



2014

**MAKLUMAT PRESTASI DAN STATISTIK
INDUSTRI PEMBEKALAN ELEKTRIK DI MALAYSIA**
PERFORMANCE AND STATISTICAL INFORMATION
ON ELECTRICITY SUPPLY INDUSTRY IN MALAYSIA

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Segala data dan maklumat yang terkandung di dalam buku laporan ini memberi gambaran yang munasabah dan saksama bagi keseluruhan industri pembekalan elektrik di negara ini. Segala usaha telah diambil untuk memastikan semua maklumat yang terkandung di dalam laporan ini telah disahkan kesahihannya berdasarkan laporan harian, bulanan dan tahunan yang dihantar oleh pemegang-pemegang lesen sebagaimana termaktub di bawah syarat-syarat lesen. Bagi negeri Sarawak, maklumat mengenai statistik dan prestasi utiliti di negeri tersebut dikemukakan oleh Sarawak Energy Berhad (SEB) secara sukarela.

Suruhanjaya Tenaga (ST) dengan niat yang baik menerbitkan maklumat ini untuk kegunaan orang awam, sejajar dengan fungsi yang ditetapkan di bawah Akta. ST menafikan semua atau apa-apa jua tanggungjawab kepada sesiapa sahaja untuk maklumat yang terkandung di dalam laporan ini atau bagi apa-apa representasi atau kenyataan di sini, sama ada secara tersurat atau tersirat, atau untuk apa-apa jawapan yang diberikan sebagai maklumbalas kepada sebarang pertanyaan berhubung dengan laporan ini.

The data and information in this report represent a fair and reasonable overview of the whole electricity supply industry. Every effort has been made to verify, validate and accurately represent the information in this report, based on the daily, monthly and yearly reports which were submitted by licensees pursuant to their licence conditions. As for Sarawak, information on the performance and statistics of utility in the state were submitted by Sarawak Energy Berhad (SEB) based on voluntary basis.

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Isi Kandungan

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Ringkasan Eksekutif Executive Summary

Situasi Pembekalan dan Permintaan Tenaga Elektrik

SEMENANJUNG MALAYSIA Pada tahun 2014, kehendak maksimum sistem grid di Semenanjung Malaysia meningkat 2.05% kepada 16,901 MW yang direkodkan pada 11 Jun 2014 daripada 16,562 MW pada 13 Mei 2013. Permintaan tenaga pada hari tersebut adalah 352.90 GWj, peningkatan sebanyak 4.66% dari 337.20 GWj pada tahun 2013. Permintaan tenaga harian tertinggi yang direkodkan adalah sebanyak 355.80 GWj pada 24 Jun 2014 iaitu peningkatan sebanyak 3.06% dari tahun sebelumnya 345.25 GWj. Secara keseluruhannya, permintaan tenaga tahunan meningkat 2.22% dari 112,358 GWj pada 2013 kepada 114,856 GWj bagi tahun 2014. Setakat 31hb Disember 2014, kapasiti penjanaan terpasang di Semenanjung Malaysia berjumlah 20,944 MW selepas penamatan operasi unit penjaan di Stesen Jana Kuasa Sultan Iskandar Pasir Gudang yang berkapasiti 240 MW dan juga Stesen Jana Kuasa Jambatan Connaught yang berkapasiti 116 MW.

SABAH Beberapa stesen penjaan milik SESB dan IPP (Penjana Bebas) masih lagi menunjukkan tahap ketersediaan dan daya harap yang rendah terutama di kawasan Pantai Timur Sabah. Majoriti stesen jana kuasa di kawasan tersebut ialah unit penjaan bahan api diesel/MFO dan telah berusia. Walaupun SESB masih berhadapan dengan isu kekurangan kapasiti penjaan bagi mengimbangi pertumbuhan dalam permintaan elektrik, namun tahun 2014 merekodkan peningkatan kapasiti penjaan dan permintaan di Sabah dengan pengoperasian semula Stesen Jana Kuasa Sutera Harbor berkapasiti 24 MW, permulaan operasi Blok 1, Blok 2 dan Blok 3 Projek Kimanis berkapasiti 95 MW, loji kitar padu SPR berkapasiti 100 MW dan projek penjaan TBB oleh Cash Horse berkapasiti 10 MW. Kapasiti boleh harap oleh Sabah Electricity Sdn Bhd (SESB) ialah 400.7 MW dan IPP ialah 1,022.5 MW. Selebihnya disumbangkan oleh projek-projek TBB, co-generation dan penjaan persendirian di bawah 5 MW. Permintaan elektrik di Sabah juga terus meningkat pada tahun 2014, di mana kehendak maksimum sistem grid di Sabah meningkat sebanyak 3.6% kepada 907.5 MW, yang direkodkan pada 8 Mei 2014, berbanding kehendak maksimum 874.4 MW pada 23 September 2013.

