhadap pencapaian mereka.

Penilaian pertandingan *EE Challenge 2018* mengambil kira jumlah bil elektrik, serta perbandingan indeks spesifik penggunaan tenaga bagi tahun 2017 dan 2018 berdasarkan bilangan guru, pelajar, staf sokongan dan jumlah keseluruhan hari persekolahan di setiap sekolah.

112 schools participated in 2018, which is a sharp increase from the 7 schools that took part back in 2014. This indicated that the awareness and willingness to be a part of the programme is steadily progressing. Of the 112 that took part in 2018, 83 schools sent their completed reports, portraying a profound interest in their achievements.

The EE Challenge 2018 evaluation took into consideration the electricity bills and the comparison of energy usage specific index for the year 2017 and 2018 based on the number of teachers, students, support staff and total school days in each school.

Peserta dan pemenang pertandingan *EE Challenge 2018* dari sekolah menengah di seluruh Malaysia.
EE Challenge 2018 participants and winners from secondary schools across Malaysia.

Pertandingan *EE Challenge 2018* dimenangi oleh SMK Seksyen 7 dari Shah Alam, Selangor yang mencatatkan penurunan penggunaan elektrik sebanyak 12%, diikuti oleh SMK Taman Nusa Damai dari Johor Bahru, Johor (penurunan sebanyak 12%) dan SMK Air Putih dari Kuantan, Pahang (penurunan sebanyak 18%).

The winner of the EE Challenge 2018 was SMK Seksyen 7 from Shah Alam, Selangor, recording a decrease of 12% in their electricity usage, followed by SMK Taman Nusa Damai from Johor Bahru, Johor (decrease of 12%) and SMK Air Putih from Kuantan, Pahang (decrease of 18%).

- **Kegembiraan Dikongsi Bersama**

Untuk Aidilfitri yang lebih bermakna, sukarelawan ST telah membawa 35 anak-anak dari Maahad Tahfiz Anak Yatim Darul Fuqaha, Kajang, Selangor untuk membeli keperluan sambutan Hari Raya serta meraikan anak-anak tersebut dengan jamuan berbuka puasa.

Kakitangan ST juga turut menjalankan kutipan sumbangan kepada rumah anak yatim tersebut dalam bentuk wang tunai serta barangan kegunaan harian seperti biskut, beras dan makanan dalam tin.

- *Joy Shared Together*

For a meaningful Aidilfitri, volunteers from the Commission brought together 35 children from Maahad Tahfiz Orphanage Darul Fuqaha, Kajang, Selangor to purchase supplies for Raya celebration and break fast with the children.

In support, the Commission's staff also donated cash and daily-use items such as biscuits, rice and canned food to the orphanage.

PENYATA KEWANGAN

LAPORAN KETUA AUDIT NEGARA
MENGENAI PENYATA KEWANGAN
SURUHANJAYA TENAGA
BAGI TAHUN BERAKHIR 31 DISEMBER 2018

Laporan Mengenai Pengauditan Penyata Kewangan

Pendapat

Penyata Kewangan Suruhanjaya Tenaga telah diaudit oleh wakil saya yang merangkumi Lembaran Imbangan pada 31 Disember 2018 dan Penyata Pendapatan, Penyata Perubahan Ekuiti serta Penyata Aliran Tunai bagi tahun berakhir pada tarikh tersebut dan nota kepada penyata kewangan termasuklah ringkasan polisi perakaunan yang signifikan seperti dinyatakan pada muka surat 1 hingga 20.

Pada pendapat saya, penyata kewangan ini memberikan gambaran yang benar dan saksama mengenai kedudukan kewangan Suruhanjaya Tenaga pada 31 Disember 2018 dan prestasi kewangan serta aliran tunai bagi tahun berakhir pada tarikh tersebut selaras dengan Piawaian Pelaporan Entiti Persendirian Malaysia (MPERS) dan Akta Suruhanjaya Tenaga 2001 (Akta 610).

Asas Kepada Pendapat

Pengauditan telah dilaksanakan berdasarkan Akta Audit 1957 dan *The International Standards of Supreme Audit Institutions*. Tanggungjawab saya dihuraikan selanjutnya di perenggan Tanggungjawab Juruaudit Terhadap Pengauditan Penyata Kewangan dalam laporan ini. Saya percaya bahawa bukti audit yang diperoleh adalah mencukupi dan bersesuaian untuk dijadikan asas kepada pendapat saya.

Kebebasan dan Tanggungjawab Etika Lain

Saya adalah bebas daripada Suruhanjaya Tenaga dan telah memenuhi tanggungjawab etika lain berdasarkan *The International Standards of Supreme Audit Institutions.*

Maklumat Lain Selain Daripada Penyata Kewangan dan Laporan Juruaudit Mengenainya

Anggota Suruhanjaya Tenaga bertanggungjawab terhadap maklumat lain dalam Laporan Tahunan. Pendapat saya terhadap penyata kewangan Suruhanjaya Tenaga tidak meliputi maklumat lain selain daripada Penyata Kewangan dan Laporan Juruaudit mengenainya dan saya tidak menyatakan sebarang bentuk kesimpulan jaminan mengenainya.

Tanggungjawab Anggota Suruhanjaya Tenaga Terhadap Penyata Kewangan

Anggota Suruhanjaya Tenaga bertanggungjawab terhadap penyediaan penyata kewangan Suruhanjaya Tenaga yang memberi gambaran benar dan saksama selaras dengan Piawaian Pelaporan Entiti Persendirian Malaysia (MPERS) dan Akta Suruhanjaya Tenaga 2001 (Akta 610). Anggota Suruhanjaya Tenaga juga bertanggungjawab terhadap penetapan kawalan dalaman yang perlu bagi membolehkan penyediaan penyata kewangan Suruhanjaya Tenaga adalah bebas daripada salah nyata yang ketara sama ada disebabkan fraud atau kesilapan.

Semasa penyediaan penyata kewangan Suruhanjaya Tenaga, Anggota Suruhanjaya Tenaga bertanggungjawab untuk menilai keupayaan Suruhanjaya Tenaga untuk beroperasi sebagai satu usaha berterusan, mendedahkannya jika berkaitan serta menggunakannya sebagai asas perakaunan.

Tanggungjawab Juruaudit Terhadap Pengauditan Penyata Kewangan

Objektif saya adalah untuk memperoleh keyakinan yang munasabah sama ada penyata kewangan Suruhanjaya Tenaga secara keseluruhannya adalah bebas daripada salah nyata yang ketara, sama ada disebabkan fraud atau kesilapan, dan mengeluarkan Laporan Juruaudit yang merangkumi pendapat saya. Jaminan yang munasabah adalah satu tahap jaminan yang tinggi, tetapi bukan satu jaminan bahawa audit yang dijalankan mengikut *The International Standards of Supreme Audit Institutions* akan sentiasa mengesan salah nyata yang ketara apabila ia wujud. Salah nyata boleh wujud daripada fraud atau kesilapan dan dianggap ketara sama ada secara individu atau agregat sekiranya boleh dijangkakan dengan munasabah untuk mempengaruhi keputusan ekonomi yang dibuat oleh pengguna berdasarkan penyata kewangan ini.

Sebagai sebahagian daripada pengauditan mengikut *The International Standards of Supreme Audit Institutions*, saya menggunakan pertimbangan profesional dan mengekalkan keraguan profesional sepanjang pengauditan. Saya juga:

a. Mengenal pasti dan menilai risiko salah nyata ketara dalam penyata kewangan Suruhanjaya Tenaga, sama ada disebabkan fraud atau kesilapan, merangka dan melaksanakan prosedur audit yang responsif terhadap risiko berkenaan serta mendapatkan bukti audit yang mencukupi dan bersesuaian untuk memberikan asas kepada pendapat saya. Risiko untuk tidak mengesan salah nyata ketara akibat daripada fraud adalah lebih tinggi daripada kesilapan, kerana fraud mungkin melibatkan pakatan, pemalsuan, ketinggalan yang disengajakan, representasi yang salah, atau mengatasi kawalan dalaman.

b. Memahami kawalan dalaman yang relevan untuk merangka prosedur audit yang bersesuaian tetapi bukan untuk menyatakan pendapat mengenai keberkesanan kawalan dalaman Suruhanjaya Tenaga.

c. Menilai kesesuaian dasar perakaunan yang diguna pakai, kemunasabahan anggaran perakaunan dan pendedahan yang berkaitan oleh Anggota Suruhanjaya Tenaga.

d. Membuat kesimpulan terhadap kesesuaian penggunaan asas perakaunan untuk usaha berterusan oleh Anggota Suruhanjaya Tenaga dan berdasarkan bukti audit yang diperoleh, sama ada wujudnya ketidakpastian ketara yang berkaitan dengan peristiwa atau keadaan yang mungkin menimbulkan keraguan yang signifikan terhadap keupayaan Suruhanjaya Tenaga sebagai satu usaha berterusan. Jika saya membuat kesimpulan bahawa ketidakpastian ketara wujud, saya perlu melaporkan dalam Laporan Juruaudit terhadap pendedahan yang berkaitan dalam penyata kewangan Suruhanjaya Tenaga atau, jika pendedahan tersebut tidak mencukupi, pendapat saya akan diubah. Kesimpulan saya dibuat berdasarkan bukti audit yang diperoleh sehingga tarikh Laporan Juruaudit.

e. Menilai sama ada keseluruhan persembahan termasuk pendedahan penyata kewangan Suruhanjaya Tenaga memberi gambaran yang saksama.

Saya telah berkomunikasi dengan Anggota Suruhanjaya Tenaga, antaranya mengenai skop dan tempoh pengauditan yang dirancang serta penemuan audit yang signifikan termasuk kelemahan kawalan dalaman yang dikenal pasti semasa pengauditan.

Laporan Mengenai Keperluan Perundangan dan Peraturan Lain

Berdasarkan keperluan Akta Suruhanjaya Tenaga 2001 (Akta 610), saya juga melaporkan bahawa pada pendapat saya, rekod perakaunan dan rekod lain yang dikehendaki Akta Suruhanjaya Tenaga 2001 (Akta 610) untuk disimpan oleh Suruhanjaya Tenaga telah disimpan dengan sempurna menurut peruntukan Akta Suruhanjaya Tenaga 2001 (Akta 610).