SARAWAK Jumlah keseluruhan kapasiti penjaan terpasang pada tahun 2014 di negeri Sarawak ialah 3,951 MW iaitu 1,551 MW Sarawak Energy Berhad (SEB) dan 2,400 MW daripada Sarawak Hydro Sdn Bhd (Stesen Jana Kuasa Hidro Bakun). Jumlah unit penjaan SEB ialah 6,494 GWj manakala Bakun menjana 8,577 GWj. Kehendak maksimum sistem di Sarawak telah meningkat sebanyak 39% kepada 2,036 MW daripada 1,466 MW pada tahun sebelumnya. Jualan tenaga pada tahun 2014 oleh SEB meningkat dalam semua sektor dengan jumlah keseluruhan sebanyak 13,440 GWj.

Prestasi Sistem Penjaan

SEMENANJUNG MALAYSIA Secara keseluruhannya, purata kecekapan *thermal* bagi stesen-stesen jana kuasa di Semenanjung Malaysia adalah memuaskan. Faktor-faktor yang menyumbang kepada keadaan ini ialah mod operasi stesen jana kuasa, penyenggaraan stesen jana kuasa, faktor usia dan kemerosotan (*degradation*). Sejak tahun 2013 hingga penghujung tahun 2014, kecekapan stesen-stesen jana kuasa adalah konsisten. Stesen jana kuasa arang batu mencatatkan peningkatan kecekapan thermal pada kadar 1% berikutan penyenggaraan berjadual yang telah dilaksanakan serta pengurangan dalam kadar henti tugas tidak berjadual. Purata Faktor Ketersediaan Setara Stesen (Equivalent Availability Factor - EAF) mencatatkan peningkatan sekitar 1% hingga 7% bagi kebanyakan stesen jana kuasa. Peningkatan paling ketara dicatatkan oleh stesen jana kuasa kitar padu IPP, manakala penurunan dicatatkan oleh stesen jana kuasa terbuka dan stesen jana kuasa konvensional (minyak/gas). Peningkatan dan penurunan ini adalah berkait rapat dengan

Situation of Electricity Supply and Demand

SEMENANJUNG MALAYSIA In 2014, the grid system's maximum demand in Peninsular Malaysia increased 2.05% to 16,901 MW, as recorded on June 11, 2014 compared to 16,562 MW on May 13, 2013. The energy demand of the day was 352.90 GWh, an increase of 4.66% from 337.20 GWh in 2013. The highest daily demand of 355.80 GWh recorded on June 24, 2014, an increase of 3.06% from 345.25 GWh in previous year. Overall, the annual energy demand increased 2.22% from 112,358 in 2013 to 114,856 GWh in 2014. As of December 31, 2014 the installed generation capacity in Peninsular Malaysia is 20,944 MW, excluding the 240 MW from Sultan Iskandar Power Station Pasir Gudang and 116 MW from Connaught Bridge Power Station.

SABAH Some SESB and IPP power stations still show low level of availability and reliability, especially in the east coast of Sabah. Majority of power plants in the region are old and using diesel fuel / MFO. While SESB is still dealing with the issue of lack of generation capacity to meet the growth in electricity demand, 2014 recorded an increase in generation capacity and demand in Sabah with the operation of 24 MW Sutera Harbor Power Station, 95 MW of Block 1, Block 2 and Block 3 Project Kimanis, 100 MW SPR Energy combined cycle plant and 10 MW RE project by Cash Horse. Dependable capacity by SESB is 400.7 MW and IPP is 1,022.5 MW. The rest are from RE projects, co-generation and below 5 MW self-generation power plants. Demand for electricity in Sabah also continued to increase in 2014, in which the maximum demand grid system in Sabah increased by 3.6% to 907.5 MW, recorded on May 8, 2014, compared to 874.4 MW on 23 September 2013.

SARAWAK The total installed generating capacity in 2014 in the state is 3,951 MW, which 1,551 MW is from Sarawak Energy Berhad (SEB) and 2,400 MW from Sarawak Hydro Sdn Bhd (Bakun Hydroelectric Power Station). 6,494 GWh was generated by SEB and 8,577 GWh was generated by Bakun. The system's maximum demand increased 39% to 2,036 MW, from 1,466 MW in 2013. SEB's energy sales increased in all sectors with a total of 13,440 GWh.

Performance of Generation System

PENINSULAR MALAYSIA Overall, the Average Thermal Efficiency (ATE) in Peninsular Malaysia is at a satisfactory level. The contributing factors are the mode of operation, maintenance, aging and degradation of the power stations. Since 2013 until end of 2014, the efficiency of power stations is consistent. ATE for coal power stations increased 1% due to scheduled maintenance and reduction of unscheduled downtime. The Equivalent Availability Factor (EAF) increased approximately 1% to 7% for most of the power stations. The most significant increase is recorded by combined cycle IPP, while a decrease was recorded by open-cycle power plants and conventional power stations (oil / gas). The change in EAF is directly affected by unscheduled downtime. In 2014, EAF is also increased due to the import of liquefied natural gas (LNG) to meet domestic fuel supply. The Equivalent Unplanned Outage Factor (EUOF) decreased as compared to 2013, reflecting a more stable situation of the electricity supply in

kadar henti tugas tidak berjadual. Di samping itu, kemasukan *liquefied natural gas* (LNG) yang diimpot untuk memenuhi keperluan bekalan bahan api domestik telah secara tidak langsung meningkatkan purata EAF. Purata Faktor Henti Tugas Tidak Berjadual (*Equivalent Unplanned Outage Factor - EUOF*) pula menurun berbanding tahun 2013, menggambarkan situasi yang lebih stabil kepada pembekalan elektrik di Semenanjung Malaysia. Stesen jana kuasa *base load* iaitu kitar padu dan arang batu masing-masing mencatatkan EUOF sekitar 1.49% dan 7.40%. Bagaimanapun, kadar EUOF bagi stesen jana kuasa arang batu masih lagi dianggap tinggi akibat masalah *boiler tube leak*. Peningkatan kadar EUOF yang ketara direkodkan bagi stesen jana kuasa kitar terbuka dan stesen jana kuasa konvensional (minyak/gas) pada tahun 2014, yang antaranya disebabkan oleh *condenser tube leak*, *condenser filter choke*, *poor condenser vacuum*, *hot gas leak*, *vibration* dan peningkatan usia stesen jana kuasa.

SABAH Kecekapan Thermal stesen jana kuasa kitar padu menunjukkan penurunan peratusan kecekapan thermal sekitar 3%. Bagi SESB, masalah ini adalah disebabkan kesukaran untuk mendapatkan alat ganti kerana rekabentuk jana kuasa yang unik, manakala IPP pula menghadapi gas curtailment. Bagi stesen-stesen jana kuasa diesel milik IPP dan SESB masing-masing menunjukkan peningkatan kecekapan thermal sekitar 2% dan 7%. Faktor utama meningkatnya kecekapan thermal stesen jana kuasa diesel SESB ialah penggantian Stesen Jana Kuasa Sandakan dengan Stesen Jana Kuasa Kubota yang lebih efisien. Secara puratanya, kadar EAF di Sabah menurun sekitar 2% ke 11%, dan kebanyakannya dipengaruhi oleh purata faktor henti tugas tidak berjadual berpanjangan dan catuan bekalan gas. EAF stesen jana kuasa hidro milik SESB menurun sekitar 2% kerana Unit 1 Stesen Jana Kuasa Tenom Pangi sedang dinaiktaraf kepada kapasiti penjanaan yang lebih tinggi. Purata Faktor Henti Tugas Tidak Berjadual (*Equivalent Unplanned Outage Factor - EUOF*) adalah tinggi bagi stesen-stesen jana kuasa diesel disebabkan oleh faktor usia dan masalah teknikal yang kerap terjadi, di mana kebanyakan stesen-stesen tersebut telah mencapai jangka hayat operasinya. Oleh kerana Sabah juga menghadapi isu keberterusan bekalan elektrik, kebanyakan stesen tidak dapat dihentikan untuk senggaraan yang berkesan.

Prestasi Sistem Penghantaran

SEMENANJUNG MALAYSIA Dalam tempoh 2011 hingga 2014, *Delivery Point Unreliability Index (DePUI)* atau sistem minit (berdasarkan tahun kalendar) bagi grid nasional telah menunjukkan trend penurunan 64% daripada 0.86 minit pada tahun 2011 kepada 0.31 minit pada tahun 2014. Secara keseluruhannya, prestasi sistem minit bagi grid nasional tahun 2014 berada di tahap yang baik dan tidak melebihi sasaran yang ditetapkan iaitu 1 minit. Pada tahun 2014, terdapat satu (1) insiden pelantikan dilaporkan pada sistem penghantaran di Semenanjung dengan kehilangan beban 50 MW ke atas berbanding dua (2) insiden tahun 2013. Penurunan hanya satu insiden sahaja berbanding 2013 menunjukkan prestasi sistem penghantaran di Semenanjung tahun 2014 kekal berada di tahap yang sama. Bagaimanapun, terdapat satu (1) insiden lucutan beban dilaporkan pada 7 Mei 2014 berbanding tiada insiden tahun 2013. Insiden lucutan beban tersebut telah melibatkan enam (6) negeri di Semenanjung iaitu negeri Kedah, Perak, Pulau Pinang, Melaka, Negeri Sembilan dan Johor.

SABAH Sistem Minit di Sabah telah meningkat dengan ketara sebanyak 161.09 minit berbanding 26.65 minit dalam tahun 2013. Pencapaian yang merosot pada tahun 2014 adalah jauh melebihi sasaran yang ditetapkan iaitu 20 minit. Pada tahun 2014, terdapat lima insiden pelantikan pada sistem grid di Sabah yang menyebabkan kehilangan beban melebihi 50 MW telah dilaporkan. Insiden yang terbesar telah berlaku pada 23 Mei 2014 dengan kehilangan beban sebanyak 287.81 MW serta jumlah tenaga yang tidak dibekalkan sebanyak 378.603 MWj dan menyumbang sebanyak 25.03 sistem minit negeri Sabah. Insiden tersebut disebabkan oleh talian 275 kV Kolopis – Segaliud (talian nombor satu dan dua) terpelantik di kedua-dua penghujung akibat panahan kilat yang menyebabkan gangguan bekalan elektrik ke daerah-daerah di Pantai Timur Negeri Sabah.