Hal-hal Lain

Laporan ini dibuat untuk Anggota Suruhanjaya Tenaga dan bukan untuk tujuan lain. Saya tidak bertanggungjawab terhadap pihak lain bagi kandungan laporan ini.

SWAIBATUL ASLAMIAH BINTI HAJI HUSAIN
b.p. KETUA AUDIT NEGARA
MALAYSIA

PUTRAJAYA
25 JUN 2019

PENYATA PENGERUSI DAN SEORANG ANGGOTA SURUHANJAYA TENAGA

Kami, Datuk Ir. Ahmad Fauzi bin Hasan dan Datuk Anuar bin Ahmad yang merupakan Pengerusi dan salah seorang Anggota Suruhanjaya Tenaga, dengan ini menyatakan bahawa, pada pendapat Anggota Suruhanjaya Tenaga, Penyata Kewangan yang mengandungi Lembaran Imbangan, Penyata Pendapatan, Penyata Perubahan Ekuiti dan Penyata Aliran Tunai yang berikut ini berserta dengan nota-nota kepada Penyata Kewangan di dalamnya, adalah disediakan untuk menunjukkan pandangan yang benar dan saksama berkenaan kedudukan Suruhanjaya Tenaga pada 31 Disember 2018 dan hasil kendaliannya serta perubahan kedudukan kewangannya bagi tahun berakhir pada tarikh tersebut.

Bagi pihak Anggota,

.....
Datuk Ir. Ahmad Fauzi bin Hasan
Pengerusi

Tarikh: 20 Jun 2019

Tempat: Suruhanjaya Tenaga
Presint 2, Putrajaya

Bagi pihak Anggota,

.....
Datuk Anuar bin Ahmad
Anggota

Tarikh: 20 Jun 2019

Tempat: Suruhanjaya Tenaga
Presint 2, Putrajaya

PENGAKUAN OLEH PEGAWAI UTAMA YANG BERTANGGUNGJAWAB KE ATAS PENGURUSAN KEWANGAN SURUHANJAYA TENAGA

Saya Asma Aini binti Mohd Nadzri, Pengarah Jabatan Perkhidmatan Korporat yang bertanggungjawab ke atas pengurusan kewangan dan rekod-rekod perakaunan Suruhanjaya Tenaga dengan ikhlasnya mengakui bahawa Lembaran Imbangan, Penyata Pendapatan, Penyata Perubahan Ekuiti dan Penyata Aliran Tunai dalam kedudukan kewangan yang berikut ini beserta nota-nota kepada Penyata Kewangan di dalamnya mengikut sebaik-baik pengetahuan dan kepercayaan saya, adalah betul dan saya membuat ikrar ini dengan sebenarnya mempercayai bahawa ia adalah benar dan atas kehendak-kehendak Akta Akuan Berkanun, 1960.

Sebenarnya dan sesungguhnya)
diakui oleh penama di atas)
di BANGI SELANGOR)
pada 20 JUN 2019)

.....

Di hadapan saya,

PESURUHJAYA SUMPAH
B424
RAJA HABIBAH
BINTI RAJA SAIDIN
01.01.19 – 02.07.19
MALAYSIA

.....

No. 23-1, Tingkat 1, Jalan 7/7A,
Seksyen 7, 43650 Bandar Baru Bangi,
Selangor Darul Ehsan.

PESURUHJAYA SUMPAH

LEMBARAN IMBANGAN
Pada 31 Disember 2018

	Nota	2018 RM	2017 RM
Aset Tetap			
Hartanah, Kelengkapan dan Peralatan	4	82,303,164	84,632,495
Aset Semasa			
Tunai dan Kesetaraan Tunai	5	122,373,490	55,132,569
Pelaburan Jangka pendek		289,754,219	312,337,825
Pelbagai Penghutang	6	684,093	375,633
Pendapatan Faedah Belum Terima	7	3,819,822	3,219,635
		416,631,624	371,065,662
Liabiliti Semasa			
Pemiutang Lain dan Tanggungan Terakru	8	10,189,134	9,533,051
Peruntukan Manfaat Pekerja Jangka Pendek	9	1,949,728	1,792,104
Kumpulan Wang Khas	10	6,484,436	16,267,270
Peruntukan Cukai		3,877,390	3,236,231
		22,500,688	30,828,656
Aset Bersih Semasa		394,130,936	340,237,006
		476,434,100	**424,869,501**
Dibiayai oleh:			
Dana Terkumpul		468,269,548	417,557,432
		468,269,548	417,557,432
Liabiliti Bukan Semasa			
Peruntukan Manfaat Pekerja Jangka Panjang	9	8,164,552	7,312,069
		476,434,100	**424,869,501**

Nota-nota yang disertakan dari muka surat 5 hingga 20 adalah sebahagian daripada Penyata Kewangan ini.

PENYATA PENDAPATAN
Bagi Tahun berakhir 31 Disember 2018

	Nota	2018 RM	2017 RM
Pendapatan			
Yuran dan Caj	11	109,706,643	89,906,059
Faedah		13,957,832	11,539,505
Pelbagai		2,556,036	2,032,141
		126,220,511	103,477,705
Perbelanjaan			
Kos Kakitangan	12	(47,714,250)	(45,592,898)
Kos Pentadbiran	13	(20,027,817)	(18,957,183)
Susutnilai Hartanah, Kelengkapan dan Peralatan		(3,709,430)	(4,180,075)
Pelbagai Kos Operasi		(336,864)	(425,661)
		(71,788,361)	(69,155,817)
Lebihan Pendapatan Sebelum Cukai		54,432,150	34,321,888
Cukai	14	(3,845,215)	(3,236,231)
Lebihan Pendapatan Bersih Semasa		**50,586,935**	**31,085,657**

Nota-nota yang disertakan dari muka surat 5 hingga 20 adalah sebahagian daripada Penyata Kewangan ini.

PENYATA PERUBAHAN EKUITI
Bagi Tahun Berakhir 31 Disember 2018

Dana Terkumpul		2018	2017
	Nota	**RM**	**RM**
Pada pada 1 Januari		417,557,432	386,455,052
Pelarasan tahun sebelum		125,181	16,723
Pendapatan		126,220,511	103,477,705
		543,903,124	489,949,480
Perbelanjaan		(71,788,361)	(69,155,817)
Cukai Tahun Semasa		(3,845,215)	(3,236,231)
Baki pada 31 Disember		468,269,548	417,557,432

Nota-nota yang disertakan dari muka surat 5 hingga 20 adalah sebahagian daripada Penyata Kewangan ini.

PENYATA ALIRAN TUNAI
Bagi Tahun Berakhir 31 Disember 2018

	Nota	2018 RM	2017 RM
ALIRAN TUNAI DARIPADA AKTIVITI OPERASI			
Lebihan pendapatan sebelum cukai		54,432,150	34,321,888
Pelarasan untuk perkara yang tidak melibatkan dana:			
Pelarasan penyata dana terkumpul		125,181	16,723
Pendapatan faedah diterima		(13,957,832)	(11,539,505)
Susutnilai hartanah, kelengkapan dan peralatan		3,709,430	4,180,075
Pelupusan hartanah, kelengkapan dan peralatan		1	2
Peruntukan manfaat pekerja		2,844,766	2,968,895
Keuntungan operasi sebelum perubahan dalam modal kerja		47,153,696	29,948,078
Perubahan dalam modal kerja:			
Peningkatan di dalam pelbagai penghutang dan faedah belum terima		(908,647)	(703,702)
Peningkatan di dalam pemiutang lain dan tanggungan terakru		656,083	(54,337)
Tunai dijana daripada aktiviti operasi		46,901,132	29,190,039
Bayaran cukai		(3,204,056)	(2,895,415)
Bayaran manfaat pekerja		(1,834,659)	(2,079,604)
Aliran tunai bersih dijana daripada aktiviti operasi		41,862,417	24,215,020
ALIRAN TUNAI DARIPADA AKTIVITI PELABURAN			
Pelaburan jangka pendek		22,583,606	(43,279,155)
Pembelian hartanah, kelengkapan dan peralatan		(1,380,100)	(915,611)
Pendapatan faedah diterima		13,957,832	11,539,505
Aliran tunai bersih daripada/(digunakan untuk) aktiviti pelaburan		35,161,338	(32,655,261)
ALIRAN TUNAI DARIPADA AKTIVITI KUMPULAN WANG KHAS			
Pemberian Kerajaan/ Agensi kepada Kumpulan Wang Khas		-	3,000,000
Faedah bank Kumpulan Wang Khas		95,273	112,013
Pindahan semula Dana		(6,876,802)	-
Perbelanjaan Kumpulan Wang Khas		(3,001,305)	(3,934,914)
Aliran tunai bersih digunakan untuk aktiviti Kumpulan Wang Khas		**(9,782,834)**	**(822,901)**
Penambahan/(Penurunan) bersih dalam tunai dan kesetaraan tunai		**67,240,921**	**(9,263,142)**
Tunai dan kesetaraan tunai pada awal tahun		**55,132,569**	**64,395,711**
Tunai dan kesetaraan tunai pada akhir tahun	5	**122,373,490**	**55,132,569**

Nota-nota yang disertakan dari muka surat 5 hingga 20 adalah sebahagian daripada Penyata Kewangan ini.

NOTA-NOTA KEPADA PENYATA KEWANGAN

1. Kegiatan Utama

Suruhanjaya Tenaga adalah sebuah badan berkanun yang beroperasi di No.12, Jalan Tun Hussein, Presint 2, 62100 Putrajaya.

Suruhanjaya Tenaga merupakan agensi pengawal selia tunggal bagi pengawalseliaan dan pembangunan sektor tenaga. Suruhanjaya Tenaga mempunyai tanggungjawab langsung bagi menyelia dan mengawasi kegiatan penjanaan tenaga termasuk mengawal selia setiap individu yang berlesen bawah Akta Suruhanjaya Tenaga, 2001.

Penyata Kewangan ini telah diluluskan dan diperakukan oleh Suruhanjaya Tenaga untuk ditandatangan pada 20 Jun 2019.