Peninsular Malaysia. EUOF for base load power stations i.e combined cycle and coal recorded are around 1.49% and 7.40% each. However, EUOF for coal power stations is still considered high due to boiler tube leak. Significant increase of EUOF are recorded by open cycle power plants and conventional power stations (oil / gas) and among the causes are condenser tube leak, condenser filter choke, poor condenser vacuum, hot gas leakage, vibration and aging.

SABAH Combined cycle power stations showed a 3% decrease in thermal efficiency. For SESB, this problem is due to the difficulty in obtaining spare parts for the generator, as its design is unique, whereas IPPs are facing gas curtailment. For diesel power stations owned by IPP and SESB, thermal efficiency increased 2% and 7% respectively. The main factor boosting the thermal efficiency is the replacement of diesel SESB Sandakan Power Station with more efficient Kubota Power Station. On average, the rate of EAF in Sabah declined by about 2% to 11%, and mostly influenced by an average factor of prolonged unscheduled downtime and gas rationing. EAF for SESB hydro power stations decreased about 2% as Unit 1 Tenom Pangi Power Station is being upgraded to a higher generation capacity. The Equivalent Unplanned Outage Factor (EUOF) is high for diesel power stations due to aging and the high frequency of the technical problems, where most of the stations have reached its operating life. Since Sabah is facing the issue of reliable electricity supply, the stoppage for maintenance is rather hard.

Performance of Transmission

PENINSULAR MALAYSIA In the duration of 2011 to 2014, the Delivery Point Unreliability Index (DePUI) or the minutes (by calendar year) of the national grid has shown a decline trend of 64% from 0.86 minutes in 2011 to 0.31 minutes in 2014. Overall, the performance of the system minutes for the national grid in 2014 was on a good level and does not exceed the target of 1 minute. In 2014, there was one (1) tripping reported in the transmission system on the Peninsula with the loss of load of 50 MW and above, compared to two (2) incidents in 2013. Since the number of trippings in 2014 and 2013 only differs by 1 incident, the performance of the transmission system remain unchanged. However, there was one (1) load loss incident reported on May 7, 2014 as compared to nil in 2013. These incidents involved load loss in six (6) states in the Peninsular, namely Kedah, Perak, Penang, Melaka, Negeri Sembilan and Johor.

SABAH Minutes of the system in Sabah had increased significantly by 161.09 minutes compared to 26.65 minutes in 2013. This is worse than 2013 as well as above the target of 20 minutes. In 2014, there were five tripping incidents which cause the load loss of above 50 MW. The biggest incident occurred on May 23, 2014 with a loss of 287.81 MW load and the unsupplied energy of 378,603 MWh and accounted for 25.03 minutes on the state system. The incident was caused by the tripping at both ends of 275 kV Kolopis - Segaliud (line number one and two) due to lightning and lead to power outages to areas in the east coast of Sabah.

Prestasi Sistem Pengagihan

Pencapaian SAIDI (System Average Interruption Duration Index)

SEMENANJUNG MALAYSIA Secara keseluruhan, SAIDI pada bulan Mei merupakan yang tertinggi berbanding bulan-bulan yang lain iaitu 7.20 minit/pelanggan, disebabkan oleh kejadian lucutan beban (load shedding) yang berlaku pada 7 Mei 2014. SAIDI terkumpul 2014 daripada sistem voltan rendah, voltan sederhana dan voltan tinggi ialah 56.65 minit/pelanggan/tahun. SAIDI ini masih di bawah sasaran 2014 iaitu 60 minit dan juga lebih rendah 6.1% berbanding 60.35 pada 2013. Daripada 56.65 minit/pelanggan/tahun, 50.84 minit/pelanggan/tahun ialah daripada sistem voltan sederhana.

SABAH Sehingga 31 Disember 2014, SAIDI keseluruhan negeri Sabah ialah 777 minit/pelanggan/tahun, iaitu meningkat sebanyak 83.25% jika dibandingkan dengan tahun 2013 (424 minit/pelanggan/tahun). Antara faktor yang menyumbang kepada peningkatan ini ialah kejadian gangguan bekalan elektrik yang melibatkan hampir keseluruhan negeri Sabah pada 17 Januari 2014 (254.62 minit/pelanggan/tahun). Selain kejadian ini, berlaku juga gangguan bekalan elektrik lain daripada aktiviti-aktiviti pelucutan beban berikutan kekurangan kapasiti penjanaan. Secara keseluruhannya, daripada 777 minit/pelanggan/tahun, 544 minit/pelanggan/tahun (70.01%) disumbangkan oleh SAIDI sistem penjanaan dan penghantaran, manakala 234 minit/pelanggan/tahun adalah daripada SAIDI sistem pengagihan.