2. Asas Perakaunan

Penyata kewangan Suruhanjaya Tenaga yang disediakan adalah mematuhi *Malaysian Private Entity Reporting Standards (MPERS)* yang diluluskan oleh Lembaga Piawaian Perakaunan Malaysia (MASB). Penyata kewangan telah disediakan berasaskan konvensyen kos sejarah dan amalan perakaunan yang diterima umum di Malaysia.

Penyediaan Penyata Kewangan mengikut MPERS memerlukan pengurusan untuk membuat pertimbangan, anggaran dan andaian yang mempengaruhi pemakaian polisi perakaunan dan laporan amaun aset, liabiliti, pendapatan dan perbelanjaan. Walaupun pertimbangan, anggaran dan andaian adalah berdasarkan kepada pengetahuan dan tindakan semasa pihak pengurusan yang terbaik, keputusan sebenar mungkin berbeza. Anggaran dan andaian disemak atas dasar berterusan. Semakan anggaran perakaunan diiktiraf dalam tempoh di mana anggaran disemak dan dalam mana-mana tempoh hadapan yang berkenaan.

3. Polisi Perakaunan

(a) Hartanah, Kelengkapan dan Peralatan

Hartanah, Kelengkapan dan Peralatan dinyatakan pada kos ditolak susutnilai terkumpul dan rosot nilai, jika ada. Kerja dalam kemajuan tidak disusutnilaikan.

Susutnilai bagi hartanah, kelengkapan dan peralatan dikira berdasarkan kaedah asas garis lurus ke atas anggaran jangka masa guna aset berkenaan.

Kadar tahunan susutnilai adalah seperti berikut:

Bangunan	2%
Kenderaan bermotor	20%
Perabot, kelengkapan, ubah suai dan peralatan penguatkuasaan	20%
Peralatan pejabat (elektronik)	15%
Sistem aplikasi dan komputer	33 1/3%
Lekapan dan kelengkapan	20%

Tanah pada nilai kos adalah jenis pegangan untuk selama-lamanya dan tidak disusutnilaikan.

Nilai sisa, jangka hayat dan kaedah susutnilai dikaji semula pada setiap akhir tahun kewangan bagi memastikan amaunnya, kaedah dan tahun susutnilai adalah selaras dengan anggaran sebelumnya serta corak penggunaan manfaat ekonomi hartanah dan peralatan tersebut.

(b) Tunai dan Kesetaraan Tunai

Tunai dan Kesetaraan Tunai merangkumi tunai di tangan dan baki bank, deposit di bank dan institusi kewangan lain serta pelaburan berjangka pendek yang mempunyai kecairan tinggi dengan tempoh matang 3 bulan dan kurang dari tarikh pembelian dan sedia ditukar dalam bentuk tunai dengan risiko perubahan nilai yang rendah.

Penyata Aliran Tunai disediakan menggunakan kaedah secara tidak langsung.

(c) Pelaburan Jangka Pendek

Pelaburan Jangka Pendek merupakan deposit di bank dan institusi kewangan lain serta pelaburan berjangka pendek yang mempunyai kecairan tinggi dengan tempoh matang lebih 3 bulan dan sehingga setahun dari tarikh pembelian dan sedia ditukar dalam bentuk tunai dengan risiko perubahan nilai yang rendah.

(d) Pelbagai Penghutang

Pelbagai Penghutang dinyatakan pada kos dan ditolak dengan peruntukan hutang ragu, jika ada.

(e) Pemiutang Lain

Pemiutang lain dinyatakan pada nilai saksama bayaran yang perlu dibayar untuk barangan dan perkhidmatan yang telah diterima.

(f) Kumpulan Wang Khas

Kumpulan Wang Khas merupakan peruntukan khas yang diterima daripada Akaun Amanah Industri Bekalan Elektrik (AAIBE) di bawah Kementerian Tenaga, Teknologi Hijau dan Air (KeTTHA) yang mana kini dikendalikan oleh Kementerian Tenaga, Sains, Teknologi, Alam Sekitar dan Perubahan Iklim (MESTECC) dan Agensi Kerajaan bagi tujuan-tujuan yang khusus.

(g) Rosot Nilai

Nilai bawaan bagi aset-aset Suruhanjaya Tenaga dan aset kewangan disemak semula pada setiap tarikh Lembaran Imbangan untuk menentukan sama ada terdapat sebarang petunjuk adanya rosot nilai. Jika petunjuk tersebut wujud, nilai perolehan semula akan dianggarkan. Kerugian rosot nilai akan diiktiraf dalam penyata pendapatan melainkan jika nilai bawaan aset tersebut telah dinilaikan semula, di mana ianya dikenakan ke rizab. Kerugian rosot nilai diiktiraf apabila nilai gunaan bagi aset atau aset yang dipunyai oleh unit penghasilan tunai melebihi nilai penampungnya.

Amaun yang boleh diperolehi adalah nilai yang lebih besar antara harga jualan bersih harta tersebut dan nilai gunaannya. Dalam menentukan nilai gunaan, anggaran nilai tunai masa depan akan didiskaunkan kepada nilai terkini menggunakan kadar diskaun sebelum cukai yang menunjukkan penilaian pasaran semasa terhadap nilai masa tunai dan risiko-risiko khusus atas harta tersebut. Bagi aset yang tidak menghasilkan sebahagian besar aliran tunainya secara tersendiri, amaun yang boleh diperolehi ditentukan untuk aset yang dipunyai oleh unit penghasilan tunai untuk aset berkenaan.

Bagi aset-aset yang lain, kerugian rosot nilai akan diambil kira semula apabila terdapat perubahan dalam anggaran yang digunakan untuk menentukan amaun yang boleh diperolehi.

Kerugian rosot nilai hanya akan dikira semula ke tahap nilai bawaan aset tersebut tidak melebihi nilai bawaan asal, setelah ditolak susutnilai, seolah-olah kerugian rosot nilai tidak pernah dikenakan. Kira semula tersebut akan dikenakan ke Penyata Pendapatan, melainkan jika kira semula tersebut dikenakan kepada aset yang dinilaikan semula, ianya akan dikenakan ke ekuiti.

(h) Percukaian

Cukai pendapatan ke atas untung atau rugi bagi tahun berkenaan ialah cukai semasa. Cukai semasa ialah amaun cukai pendapatan dijangka yang perlu dibayar atas untung boleh cukai bagi tahun berkenaan dan diukur dengan menggunakan kadar cukai yang digunakan pada tarikh Lembaran Imbangan.

Perbelanjaan cukai semasa adalah bayaran cukai yang dijangkakan ke atas pendapatan yang boleh dikenakan cukai bagi tahun semasa, dengan menggunakan kadar cukai yang diwartakan atau sebahagian besarnya diwartakan pada tarikh Lembaran Imbangan, dan sebarang perubahan pada bayaran cukai untuk tahun terdahulu.

Cukai tertunda diperuntukkan dengan menggunakan kaedah tanggungan untuk semua perbezaan masa terhasil di antara kadar cukai aset dan tanggungan dan nilai di bawa dalam penyata kewangan. Perbezaan bersifat sementara tidak diiktiraf bagi muhibah, yang tidak dibenarkan bagi tujuan percukaian, dan pada permulaan pengiktirafan aset atau tanggungan dimana pada masa transaksi ianya tidak mempengaruhi keuntungan berkanun dan keuntungan yang boleh dikenakan cukai. Jumlah cukai tertunda yang diperuntukkan adalah berdasarkan kepada jangkaan cara realisasi atau penyelesaian bagi nilai di bawa aset dan tanggungan, menggunakan kadar cukai diwartakan atau sebahagian besarnya diwartakan pada tarikh Lembaran Imbangan.

Aset cukai tertunda diiktiraf hanya pada mana ianya berkemungkinan keuntungan yang boleh dikenakan cukai di masa hadapan boleh diperolehi dari aset yang digunakan.

(i) Manfaat Pekerja

i) Manfaat Pekerja Jangka Pendek

Upah, gaji dan bonus diiktiraf sebagai perbelanjaan dalam tahun di mana perkhidmatan dilaksanakan oleh pekerja-pekerja Suruhanjaya Tenaga. Cuti berganjaran terkumpul jangka pendek seperti cuti tahunan berbayar diiktiraf apabila perkhidmatan dilaksanakan oleh pekerja yang akan meningkatkan kelayakan pekerja ke atas cuti berbayar hadapan, dan cuti berganjaran jangka pendek tidak terkumpul seperti cuti sakit hanya diiktiraf apabila cuti berlaku. Kemudahan perubatan seperti kemudahan rawatan pesakit luar, kemudahan skim hospital dan pembedahan berkumpulan dan kemudahan bersalin adalah diberikan kepada semua kakitangan tetap dan kontrak berdasarkan peruntukan yang telah ditetapkan di dalam Terma dan Syarat Perkhidmatan Suruhanjaya Tenaga yang sedang berkuat kuasa. Manakala, manfaat pekerja seperti pemberian faedah persaraan berbentuk gratuiti dan subsidi bagi pinjaman perumahan, kenderaan dan peribadi yang akan dibayar dalam tahun kewangan akan datang akan diiktiraf secara akruan di dalam

Penyata Pendapatan tahun semasa sebagai perbelanjaan dan di dalam Lembaran Imbangan sebagai Liabiliti Semasa.

ii) Pelan Sumbangan Tetap

Mengikut undang-undang, majikan di Malaysia yang berkelayakan diwajibkan memberi sumbangan tetap ke atas Kumpulan Wang Simpanan Pekerja dan PERKESO. Sumbangan tersebut diiktiraf sebagai perbelanjaan di dalam Penyata Pendapatan. Tanggungan untuk pelan sumbangan tetap, diiktiraf sebagai perbelanjaan semasa di dalam Penyata Pendapatan.

iii) Manfaat Pekerja Jangka Panjang

Manfaat Pekerja Jangka Panjang ialah pemberian faedah persaraan berbentuk gratuiti kepada kakitangan kakitangan tetap yang telah berkhidmat minimum 10 tahun dengan kadar pengiraan gratuiti seperti yang diluluskan oleh YB Menteri. Ianya merupakan bayaran manfaat pekerja yang dibayar selepas bersara yang diiktiraf secara akruan dalam Penyata Pendapatan tahun semasa sebagai perbelanjaan dan di dalam Lembaran Imbangan sebagai Liabiliti Bukan Semasa. Pengiktirafan dengan menggunakan *actuarial valuation method*.