KULIM HI-TECH PARK (KHTP) SAIDI keseluruhan di KHTP yang dilaporkan oleh NUR Distribution Sdn Bhd tahun 2014 telah menunjukkan peningkatan yang ketara kepada 81.72 minit/pelanggan/tahun berbanding 60.52 minit/pelanggan/tahun pada tahun 2013, iaitu meningkat sebanyak 35.0%. Bagaimana pun, tiada insiden gangguan yang dilaporkan untuk pengguna industri voltan tinggi di KHTP berbanding 1.70 minit/pelanggan/tahun yang direkodkan tahun 2013. Peningkatan SAIDI pada tahun 2014 adalah disebabkan oleh kejadian yang berlaku pada bulan November 2014, di mana satu litar rangkaian 11 kV telah mengalami pelbagai kerosakan. Dalam kejadian ini, kedua-dua litar 11 kV yang membekalkan 167 pelanggan telah mengalami kerosakan yang memerlukan pembaikan dan mengambil masa yang lama untuk disiapkan. Kejadian tersebut telah menyebabkan penambahan SAIDI sebanyak 70 minit/pelanggan/tahun daripada keseluruhan SAIDI tahun 2014.

Prestasi Kualiti Kuasa (Power Quality)

SEMENANJUNG MALAYSIA Kejadian junaman voltan (*voltage dip*) di kawasan-kawasan perindustrian dicerap oleh TNB menggunakan 155 unit alat perakam kualiti kuasa yang dipasang di pencawang-pencawang masuk utama (PMU) di Semenanjung. Indeks yang mengukur prestasi kejadian junaman tersebut pula ialah *System Average RMS Frequency Index* (SARFI), di mana pemantauan adalah mengikut paras voltan iaitu 11 kV, 22 kV dan 33 kV. Sistem 33 kV telah mencatatkan nilai SARFI₉₀ yang tinggi berbanding dengan sistem 11 kV dan sistem 22 kV iaitu 7.91. Sementara itu, bagi sistem keseluruhan pula, SARFI₉₀ telah mencatatkan purata kejadian yang tertinggi iaitu 6.15. Dari segi aduan kualiti kuasa, 2014 mencatatkan 338 aduan, 954 kejadian junaman voltan dan 152 pengguna terlibat. Berbanding tahun 2013, bilangan aduan dan pengguna terlibat telah meningkat tetapi bilangan kejadian junaman voltan berkurangan.

KHTP Secara umumnya, masalah kualiti kuasa seperti gangguan junaman voltan akan menyebabkan bekalan elektrik terputus untuk tempoh yang singkat (millisec) dan akan menjejaskan proses operasi yang sensitif di premis-premis industri. Pada keseluruhannya, bilangan kejadian junaman voltan telah berkurangan kepada 19 insiden berbanding 22 insiden tahun 2013. Daripada jumlah ini, 17 adalah berpunca daripada sistem grid TNB manakala 2 lagi daripada sistem dalaman NUR. Bilangan pengguna yang terlibat juga berkurangan sebanyak 28.6% daripada 14 pengguna kepada 10 pengguna.

Performance of Distribution System

SAIDI (System Average Interruption Duration Index)

PENINSULAR MALAYSIA Overall, the SAIDI in May 2014 (7.20 minutes/customer) was the highest compared to other months due to the occurrence of load loss (load shedding) on May 7, 2014. The cumulative SAIDI 2014 from a low voltage system, medium voltage and high voltage is 56.65 minutes/customer/year. SAIDI is still below the 2014 target of 60 minutes and 6.1% lower compared to 60.35 in 2013. From 56.65 minutes/customer/year, 50.84 minutes/customer/year is of medium voltage systems.

SABAH Until December 31, 2014, the entire state SAIDI is 777 minutes/customer/year, an increase of 83.25% compared to 2013 (424 minutes/customer/year). Among the factors contributing to this increase is the power failure affecting almost entire Sabah on January 17, 2014 (254.62 minutes/customer/year). Apart from this incident, there was also another power failure due to lack of generation capacity. Overall, of the 777 minutes/customer/year, 544 minutes/customer/year (70.01%) contributed by the generation and transmission system SAIDI, while 234 minutes/customer/year is from distribution system.

KULIM HI-TECH PARK (KHTP) Overall SAIDI reported by NUR Distribution Sdn Bhd in 2014 has shown a significant increase 35.0% from of 60.52 minutes/customer/year in 2013 to 81.72 minutes/customer/year in 2014. The increased SAIDI in 2014 is due to damages at 11 kV network circuit in November 2014. In this incident, both 11 kV circuit that supplies 167 customers needed to be repaired and took a long time to be completed. This has led to the additional 70 minutes/customer/year of total SAIDI in 2014.

Performance in Power Quality

PENINSULAR MALAYSIA Occurrence of voltage dip in industrial areas is observed by TNB using 155 units of power quality recorder installed in substations main entrance (PMU). Index that measures the performance of the dip scene is the System Average RMS Frequency Index (SARFI), where monitoring is in accordance with the voltage levels of 11 kV, 22 kV and 33 kV. 33 kV system recorded higher SARFI₉₀ of 7.91 compared with the 11 kV and 22 kV. As for the overall system, the SARFI₉₀ has recorded the highest average of 6.15. In terms of power quality complaints, 2014 recorded 338 complaints, 954 voltage dip incidents and 152 involved consumers. Compared to 2013, the number of complaints and involved consumer has increased but the number of voltage dip incidents decreased.