(j) Pengiktirafan Pendapatan dan Perbelanjaan

Pendapatan dari yuran dan caj diambil kira mengikut asas tunai memandangkan tanggungjawab pembayaran tahunan adalah pada pemegang-pemegang lesen. Selain itu, pendapatan faedah bagi simpanan semasa di bank dikira berasaskan tunai manakala pendapatan faedah daripada simpanan tetap dan pelaburan jangka pendek serta semua perbelanjaan diambil kira mengikut asas akruan. Pendapatan pelbagai terdiri daripada jualan dokumen tender, jualan buku-buku berkaitan industri, jualan aset tetap dan caj/penalti yang dikenakan atas kegagalan melaksanakan projek. Pelbagai kos operasi merangkumi perbelanjaan sumbangan atau penajaan yang dibuat oleh Suruhanjaya Tenaga untuk penyelidikan dan pembangunan.

(k) Pendedahan Pihak Berkaitan

Pihak-pihak yang dianggap berkaitan jika satu pihak mempunyai keupayaan untuk mengawal pihak lain atau melaksanakan pengaruh ke atas pihak lain, setakat mana ia menghalang pihak lain dari mengejar kepentingan sendiri yang berasingan dalam membuat keputusan kewangan dan operasi.

(l) Peruntukan

Peruntukan diiktiraf apabila Suruhanjaya Tenaga mempunyai obligasi semasa yang konstruktif dan dari segi undang-undang, kesan daripada peristiwa lalu dan berkemungkinan bahawa aliran keluar sumber yang melibatkan manfaat ekonomi akan diperlukan untuk menyelesaikan obligasi tersebut dan amaun obligasi itu boleh dianggarkan dengan pasti.

Peruntukan disemak pada setiap tarikh pelaporan dan diselaraskan untuk membayangkan anggaran semasa terbaik. Jika tiada lagi kemungkinan bahawa aliran keluar sumber ekonomi akan diperlukan untuk menyelesaikan obligasi itu, peruntukan tersebut akan dibalikkan. Sekiranya kesan nilai masa wang adalah ketara, peruntukan akan didiskaunkan menggunakan kadar sebelum cukai semasa yang menggambarkan, bila mana bersesuaian, risiko khusus kepada liabiliti tersebut. Apabila pendiskaunan digunakan, peningkatan dalam peruntukan yang disebabkan oleh peredaran masa diiktiraf sebagai kos kewangan.

4. Hartanah, Kelengkapan dan Peralatan

2018	Tanah	Bangunan	Kenderaan Bermotor	Perabot, Kelengkapan Ubahsuai dan Peralatan Penguatkuasaan	Peralatan Pejabat (Elektronik)	Sistem Aplikasi dan Komputer	Lekapan dan Kelengkapan	Jumlah
	RM		RM	RM	RM	RM	RM	RM
Kos								
Pada 1 Januari 2018	8,299,405	79,205,160	3,803,688	5,982,334	5,014,851	4,274,160	1,530,134	108,109,732
Penambahan	-	-	163,577	210,387	140,910	865,226	-	1,380,100
Pelupusan/Pindahan	-	-	-	-	-	(3,898)	-	(3,898)
Pada 31 Disember 2018	8,299,405	79,205,160	3,967,265	6,192,721	5,155,761	5,135,488	1,530,134	109,485,934
Susutnilai terkumpul								
Pada 1 Januari 2018	-	7,128,464	3,285,182	4,661,960	3,430,030	3,594,478	1,377,123	23,477,237
Susutnilai tahun semasa	-	1,584,103	342,780	674,836	597,978	356,782	152,951	3,709,430
Pelupusan/Pindahan	-	-	-	-	-	(3,897)	-	(3,897)
Pada 31 Disember 2018	-	8,712,567	3,627,962	5,336,796	4,028,008	3,947,363	1,530,074	27,182,770
Nilai buku bersih								
Pada 31 Disember 2018	8,299,405	70,492,593	339,303	855,925	1,127,753	1,188,125	60	82,303,164

4. Hartanah, Kelengkapan dan Peralatan

2017	Tanah	Bangunan	Kenderaan Bermotor	Perabot, Kelengkapan Ubahsuai dan Peralatan Penguatkuasaan	Peralatan Pejabat (Elektronik)	Sistem Aplikasi dan Komputer	Lekapan dan Kelengkapan	Jumlah
	RM		RM	RM	RM	RM	RM	RM
Kos								
Pada 1 Januari 2017	8,299,405	79,205,160	3,954,623	5,621,031	4,947,242	3,797,007	1,530,134	107,354,602
Penambahan	-	-	-	361,303	67,609	486,699	-	915,611
Pelupusan/Pindahan	-	-	(150,935)	-	-	(9,546)	-	(160,481)
Pada 31 Disember 2017	8,299,405	79,205,160	3,803,688	5,982,334	5,014,851	4,274,160	1,530,134	108,109,732
Susutnilai terkumpul								
Pada 1 Januari 2017	-	5,544,361	3,086,115	3,579,543	2,835,868	3,340,659	1,071,095	19,457,641
Susutnilai tahun semasa	-	1,584,103	350,001	1,082,417	594,162	263,364	306,028	4,180,075
Pelupusan/Pindahan	-	-	(150,934)	-	-	(9,545)	-	(160,479)
Pada 31 Disember 2017	-	7,128,464	3,285,182	4,661,960	3,430,030	3,594,478	1,377,123	23,477,237
Nilai buku bersih								
Pada 31 Disember 2017	8,299,405	72,076,696	518,506	1,320,374	1,584,821	679,682	153,011	84,632,495

5. Tunai dan Kesetaraan Tunai

	2018	2017
	RM	**RM**
Wang Tunai dan Baki di Bank	48,595,635	25,180,402
Deposit di Bank Berlesen	73,777,855	29,952,167
Jumlah	**122,373,490**	**55,132,569**

Wang Tunai dan Baki di Bank adalah termasuk dana Kumpulan Wang Khas sebanyak RM6,484,436 (2017: RM16,267,270). Peningkatan wang tunai di bank pada tahun 2018 disebabkan oleh penerimaan kutipan hasil di penghujung Disember 2018 dan jumlah Deposit di Bank Berlesen pada tahun 2018 meningkat berikutan dengan pelaksanaan pindaan polisi dana yang telah diluluskan oleh Suruhanjaya Tenaga.

6. Pelbagai Penghutang

	2018	2017
	RM	**RM**
Pendahuluan Kakitangan	10,323	700
Deposit Keahlian Kelab	92,000	92,000
Lain- lain deposit dan Penghutang	581,770	282,933
Jumlah	**684,093**	**375,633**

7. Pendapatan Faedah Belum Terima

	2018	2017
	RM	**RM**
Hasil Faedah Terakru	3,819,822	3,219,635
	3,819,822	**3,219,635**

Pendapatan Faedah Belum Terima adalah faedah belum matang bagi simpanan tetap yang diambil kira sehingga 31 Disember setiap tahun.

8. Pemiutang Lain dan Tanggungan Terakru

	2018	2017
	RM	RM
Pemiutang Perniagaan	-	1,380
Pemiutang Lain	8,857,851	8,173,983
Peruntukan Cuti Kakitangan (GCR)	1,290,975	1,288,605
Kompaun Kumpulan Wang Disatukan di bawah KeTTHA	-	5,000
Yuran Audit	40,308	64,083
JUMLAH	**10,189,134**	**9,533,051**

9. Peruntukan Manfaat Pekerja

	2018	2017
	RM	RM
Pada 1 Januari	9,104,173	8,214,882
Peruntukan Bagi Tahun Semasa	2,844,766	2,968,895
Bayaran Pada Tahun Semasa	(1,834,659)	(2,079,604)
Pada 31 Disember	**10,114,280**	**9,104,173**

Struktur kematangan Peruntukan Manfaat Pekerja adalah seperti berikut :-

	2018	2017
	RM	RM
Matang dalam tempoh 12 bulan	1,949,728	1,792,104
Matang dalam tempoh melebihi 12 bulan	8,164,552	7,312,069
JUMLAH	**10,114,280**	**9,104,173**

10. Kumpulan Wang Khas

2018	Akaun Wang Khas PPKTL	Akaun Wang Khas MyPower	Akaun Wang Khas PR&PLL	Akaun Wang Khas SAIDI 100	Jumlah
	RM	RM	RM	RM	RM
Baki pada 1 Januari 2018	**1,190,147**	**8,588,717**	**5,941,269**	**547,137**	**16,267,270**
Pendapatan:					
Pemberian Kerajaan/ Agensi	-	-	-	-	**-**
Faedah Bank	9,311	25,566	56,650	3,809	**95,336**
	9,311	25,566	56,650	3,809	**95,336**
(-) Perbelanjaan					
Caj bank	(13)	(28)	(11)	(11)	**(63)**
Perbelanjaan/Pelunasan dalam tahun	(477,554)	(1,735,636)	(402,680)	(385,435)	**(3,001,305)**
Pindahan semula peruntukan/dana	-	(6,876,802)	-	-	**(6,876,802)**
	(477,567)	(8,612,466)	(402,691)	(385,446)	**(9,878,170)**
Kurangan Pendapatan	(468,256)	(8,586,900)	(346,041)	(381,637)	**(9,782,834)**
Baki pada 31 Disember 2018	**721,891**	**1,817**	**5,595,228**	**165,500**	**6,484,436**

2017	Akaun Wang Khas PPKTL	Akaun Wang Khas MyPower	Akaun Wang Khas PR&PLL	Akaun Wang Khas SAIDI 100	Jumlah
	RM	RM	RM	RM	RM
Baki pada 1 Januari 2017	**1,460,063**	**8,569,878**	**7,060,230**	**-**	**17,090,171**
Pendapatan:					
Pemberian Kerajaan/ Agensi	-	-	-	3,000,000	**3,000,000**
Faedah Bank	13,975	25,750	62,651	9,672	**112,048**
	13,975	25,750	62,651	3,009,672	**3,112,048**
(-) Perbelanjaan					
Caj bank	(11)	(11)	(13)	-	**(35)**
Perbelanjaan/Pelunasan dalam tahun	(283,880)	(6,900)	(1,181,599)	(2,462,535)	**(3,934,914)**
Pindahan semula peruntukan/dana	-	-	-	-	**-**
	(283,891)	(6,911)	(1,181,612)	(2,462,535)	**(3,934,949)**
Lebihan/(Kurangan) Pendapatan	(269,916)	18,839	(1,118,961)	547,137	**(822,901)**
Baki pada 31 Disember 2017	**1,190,147**	**8,588,717**	**5,941,269**	**547,137**	**16,267,270**