KHTP Generally, power quality problems such as voltage dip disturbance will cause an outage for a short period (millisec) and will affect the operation of sensitive industrial processes. Overall, the number of voltage dip incident has decreased to 19 incidents compared to 22 incidents in 2013. Out of the total, 17 were caused by TNB grid system while 2 more were from the NUR internal system. The number of involved consumers has also reduced by 28.6% from 14 users to 10 users.

Profil Negara, Data Ekonomi & Elektrik Utama

Country Profile, Key Economic & Electricity Data

Profil Negara • Country Profile

¹ Keluasan Kawasan • Area	330,396 km ²
² Purata Taburan Hujan Tahunan • Average Annual Rainfall	
▶ Semenanjung Malaysia • Peninsular Malaysia	1,500-4,500 mm
▶ Sabah	1,000-4,500 mm
▶ Sarawak (kecuali Barat Miri) • (except Miri West)	Melebihi • Exceeds 3,000 mm
³ Penduduk • Population	30.60 ^p juta • million
³ Tenaga Buruh • Labour Force	13.93 juta • million

⁴Data Ekonomi Utama • Key Economic Data

KDNK pada Harga Semasa • GDP at Current Prices	RM 1,106,580 ^p juta • million
KDNK pada Harga Tetap (2010=100) • GDP at Constant Prices (2010=100)	RM 1,012,506 ^p juta • million
PNK pada Harga Semasa • GNI at Current Prices	RM 1,069,258 juta • million
PNK pada Harga Semasa per Kapita • GNI at Current Prices per Capita	RM 34,945 per Kapita • per Capita
PNK pada Harga Tetap (2010=100) • IGNI at Constant Prices (2010=100)	RM 971,916 juta • million
Tabungan Negara Kasar (% daripada PNK) • Gross National Saving (% of GNI)	30%

Data Elektrik Utama • Key Electricity Data

Jumlah Kapasiti Penjanaan Terpasang yang Dilesenkan • Total Licensed Installed Generation Capacity	30,875.23 MW
Jumlah Penjanaan Tenaga Elektrik • Total Electricity Generation	143,826.58 GWj • GWh
Jumlah Penggunaan Tenaga Elektrik • Total Electricity Consumption	121,698 GWj • GWh
Purata Harga Jualan Elektrik • Electricity Average Selling Price	
▶ Semenanjung Malaysia • Peninsular Malaysia	37.13 sen/kWj • sen/kWh
▶ Sabah	32.56 sen/kWj • sen/kWh
▶ Sarawak	29.81 sen/kWj • sen/kWh

Nota • Note:

1	Jabatan Ukur dan Pemetaan Malaysia (JUPEM) • Department of Survey and Mapping Malaysia
2	Jabatan Meteorologi Malaysia (MetMalaysia) • Malaysia Meteorological Department
3	Jabatan Perangkaan Malaysia • Department of Statistics Malaysia
4	Bank Negara Malaysia • Central Bank of Malaysia
p	Permulaan • Preliminary
KDNK • GDP	Keluaran Dalam Negara Kasar • Gross Domestic Products
PNK • GNI	Pendapatan Negara Kasar • Gross National Income

Peta Malaysia Map of Malaysia





MAKLUMAT DAN STATISTIK
INDUSTRI PEMBEKALAN ELEKTRIK
DI MALAYSIA
INFORMATION AND STATISTICS OF ELECTRICITY
SUPPLY INDUSTRY IN MALAYSIA

Maklumat Dan Statistik Industri Pembekalan Elektrik Di Semenanjung Malaysia
Information and Statistics of Electricity Supply Industry In Peninsular Malaysia

10

SEMENANJUNG MALAYSIA
PENINSULAR MALAYSIA
Jadual 1: Maklumat Utama Prestasi Tenaga Nasional Berhad (TNB)
Table 1: Key Information on TNB Performance