Kumpulan Wang Khas merupakan peruntukan khas yang diterima daripada Akaun Amanah Industri Bekalan Elektrik (AAIBE) di bawah Kementerian Tenaga, Teknologi Hijau dan Air (KeTTHA) yang mana kini dikendalikan oleh Kementerian Tenaga, Sains, Teknologi, Alam Sekitar dan Perubahan Iklim (MESTECC) serta Agensi Kerajaan bagi tujuan-tujuan yang khusus. Butiran setiap akaun di bawah Kumpulan Wang Khas adalah seperti berikut:-

i) **Akaun Wang Khas PPKTL -** bertujuan membiayai Projek Pelan Komunikasi Tenaga Lestari bagi mempromosi tenaga lestari yang merangkumi bidang kecekapan tenaga dan tenaga boleh baharu, serta memupuk kesedaran dan meningkatkan pengetahuan orang ramai terhadap kerangka perundangan dan kawal selia tenaga lestari.

ii) **Akaun Wang Khas MyPower -** bertujuan membiayai pelaksanaan inisiatif bagi projek di bawah RMKe-10 iaitu Stabilization Mechanism, Ring Fencing Single Buyer, Fuel Supply and Security dan Industry Structure.
Pemulangan dana sebanyak RM6,876,802 telah dibuat oleh Suruhanjaya Tenaga kepada Malaysian Programme Office For Power Electricity Reform (MyPower) pada 20 Disember 2018 seperti yang diarahkan oleh Kementerian Tenaga, Sains, Teknologi, Alam Sekitar dan Perubahan Iklim (MESTECC) melalui surat bertarikh 11 Oktober 2018. Di samping itu, sebanyak RM1,735,636 telah dibelanjakan bagi perkhidmatan pakar runding dan lawatan kerja teknikal untuk melaksanakan projek Governance Reform of Single Buyer and Grid System Operator Baki Akaun Kumpulan Wang Khas yang berjumlah RM1,817 merupakan hibah yang diperolehi sehingga 31 Disember 2018.

iii) **Akaun Wang Khas PR & PLL -** bagi membiayai Projek Retrofit dan Pemasangan Lampu LED di bangunan kementerian terpilih yang mula dilaksanakan pada awal tahun 2015.

iv) **Akaun Wang Khas SAIDI100 -** bertujuan untuk mengkaji dan mengenal pasti isu-isu berkaitan bekalan elektrik di negeri Sabah bagi mencapai sasaran kerajaan untuk menurunkan tahap Sistem Purata Tempoh Gangguan (SAIDI) bekalan elektrik kepada pengguna menjelang tahun 2020.

11. Yuran dan Caj

	2018	2017
	RM	RM
Pelesenan Awam dan Persendirian	78,723,800	60,420,326
Pendaftaran/ Pembaharuan Fi Operasi	29,804,290	28,292,795
Lain-lain Fi Operasi	1,178,553	1,192,938
	109,706,643	**89,906,059**

12. Kos Kakitangan

	2018	2017
	RM	**RM**
Gaji, Elaun dan Faedah Kewangan Yang Lain	39,624,706	37,607,799
Sumbangan Berkanun	5,441,923	5,077,619
Kos Perjalanan dan Sara Hidup	2,248,266	2,462,730
Elaun Anggota Suruhanjaya Tenaga	399,355	444,750
	47,714,250	**45,592,898**

Termasuk di dalam Sumbangan Berkanun adalah sumbangan kepada Kumpulan Wang Simpanan Pekerja (KWSP) berjumlah RM5,183,653 (2017: RM4,825,613) dan sumbangan kepada PERKESO RM258,270 (2017: RM252,006). Bilangan kakitangan Suruhanjaya Tenaga pada 31 Disember 2018 adalah seramai 328 orang termasuk 4 orang kakitangan Unit Kumpulan Wang Industri Elektrik (KWIE). Manakala, bilangan kakitangan untuk tahun 2017 adalah seramai 318 orang. Pertambahan kakitangan pada tahun 2018 adalah berikutan dengan pelaksanaan carta organisasi baharu Suruhanjaya Tenaga yang berkuat kuasa pada 1 Ogos 2018.

13. Kos Pentadbiran

	2018	2017
	RM	**RM**
Perkhidmatan Ikhtisas:		
Fi Audit	40,308	64,083
Fi Profesional dan Konsultan	5,854,457	4,775,249
Pembangunan Kompetensi dan Pengurusan Prestasi	798,790	730,565
Perbelanjaan-perbelanjaan lain Perkhidmatan Ikhtisas	803,489	933,383
Penyenggaraan:		
Penyenggaraan Sistem Aplikasi	4,447,404	3,857,949
Penyenggaraan Alatan, Kenderaan dan Bangunan Pejabat	1,831,356	1,904,948
Sewaan Bangunan Pejabat, Kenderaan dan Peralatan	2,817,479	2,654,431
Hospitaliti, Perhubungan dan Utiliti	2,686,240	2,928,157
Percetakan dan Bekalan Pejabat	748,294	1,108,418
	20,027,817	**18,957,183**

14. Cukai

	2018	2017
	RM	RM
Perbelanjaan Cukai		
Tahun semasa	3,877,390	3,236,231
Lebihan/ Kurangan peruntukan pada tahun terdahulu	(32,175)	-
Jumlah	**3,845,215**	**3,236,231**
Penyesuaian kadar cukai efektif		
Lebihan pendapatan sebelum cukai	54,432,150	34,321,888
Cukai pada kadar 28%	15,241,002	9,610,129
Pendapatan yang dikecualikan cukai	(11,395,787)	(6,373,898)
	3,845,215	3,236,231
Lebihan/ Kurangan peruntukan pada tahun terdahulu	-	-
Perbelanjaan Cukai	**3,845,215**	**3,236,231**

Suruhanjaya Tenaga telah mendapat pengecualian cukai pendapatan di bawah Seksyen 127(3) b Akta Cukai Pendapatan 1967 yang diberikan oleh Kementerian Kewangan pada 19 Oktober 2004. Pengecualian cukai tersebut diberikan hanya ke atas pendapatan berkanun yang berikut:

i. Pendapatan yang diterima daripada Kerajaan Persekutuan atau Kerajaan Negeri dalam bentuk suatu pemberian atau subsidi;
ii. Pendapatan yang diterima berkenaan dengan suatu amaun yang boleh dikenakan ke atas atau dipungut daripada mana-mana orang mengikut peruntukan Akta yang mengawal selia pihak berkuasa berkanun; dan
iii. Derma atau sumbangan yang diterima.

15. Komitmen

	2018	2017
	RM	**RM**
Hartanah, Kelengkapan dan Peralatan	629,823	114,696
Perkhidmatan Ikhtisas	1,594,133	2,713,162
Penyenggaraan dan Bekalan Pejabat	1,063,924	308,559
Sumbangan	500,000	-
Emolumen	4,295,720	-
	8,083,600	**3,136,417**

Komitmen bagi tahun berakhir 31 Disember 2018 di bawah Hartanah, Kelengkapan dan Peralatan berjumlah RM629,823 adalah termasuk kos ubahsuai Pejabat Suruhanjaya Tenaga Negeri Pahang, dan perolehan aset-aset lain termasuk kenderaan, komputer dan perkakasan serta kelengkapan perabot dan elektronik. Perkhidmatan Ikhtisas meliputi kos perkhidmatan pakar runding dan konsultansi dalam meningkatkan keberkesanan Suruhanjaya Tenaga untuk mengawal selia industri adalah berjumlah RM1,594,133. Kos Penyenggaraan berkaitan khidmat sokongan, menyelenggara dan menaik taraf sistem dan bangunan berjumlah RM1,017,076 manakala Bekalan Pejabat berjumlah RM46,848.

Sumbangan sebanyak RM500,000 adalah merupakan sumbangan untuk melaksanakan program KURSI Ekonomi Tenaga Suruhanjaya Tenaga. Kos Emolumen sebanyak RM4,295,720 adalah setelah mengambil kira cadangan pindaan Terma dan Syarat Perkhidmatan Suruhanjaya Tenaga 2018 di bawah kategori gaji dan kemudahan kakitangan.

Komitmen bagi tahun berakhir 31 Disember 2017 merangkumi kos aset berjumlah RM114,696 adalah termasuk perolehan komputer dan perkakasan, kelengkapan elektronik dan ubah suai Pejabat Suruhanjaya Tenaga Negeri Pahang manakala perkhidmatan ikhtisas bagi perkhidmatan konsultansi dan pakar runding berjumlah RM2,713,162 dan penyenggaraan sistem berjumlah RM308,559.

16. Liabiliti Luar Jangka

Suatu tindakan sivil telah difailkan di Mahkamah Tinggi Shah Alam terhadap Suruhanjaya Tenaga (ST) oleh syarikat NMH Engineering Services Sdn Bhd pada pada 26.12.2018 dan menuntut antara lainnya supaya ST menarik balik surat pembatalan Perakuan-Perakuan Pendaftaran yang dikeluarkan kepada 50 pemilik-pemilik pepasangan elektrik dan menuntut ganti rugi sebanyak RM9,857,475.43 termasuk faedah dan kos kepada ST. Tuntutan ini dibuat ekoran daripada keputusan ST untuk membatalkan Perakuan-Perakuan Pendaftaran syarikat tersebut.

FINANCIAL STATEMENTS

REPORT OF THE AUDITOR GENERAL ON THE FINANCIAL STATEMENTS OF ENERGY COMMISSION FOR THE YEAR ENDED 31 DECEMBER 2018

Report on the Audit of the Financial Statements

Opinion

The financial statements of Energy Commission have been audited by my representative which comprise the Balance Sheet as at 31 December 2018 and Statement of Income, Statement of Changes in Equity and Statement of Cash Flows for the year then ended, notes on the financial statements, including a summary of significant accounting policies as set out on pages 1 to 18.

In my opinion, the accompanying financial statements give a true and fair view of the financial position of the Energy Commission as at 31 December 2018 and of their financial performance and cash flows for the year then ended in accordance with Malaysian Private Entities Reporting Standard (MPERS) and the Energy Commission Act 2001 (Act 610).

Basis for Opinion

The audit was conducted in accordance with the Audit Act 1957 and The International Standards of Supreme Audit Institutions. My responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of my report. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Independence and Other Ethical Responsibilities

I am independent of the Energy Commission and I have fulfilled the other ethical responsibilities in accordance with the The International Standards of Supreme Audit Institutions.

Information Other than the Financial Statements and Auditor's Report Thereon

The Members of Energy Commission are responsible for the other information in the Annual Report. My opinion on the financial statements of Energy Commission does not cover the information other than the financial statements and auditor's report thereon and I do not express any form of assurance conclusion thereon.

Responsibilities of the Members of Energy Commission for the Financial Statements

The Members of Energy Commission are responsible for the preparation of financial statements of Energy Commission that give a true and fair view in accordance with Malaysian Private Entities Reporting Standard (MPERS) and the Energy Commission Act 2001 (Act 610). The Members of Energy Commission are also responsible for such internal control as it is necessary to enable the preparation of the financial statements of Energy Commission that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements of Energy Commission, the Members of Energy Commission are responsible for assessing Energy Commission's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting.

Auditor's Responsibilities for the Audit of the Financial Statements

My objectives are to obtain reasonable assurance about whether the financial statements of Energy Commission as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with The International Standards of Supreme Audit Institutions will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with The International Standards of Supreme Audit Institutions, I exercise professional judgement and maintain professional skepticism throughout the audit. I also:

a. Identify and assess the risks of material misstatement of the financial statements of the Energy Commission, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

b. Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of Energy Commission's internal control.

c. Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Members of Energy Commission.

d. Conclude on the appropriateness of the Members of Energy Commission's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Energy Commission's ability to continue as a going concern. If I conclude that a material uncertainty exists, I have to draw attention in my auditor's report to the related disclosures in the financial statements of the Energy Commission or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of auditor's report.

e. Evaluate the overall presentation of the financial statements of the Energy Commission, including the disclosures that achieves fair presentation.

I communicate with the Members of Energy Commission regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control identified during my audit.

Report on Other Legal and Regulatory Requirements

In accordance with the requirements of Energy Commission Act 2001 (Act 610), I also in my opinion, the accounting and other records required to be kept by the Energy Commission that have been properly kept in accordance with the provision of the Act.

Other Matters

This report is made solely for the Members of Energy Commission and for no other purpose. I do not assume responsibility to any other person for the content of this report.

(SWAIBATUL ASLAMIAH BINTI HAJI HUSAIN)
ON BEHALF OF AUDITOR GENERAL
MALAYSIA

PUTRAJAYA
25 JUNE 2019

STATEMENT BY CHAIRMAN AND A MEMBER OF THE ENERGY COMMISSION

We, Datuk Ir. Ahmad Fauzi bin Hasan and Datuk Anuar bin Ahmad, being the Chairman and one of the Members of the Energy Commission, hereby declare, that in the opinion of the Energy Commission Members, the Financial Statements comprising the Balance Sheet, Statement of Income, Statement of Changes in Equity, Statement of Cash Flows and the notes to the Financial Statements have been prepared so as to give a true and fair view of the state of affairs of the Energy Commission as at 31 December 2018 and of it's results and changes in the financial position for the year ended on that date.

On behalf of the Commission Members,

.....
Datuk Ir. Ahmad Fauzi bin Hasan
Chairman

Date: 20 June 2019

Place: Energy Commission
Precinct 2, Putrajaya

On behalf of the Commission Members,

.....
Datuk Anuar bin Ahmad
Member

Date: 20 June 2019

Place: Energy Commission
Precinct 2, Putrajaya

DECLARATION OF OFFICER PRIMARILY RESPONSIBLE FOR THE FINANCIAL MANAGEMENT OF THE ENERGY COMMISSION

I, Asma Aini binti Mohd Nadzri, Director of Corporate Services Department, responsible for the financial management and accounting records of the Energy Commission, solemnly declare that the Balance Sheet, Statement of Income, Statement of Changes in Equity and the Statement of Cash Flows in the following financial position and the notes to the Financial Statements, are, to the best of my knowledge and belief, correct, and that I make this solemn declaration conscientiously believing the same to be true and by virtue of the provisions of the Statutory Declaration Act, 1960.

Subscribed and solemnly declared)
by the above-named)
at BANGI)
SELANGOR
on 20 JUN 2019)

.....

Before me,

PESURUHJAYA SUMPAH
B424
RAJA HABIBAH
BINTI RAJA SAIDIN
01.01.19 – 02.07.19
MALAYSIA

No. 23-1, Tingkat 1, Jalan 7/7A,
Seksyen 7, 43650 Bandar Baru Bangi,
Selangor Darul Ehsan.

COMMISSIONER OF OATH

BALANCE SHEET
As At 31 December 2018

	Note	2018 RM	2017 RM
Fixed Assets			
Property, Fittings and Equipment	4	82,303,164	84,632,495
Current Assets			
Cash and Cash Equivalents	5	122,373,490	55,132,569
Short Term Investment		289,754,219	312,337,825
Other Receivables	6	684,093	375,633
Accrued Interest Income	7	3,819,822	3,219,635
		416,631,624	371,065,662
Current Liabilities			
Other Payables and Accrued Liabilities	8	10,189,134	9,533,051
Provision for Short Term Employee Benefits	9	1,949,728	1,792,104
Special Funds	10	6,484,436	16,267,270
Tax Provisions		3,877,390	3,236,231
		22,500,688	30,828,656
Net Current Assets		394,130,936	340,237,006
		476,434,100	**424,869,501**
Financed by:			
Accumulated Funds		468,269,548	417,557,432
		468,269,548	417,557,432
Non-Current Liabilities			
Provision for Long Term Employee Benefits	9	8,164,552	7,312,069
		476,434,100	**424,869,501**

The attached notes from pages 5 to 18 are an integral part of this Financial Statement.

STATEMENT OF INCOME
For The Year Ended 31 December 2018

	Note	2018 RM	2017 RM
Income			
Fees and Charges	11	109,706,643	89,906,059
Interests		13,957,832	11,539,505
Other Income		2,556,036	2,032,141
		126,220,511	103,477,705
Expenditure			
Staff Costs	12	(47,714,250)	(45,592,898)
Administrative Costs	13	(20,027,817)	(18,957,183)
Depreciation of Property, Fittings and Equipment		(3,709,430)	(4,180,075)
Other Operating Costs		(336,864)	(425,661)
		(71,788,361)	(69,155,817)
Surplus of Income Before Tax		54,432,150	34,321,888
Taxation Expense	14	(3,845,215)	(3,236,231)
Surplus of Income for The Year		**50,586,935**	**31,085,657**

The attached notes from pages 5 to 18 are an integral part of this Financial Statement.

STATEMENT OF CHANGES IN EQUITY
For The Year Ended 31 December 2018

ACCUMULATED FUNDS	Note	2018 RM	2017 RM
Balance as at 1 January		417,557,432	386,455,052
Adjustment from previous year		125,181	16,723
Income		126,220,511	103,477,705
		543,903,124	489,949,480
Expenditure		(71,788,361)	(69,155,817)
Taxation		(3,845,215)	(3,236,231)
Balance as at 31 December		468,269,548	417,557,432

The attached notes from pages 5 to 18 are an integral part of this Financial Statement.

STATEMENT OF CASH FLOWS
For The Year Ended 31 December 2018

	Note	2018 RM	2017 RM
CASH FLOWS FROM OPERATING ACTIVITIES			
Surplus of income before tax		54,432,150	34,321,888
Adjustments for non-cash items:			
Accumulated funds statement		125,181	16,723
Income from interest received		(13,957,832)	(11,539,505)
Depreciation of property, fittings and equipment		3,709,430	4,180,075
Disposal of property, fittings and equipment		1	2
Provisions for employee benefits		2,844,766	2,968,895
Operating surplus before changes in working capital		47,153,696	29,948,078
Changes in working capital:			
Increase in other receivables and accrued interest income		(908,647)	(703,702)
Increase in other payables and accrued liabilities		656,083	(54,337)
Cash flows from operating activities		46,901,132	29,190,039
Tax payment		(3,204,056)	(2,895,415)
Payment for employee benefits		(1,834,659)	(2,079,604)
Net cash generated from operating activities		41,862,417	24,215,020
CASH FLOWS FROM INVESTING ACTIVITIES			
Short term investment		22,583,606	(43,279,155)
Purchase of property, fittings and equipment		(1,380,100)	(915,611)
Interest income received		13,957,832	11,539,505
Net cash from/(used in) investing activities		35,161,338	(32,655,261)
CASH FLOWS FROM SPECIAL FUNDS ACTIVITIES			
Fund allocation from Government/Agency to Special Funds		-	3,000,000
Bank interest from Special Funds		95,273	112,013
Special Funds transfer		(6,876,802)	-
Special Funds expenses		(3,001,305)	(3,934,914)
Net cash used in Special Funds activities		**(9,782,834)**	**(822,901)**
Net increase/(decrease) in cash and cash equivalents		**67,240,921**	**(9,263,142)**
Cash and cash equivalents at the beginning of the year		**55,132,569**	**64,395,711**
Cash and cash equivalents at the end of the year	5	**122,373,490**	**55,132,569**

The attached notes from pages 5 to 18 are an integral part of this Financial Statement.

NOTES ON THE FINANCIAL STATEMENTS

1. Principal activities

The Energy Commission is a statutory body operating at No. 12, Jalan Tun Hussein, Presint 2, 62100 Putrajaya.

The Energy Commission is the sole regulatory agency for the energy sector's regulation and development. Under the Energy Commission Act 2001, the Energy Commission is directly responsible to supervise and monitor the energy generation activities, including regulating each licensed individuals.

The Financial Statements were approved and certified for signature by the Energy Commission on 20 June 2019.