Petunjuk • Indicator	Unit	2010	2011	2012	2013	2014
Kehendak Maksimum • Maximum Demand	MW	15,072	15,476	15,826	16,562	16,901
Jumlah Unit Penjaan • Total Units Generated ¹	GWj • GWh	27,689	24,018	26,329	24,914	28,409
Jumlah Unit Jualan Kepada Pengguna • Total Units Sold to Consumers	GWj • GWh	89,621	93,713	97,256	100,999	103,449
Hasil Jualan Elektrik • Sales of Electricity	RM Juta • RM Million	28,020	29,273	32,464	33,857	40,202
Kapasiti Penjaan Terpasang Yang Dilesenkan • Licensed Installed Generation Capacity ²	MW	7,040	7,054	6,986	6,866	6,616
Jumlah Kakitangan • Number of Employees ³	orang • person	25,571	26,732	28,105	34,972	36,105
Hasil Jualan Setiap Kakitangan • Sales of Electricity per Employee	RM Juta/Kakitangan • RM Million/Employee	1.10	1.10	1.16	0.97	1.11
Unit Jualan Setiap Kakitangan • Units Sold per Employee	GWj/Kakitangan • GWh/Employee	3.50	3.46	3.43	2.89	2.87
Kapasiti Penjaan Setiap Kakitangan • Installed Capacity per Employee	MW/Kakitangan • MW/Employee	0.28	0.26	0.25	0.20	0.17
Jumlah Unit Pembelian • Total Units Purchased	GWj • GWh	73,830	76,887	81,733	86,767	86,335
Jumlah Unit Eksport • Total Units Exported	GWj • GWh	88	73	13	17 ⁴	17 ⁴
Jumlah Unit Import • Total Units Imported	GWj • GWh	0.03	225	100	220 ⁴	22 ⁴

Nota • Note:

¹ Jumlah Unit Penjaan bagi TNB tidak termasuk IPP di Semenanjung Malaysia • Total Units Generated for TNB excluding IPPs in Peninsular Malaysia² Jumlah Kapasiti Penjaan Terpasang Yang Dilesenkan TNB tidak termasuk IPP • Licensed Installed Generation Capacity for TNB excludes IPPs in Peninsular Malaysia³ Kakitangan TNB tidak termasuk anak syarikat milik penuh TNB dan anak syarikat dengan pemilikan majoriti • TNB employees excludes TNB wholly owned subsidiaries and TNB majority owned subsidiaries⁴ Data diperolehi daripada Jabatan Single Buyer TNB • Data obtained from Single Buyer Department of TNB

Jadual 2: Stesen Jana Kuasa TNB

Table 2: TNB Power Stations

Stesen Jana Kuasa • Power Stations	Jenis Loji • Type of Plant	Bahan Api • Fuel	Tarikh Mula Beroperasi • Year of Commissioning	Kapasiti Penjanaan Terpasang Yang Dilesenkan (MW) • Licensed Installed Generation Capacity (MW)	Kapasiti Penjanaan Terpasang (MW) ¹ • Installed Generation Capacity (MW) ¹	Unit Penjanaan (GWj) • Units Generated (GWh)	Unit Jualan (GWj) • Units Sold (GWh)
Stesen Jana Kuasa TNB • TNB Power Stations							
Sultan Ismail, Paka Terengganu	Kitar Padu • Combined Cycle	Gas Asli • Natural Gas	1986	1,136.00	1,029.00	5,674.94	5,540.74
Jambatan Connaught, Klang Selangor	Kitar Terbuka • Open Cycle	Gas Asli • Natural Gas	1992	390.00	362.00	539.59	536.40
	Kitar Padu • Combined Cycle	Gas Asli • Natural Gas	1993	312.00	300.00	1,665.56	1,622.42
Putrajaya, W.P Putrajaya	Kitar Terbuka • Open Cycle	Gas Asli • Natural Gas	1994	625.00	577.00	874.75	857.80
Gelugor, Pulau Pinang	Kitar Padu • Combined Cycle	Gas Asli • Natural Gas	2003	330.00	310.00	2,450.09	2,418.59
Telok Ewa, Langkawi	Kitar Terbuka • Open Cycle	Distillate	1997	0.00	0.00	0.00	0.00
Sultan Iskandar, Pasir Gudang	Kitar Terbuka • Open Cycle	Gas Asli • Natural Gas	1994	220.00	210.00	60.12	58.98
	Kitar Padu • Combined Cycle	Gas Asli/ Minyak • Natural Gas/ Oil	1991	269.00	275.00	2,009.66	1,805.58
	Thermal	Gas Asli/ Minyak • Natural Gas/ Oil	1982	0.00	0.00	0.00	0.00
TuanKu Jaafar, Port Dickson	Kitar Padu • Combined Cycle	Gas Asli • Natural Gas	2005 & 2009	1,423.00	1,411.00	11,023.62	10,823.71
Sultan Mahmud Kenyir, Hulu Terengganu	Hidro • Hydro	Hidro • Hydro		400.00	400.00	1,344.17	1,335.54
Sg. Perak Scheme ²	Hidro • Hydro	Hidro • Hydro		1,249.10	1,249.10	2,214.06	2,156.05
Cameron Highland Scheme ³	Hidro • Hydro	Hidro • Hydro		261.90	250.00	552.63	548.13
JUMLAH • TOTAL				6,616.00	6,373.10	28,409.19	27,703.94

¹ Kapasiti Penjanaan Terpasang Disemak Semula 2014 • 2014 Revised Installed Generation Capacity² Mengandungi stesen hidroelektrik • Consists of hydroelectric power stations Pergau (4x150MW), Temenggor (4x87MW), Sg Piah upper (2x7.3MW), Sg Piah lower (2x27MW), Chenderoh (3x10.7MW & 8.4MW), Kenerong (3x40MW) & Bersia (3x24MW)³ Mengandungi stesen hidroelektrik • Consists of hydroelectric power stations Jor (4x25MW), Woh (3x50MW) & Hidro mini • Mini hydro 11.9 MW.