2. Accounting policies

The Energy Commission's Financial Statements were prepared in compliance with the Malaysia Private Entity Reporting Standards (MPERS) approved by the Malaysian Accounting Standards Board (MASB) and based on the historical cost convention and generally accepted accounting practices in Malaysia.

The preparation of the Financial Statements in accordance to MPERS requires the management to make judgments, estimates and assumptions that affect the application of accounting policies and reports of the amounts of assets, liabilities, income and expenses. Although judgements, estimates and assumptions are based on the best management knowledge and actions during the management, actual results may vary. Estimates and assumptions are reviewed on a continuous basis. A revised accounting estimates is recognized in the period in which the estimates is revised and in any relevant future period.

3. Accounting Policies

(a) Property, Fittings and Equipment

Property, Fittings and Equipment are stated at cost less accumulated depreciation and impairment, if any. Works in progress are not depreciated.

Depreciation for property, fittings and equipment are calculated based on the straight line method over the estimated useful life span of the assets.

The annual depreciation rates are as follows:

Buildings	2%
Motor vehicles	20%
Furniture, equipment, renovations and enforcement instrumentation	20%
Office equipment (electronics)	15%
Application systems and computers	33 1/3%
Fixtures and equipment	20%

Freehold land is measured at cost and not depreciated.

The residual value, useful lives and rate of depreciation are reviewed at the end of each financial year to ensure that the amounts, methods and year of depreciation are in line with previous estimates and expected economic benefits of utilising the property and equipment.

(b) Cash and Cash Equivalents

Cash and Cash Equivalents consists of cash in hand and bank balances, deposits in banks and other financial institutions and also high liquidity short term investments with a maturity period of three (3) months or less from the date of purchase and can be readily redeemed in the form of cash and with low risks of value flunctuations.

The Cash Flow Statements are prepared using the indirect method.

(c) Short Term Investments

Short Term Investments are deposits in bank and other financial institutions, and also short term investments with high liquidity with maturity periods of three (3) months or up to a year from the date of purchase and which can be readily redeemed in the form of cash with low risks of value fluctuation.

(d) Other Receivables

Other Receivables are stated at cost less provisions for bad debts, if any.

(e) Other Payables

Payment for goods and services are payable at the stated fair value.

(f) Special Funds

Special Funds are provisions received from the Electricity Supply Industry Trust Fund (AAIBE) under the Ministry of Energy, Green Technology and Water (KeTTHA), which is currently administered by the Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC), and Government agencies for specific purposes.

(g) Impairment

The carrying value of the Commission's assets and financial assets are reviewed at each date of the balance sheet to determine whether there have been indications of impairment. If any such indication exists, the recoverable amount will be estimated. An impairment loss will be recognised in the income statement except when the carrying value of the asset has been re-valued and charged to reserves. An impairment loss is recognised whenever the value in use for the asset or assets owned by the income generating unit exceeds its recoverable amount.

Recoverable amount is the higher difference between the asset's net selling price and value in use. In assessing value in use, which is measured by reference to the discounted future cash flow using pre-tax discount rate that reflects the current market assessment of the cash value and risks on the asset. For an asset that does not generate large cash flows by itself, the recoverable amout is determined by the cash-generating unit to which it belongs.

For other assets, an impairment loss is reversed when there has been a change in the estimates used to determine recoverable amount.

The impairment loss is reversed to the extent of the carrying amount of the asset that would have been determined (net of depreciation) had no impairment loss been recognised. A reversal of an impairment loss is credited to the income statement but in the case of reversal on a revalued asset, it is credited to equity.

(h) Taxation

Current tax is the taxation charged on the income surplus or deficit for the year. Current tax is the expected amount payable on taxable income for the year and is measured using rates applicable on the date of the balance sheet.

Current tax expenses are the expected tax payable on the taxable income for the year, using tax rates gazetted or substantially gazetted at the balance sheet date, and any adjustments to tax payable in respect of the previous year.

Provisions for deferred tax is made, by the liability method, for all timing differences between tax rates of assets and liabilities and their carrying amount in the financial statements. Temporary differences are not recognised for goodwill, is not deductible for taxation purposes, and the initial recognition of an asset or liability at the time of the transaction does not affect the statutory income surplus and taxable income surplus. The total provision for deferred tax is based on the expected manner of realisation or settlement of the carrying amount of the assets and liabilities, using tax rates gazetted or substantially gazetted on the date of the balance sheet.

Deferred tax assets are recognised only when it is probable that taxable income surplus can be derived in the future from the assets used.

(i) Employee Benefits

i) Short Term Employee Benefits

Wages, salaries and bonuses are recognised as expenses in the current year services performed by employees of the Energy Commission. Short term accumulated compensations such as paid annual leave are recognised when employees render services that increase their entitlement for paid leave in the future, and short term non-accumulative compensations such as paid sick leave are only recognised when such leave of absence occur. Medical facilities such as outpatient treatment facilities, hospitalisation scheme and group surgery facilities and maternity facilities are provided to all permanent and contract personnel based on the provisions set out in the terms and conditions of the Energy Commission's service in force. Meanwhile, employee benefits such as gratuity and subsidised pension benefits for mortgages, vehicles and personal loans payable in the next financial year will be recognised on an accrual basis in the current Statement of Income as an expense and in the Balance Sheet as Current Liabilities.

ii) Compulsory Contribution Plan

The law requires qualified Malaysian employers to make compulsory contributions to the Employees Provident Fund and Social Security Organisation (SOCSO). The contributions are recognised as expenses in the income statement. Liabilities for the compulsory contribution plans are recognised as current expenses in the income statement.

iii) Manfaat Pekerja Jangka Panjang

Long-Term Employee Benefits are the provision of retirement benefits in the form of gratuities to the permanent staff serving for a minimum of ten years with the gratuity calculation rate as per approved by the YB Minister. It is considered as an employee's benefit payment; paid upon retirement and is recognised as expenses and is

stipulated as Non-Current Liabilities in the Balance Sheet. Recognition is by the use of actuarial valuation methods.

(j) Recognition of Income and Expenditure

Income from fees and charges are accounted for on a cash basis as the annual payment obligation is on the licensees. In addition, interest income from fixed deposits and short-term investments as well as all expenses are accounted for on an accrual basis. Other income consists of sales of tender documents, sales of industry-related books, fixed asset sales and charges/ penalties imposed on failure to execute projects. Other operating costs include entertainment expenses in relation to the Energy Commission's official affairs by authorised officers as well as contributions or sponsorships made for researches and developments.

(k) Related Party Disclosures

The parties deemed to be related if one party has the ability to control the other party or exercise influence over another party, to the extent that it prevents others from pursuing separate personal interests in making financial and operating decisions.

(l) Provisions

Provisions are recognized when the Energy Commission has a legal current and constructive obligation, the effects of past events and a possible outflow of resources involving economic benefits is required to settle the obligation, and the amount of the obligation can be estimated with certainty.

Provisions are reviewed at each reporting date and adjusted to reflect the best current estimate. If there is no possibility that an outflow of economic resources will be required to settle the obligation, the provision will be reversed. If the effect of time value of money is significant, the provision will be discounted using the current pre-tax rate which reflects, where appropriate, the risks specific to the liability. Whenever discounting is used, the increase in provisions caused by time-pass is recognized as a finance cost.

4. Property, Fittings and Equipment

2018	Land	Building	Motor Vehicle	Furniture, Fittings, Renovations and Enforcement Equipment	Office Equipment (Electronic)	Application Systems and Computers	Fixtures and Equipment	Total
	RM		RM	RM	RM	RM	RM	RM
Cost								
At 1 January 2018	8,299,405	79,205,160	3,803,688	5,982,334	5,014,851	4,274,160	1,530,134	108,109,732
Addition	-	-	163,577	210,387	140,910	865,226	-	1,380,100
Disposal/Transfer	-	-	-	-	-	(3,898)	-	(3,898)
At 31 December 2018	8,299,405	79,205,160	3,967,265	6,192,721	5,155,761	5,135,488	1,530,134	109,485,934
Accumulated Depreciation								
At 1 January 2018	-	7,128,464	3,285,182	4,661,960	3,430,030	3,594,478	1,377,123	23,477,237
Charge for the year	-	1,584,103	342,780	674,836	597,978	356,782	152,951	3,709,430
Disposal/Transfer	-	-	-	-	-	(3,897)	-	(3,897)
At 31 December 2018	-	8,712,567	3,627,962	5,336,796	4,028,008	3,947,363	1,530,074	27,182,770
Net Book Value								
At 31 December 2018	8,299,405	70,492,593	339,303	855,925	1,127,753	1,188,125	60	82,303,164

4. Property, Fittings and Equipment

2017	Land	Building	Motor Vehicle	Furniture, Fittings, Renovations and Enforcement Equipment	Office Equipment (Electronic)	Application Systems and Computers	Fixtures and Equipment	Total
	RM		RM	RM	RM	RM	RM	RM
Cost								
At 1 January 2017	8,299,405	79,205,160	3,954,623	5,621,031	4,947,242	3,797,007	1,530,134	107,354,602
Addition	-	-	-	361,303	67,609	486,699	-	915,611
Disposal/Transfer	-	-	(150,935)	-	-	(9,546)	-	(160,481)
At 31 December 2017	8,299,405	79,205,160	3,803,688	5,982,334	5,014,851	4,274,160	1,530,134	108,109,732
Accumulated Depreciation								
At 1 January 2017	-	5,544,361	3,086,115	3,579,543	2,835,868	3,340,659	1,071,095	19,457,641
Charge for the year	-	1,584,103	350,001	1,082,417	594,162	263,364	306,028	4,180,075
Disposal/Transfer	-	-	(150,934)	-	-	(9,545)	-	(160,479)
At 31 December 2017	-	7,128,464	3,285,182	4,661,960	3,430,030	3,594,478	1,377,123	23,477,237
Net Book Value								
At 31 December 2017	8,299,405	72,076,696	518,506	1,320,374	1,584,821	679,682	153,011	84,632,495

5. Cash and Cash Equivalents

	2018	2017
	RM	RM
Cash and Bank Balances	48,595,635	25,180,402
Deposits in Licensed Banks	73,777,855	29,952,167
TOTAL	**122,373,490**	**55,132,569**

Cash and Bank Balance includes the Special Fund of RM6,484,436 (2017: RM16,267,270). The increase in cash in bank for the year 2018 is due to income proceeds received during end of December 2018 and increase in Deposits in Licensed Bank is due to the implementation of fund policy amendments which was approved by the Energy Commission.

6. Other Receivables

	2018	2017
	RM	RM
Staff Advance	10,323	700
Club Membership Deposits	92,000	92,000
Other Deposits and Receivables	581,770	282,933
TOTAL	**684,093**	**375,633**

7. Accrued Interest Income

	2018	2017
	RM	RM
Accrued Interest Income	3,819,822	3,219,635
	3,819,822	**3,219,635**

Accrued Interest Income is the immature benefit of fixed deposits which is accounted for as at 31 December each year.

8. Other Payables and Accrued Liabilities

	2018	2017
	RM	**RM**
Business Payables	-	1,380
Other Payables	8,857,851	8,173,983
Provisions of Staff Leave (GCR)	1,290,975	1,288,605
Consolidated Compound Fund Under KeTTHA	-	5,000
Audit fees	40,308	64,083
TOTAL	**10,189,134**	**9,533,051**

9. Provision for Employee Benefits

	2018	2017
	RM	**RM**
At 1 January	9,104,173	8,214,882
Current Year Provision	2,844,766	2,968,895
Current Year Payments	(1,834,659)	(2,079,604)
At 31 December	**10,114,280**	**9,104,173**

The maturity structure for Provisions for Employess Benefits are as follows :-

	2018	2017
	RM	**RM**
Maturity within 12 months	1,949,728	1,792,104
Maturity exceeding 12 months	8,164,552	7,312,069
TOTAL	**10,114,280**	**9,104,173**

10. Special Funds

2018	PPKTL Special Funds Account	MyPower Special Funds Account	PR&PLL Special Fund Account	SAIDI 100 Special Funds Account	Total
	RM	RM	RM	RM	RM
Balance at 1 January 2018	**1,190,147**	**8,588,717**	**5,941,269**	**547,137**	**16,267,270**
Income:					
Fund allocation from Government/ Agencies	-	-	-	-	**-**
Bank interest	9,311	25,566	56,650	3,809	**95,336**
	9,311	25,566	56,650	3,809	**95,336**
(-) Expenditure					
Bank charges	(13)	(28)	(11)	(11)	**(63)**
Expenses/Repayment for the year	(477,554)	(1,735,636)	(402,680)	(385,435)	**(3,001,305)**
Transfer of provisions/funds	-	(6,876,802)	-	-	**(6,876,802)**
	(477,567)	(8,612,466)	(402,691)	(385,446)	**(9,878,170)**
Deficit of income	(468,256)	(8,586,900)	(346,041)	(381,637)	**(9,782,834)**
Balance as at 31 December 2018	**721,891**	**1,817**	**5,595,228**	**165,500**	**6,484,436**

2017	PPKTL Special Funds Account	MyPower Special Funds Account	PR&PLL Special Fund Account	SAIDI 100 Special Funds Account	Total
	RM	RM	RM	RM	RM
Balance at 1 January 2017	**1,460,063**	**8,569,878**	**7,060,230**	**-**	**17,090,171**
Income:					
Fund allocation from Government/ Agencies	-	-	-	3,000,000	**3,000,000**
Bank interest	13,975	25,750	62,651	9,672	**112,048**
	13,975	25,750	62,651	3,009,672	**3,112,048**
(-) Expenditure					
Bank charges	(11)	(11)	(13)	-	**(35)**
Expenses/Repayment for the year	(283,880)	(6,900)	(1,181,599)	(2,462,535)	**(3,934,914)**
Transfer of provisions/funds	-	-	-	-	**-**
	(283,891)	(6,911)	(1,181,612)	(2,462,535)	**(3,934,949)**
Surplus/(Deficit) of income	(269,916)	18,839	(1,118,961)	547,137	**(822,901)**
Balance as at 31 December 2017	**1,190,147**	**8,588,717**	**5,941,269**	**547,137**	**16,267,270**

Special Funds are special allocations received from the Electricity Supply Industry Trust Fund (ESITF) under the Ministry of Energy, Green Technology and Water (KeTTHA), which is currently administered by the Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC) and government agencies for specific purposes. Details of each account under the Special Funds are as follows:-

i) **PPKTL Special Funds Account –** to finance Sustainable Energy Communications Plan Project that aims to promote the use of sustainable energy encompassing the field of energy efficiency and renewable energy, and to foster greater awareness and enhance the public's knowledge on the legal framework and regulations related to sustainable energy.

ii) **MyPower Special Funds Account –** to finance the implementation of project initiatives under the 10th Malaysia Plan namely the Stabilisation Mechanism, Ring Fencing Single Buyer, Fuel Supply and Security and Industry Structure.
As instructed by the Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC) through a letter dated 11 October 2018, a sum of RM6,876,802 was transfered by the Energy Commission to the Malaysian Program Office for Power Electricity Reform (MyPower) Program on 20 December 2018. Meanwhile, a sum of RM1,735,636 was spent for professional services and technical working visits in the implementation of Governance Reform of Single Buyer and Grid System Operator project. The balance of the Special Fund Account amounting to RM1,817 is hibah received until 31 December 2018.

iii) **PR & PLL Special Funds Account –** to finance retrofitting projects and installation of LED lighting in selected ministry buildings beginning in early 2015.

iv) **SAIDI 100 Special Funds Account –** to review and identify on eletrical issues in Sabah in reaching the target to lower the System Average Interruption Duration Index (SAIDI) of the electrical power utilities towards 2020.

11. Fees and Charges

	2018	2017
	RM	RM
Public and Private Licenses	78,723,800	60,420,326
Registration/Operations Renewal Fees	29,804,290	28,292,795
Other Operating Fees	1,178,553	1,192,938
	109,706,643	**89,906,059**

12. Staff Costs

	2018	2017
	RM	RM
Wages, Allowances and other Financial Benefits	39,624,706	37,607,799
Statutory Contributions	5,441,923	5,077,619
Travelling and Subsistence Allowances	2,248,266	2,462,730
Energy Commission Members' Allowances	399,355	444,750
	47,714,250	**45,592,898**

Included in the Statutory Contributions is the contribution made to the Employees Provident Fund (EPF) amounting to RM5,183,653 (2017: RM4,825,613) and contributions to SOCSO amounting RM258,270 (2017: RM252,006). The total number of Energy Commission's employees as at 31 December 2018 stands at 328 personnel, including 4 personnel from the Electricity Industry Fund Unit (EIF). Meanwhile the total number of employees in 2017 was 318 personnel. The increased in number of personnel in 2018 is due to the implementation of Energy Commission's new organizational chart which was effective on 1 August 2018.

13. Administration Costs

	2018	2017
	RM	RM
Professional Services:		
Audit Fees	40,308	64,083
Professional and Consultancy Fees	5,854,457	4,775,249
Development Cost of Competency and Management Performance	798,790	730,565
Other Professional Services Expenses	803,489	933,383
Maintenance:		
Application System Maintenance	4,447,404	3,857,949
Equipment, Vehicle and Office Building Maintenance	1,831,356	1,904,948
Rental of Office Building, Vehicle and Equipment	2,817,479	2,654,431
Hospitality, Communications and Utilities	2,686,240	2,928,157
Printing and Office Supplies	748,294	1,108,418
	20,027,817	**18,957,183**

14. Taxation

	2018	2017
	RM	**RM**
Tax Expenses		
Current year	3,877,390	3,236,231
Surplus/Deficit of provision from previous year	(32,175)	-
Total	**3,845,215**	**3,236,231**
Reconciliation of effective tax rates		
Surplus income before tax	54,432,150	34,321,888
Tax at 28%	15,241,002	9,610,129
Tax-exempted income	(11,395,787)	(6,373,898)
	3,845,215	3,236,231
Surplus/Deficit of provisions from previous year	-	-
Tax Expenses	**3,845,215**	**3,236,231**

The Energy Commission is tax-exempted under Section 127(3)b Income Tax Act 1967 which was conferred by the Ministry of Finance on 19 October 2004. The tax exemption is applicable only to statutory income as follows:

i. Income received from the Federal or State Govenment in the form of grants or subsidies;
ii. Income received in connection with any amount chargeable or collectible from any person according to the provisions of the Act which regulates statutory authorities; and
iii. Contributions and donations received.

15. Commitments

	2018	2017
	RM	RM
Property, Fittings and Equipments	629,823	114,696
Professional Services	1,594,133	2,713,162
Maintenance and Office Supplies	1,063,924	308,559
Contribution	500,000	-
Emolument	4,295,720	-
	8,083,600	**3,136,417**

Included in the Capital Commitments for the year ended 31 December 2018 are renovation costs for Energy Commissions' office in Pahang, and assets procured including vehicles, computer hardwares and equipments, and fittings and electronic equipments amounting to RM629,823. Professional services amounting RM1,594,133 includes professional services and consultancy costs to improve Energy Commission's effectiveness as a regulator in the industry. Maintenance costs for operational support, building maintenances and system upgrade are amounting to RM1,017,076 meanwhile office supplies are amounting to RM46,848.

Contribution of RM500,000 is a contribution for the implementation of Energy Commission's program, *'KURSI Ekonomi Tenaga'*. Emolument cost of RM4,295,720 is in line with the proposed amendments to the Energy Commission's Terms and Conditions for salary and employee benefit.

The capital commitment for the year ended 31 December 2017 amounting to RM114,696 consists of procured computer hardwares and equipments, electronic equipments and renovation costs for Energy Commissions' office in Pahang, while professional services which includes professional services and consultancy costs of RM2,713,162 and system maintenance amounting to RM308,559.

16. Contingent Liability

A civil action was filed by NMH Engineering Services Sdn Bhd (NMH) on 26 December 2018 at the Shah Alam High Court to Energy Commission to withdraw the cancellation on Certificates of Registration which was issued to 50 electrical installation owners and has made a claim on damages to the Energy Commission amounted RM9,857,475.43 which includes interests and costs. The claim on damages was made due to Energy Commission's decision to cancel NMH's Certificates of Registration.

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