Jadual 3: Kapasiti Penjanaan Terpasang Yang Dilesenkan (MW) 2010-2014 TNB**Table 3: TNB Licensed Installed Generation Capacity (MW) 2010-2014**

Tahun • Year	BAHAN API • FUEL TYPE						JUMLAH • TOTAL	Kebolehdapatan Keseluruhan (%) • Overall Availability (%)
	Hidro • Hydro	Gas Asli • Natural Gas	Arang Batu • Coal	Medium Fuel Oil (MFO)	Diesel	Lain-lain • Others		
2010	1,911	5,061	-	-	68	-	7,040	89.4
2011	1,911	5,075	-	-	68	-	7,054	86.8
2012	1,911	5,075	-	-	-	-	6,986	93.5
2013	1,911	4,955	-	-	-	-	6,866	92.4
2014	1,911	4,705	-	-	-	-	6,616	86.7

Jadual 4: Campuran Penjanaan (GWj) 2010-2014 TNB**Table 4: TNB Generation Mix (GWh) 2010-2014**

Tahun • Year	BAHAN API • FUEL TYPE						JUMLAH • TOTAL
	Hidro • Hydro	Gas Asli • Natural Gas	Arang Batu • Coal	Medium Fuel Oil (MFO)	Diesel	Lain-lain • Others	
2010	5,227	22,337	-	6	119	-	27,689
2011	5,950	15,915	-	686	1,468	-	24,018
2012	5,524	19,558	-	86	1,161	-	26,329
2013	5,392	19,394	-	128	-	-	24,914
2014	4,111	24,298	-	-	-	-	28,409

Jadual 5: Jualan Tenaga Elektrik (GWj) 2010-2014 TNB**Table 5: TNB Sales of Electricity (GWh) 2010-2014**

Tahun • Year	Domestik • Domestic	Komersil • Commercial	Industri • Industry	Lampu Awam • Public Lighting	Perlombongan • Mining	Eksport (EGAT) • Export (EGAT)	Lain-lain (termasuk pertanian) • Others (including agriculture)	JUMLAH • TOTAL
2010	18,217	29,872	40,071	1,046	62	88	265	89,621
2011	18,916	31,755	41,449	1,139	75	73	306	93,713
2012	20,301	33,218	42,047	1,235	98	13	344	97,256
2013	51,601	34,878	42,721	1,302	121	171	375	101,105
2014	22,350	35,801	43,380	1,370	133	-	414	103,449

Data diperolehi daripada Jabatan Single Buyer TNB • Data obtained from Single Buyer Department of TNB

Jadual 6: Bilangan Pengguna 2010-2014 TNB**Table 6: TNB Number of Consumers 2010-2014**

Tahun • Year	Domestik • Domestic	Komersil • Commercial	Industri • Industry	Lampu Awam • Public Lighting	Perlombongan • Mining	Eksport (EGAT) • Export (EGAT)	Lain-lain (termasuk pertanian) • Others (including agriculture)	JUMLAH • TOTAL
2010	6,128,224	1,224,414	25,580	50,122	17	1,080	2,218	7,431,655
2011	6,288,281	1,281,108	26,203	53,075	20	1,166	2,264	7,652,117
2012	6,456,647	1,334,371	27,599	56,715	22	1,241	2,271	7,878,866
2013	6,503,417	1,334,856	27,954	61,121	27	1,494	-	7,928,869
2014	6,710,032	1,404,501	24,852	63,340	29	1,574	-	8,204,328

Unit Percuma merupakan bekalan elektrik yang tidak dikenakan bayaran bil bulanan. Premis yang layak merupakan premis-premis TNB termasuk bangunan pejabat, rumah kelab, kuarters, pencawang masuk utama, pencawang pembahagian utama dan pencawang elektrik • Free Units refer to electricity provided for free without being charged for monthly bill payments. Eligible premises are TNB premises including office buildings, clubhouse, quarters, main substations, transmission substations and distribution substations

Jadual 7: Stesen Jana Kuasa Penjana-Penjana Kuasa Bebas (IPP) di Semenanjung Malaysia

Table 7: IPP Power Stations in Peninsular Malaysia

Bil. • No.	Stesen Jana Kuasa • Power Stations	Jenis Loji • Plant Type	Bahan Api • Fuel	Tarikh Mula Beroperasi • Year of Commissioning	Kapasiti Penjanaan Terpasang Yang Dilesenkan (MW) • Licensed Installed Generation Capacity (MW)	Kapasiti Penjanaan Terpasang (MW) ¹ • Installed Generation Capacity (MW) ¹	Unit Penjanaan (GWj) • Units Generated (GWh)	Unit Jualan (GWj) • Units Sold (GWh)
1.	Kapar Energy Ventures (KEV) GF1	Thermal (Gas Asli/Minyak) • Thermal (Natural Gas/Oil)	Gas Asli/Minyak • Natural Gas/Oil	1986	600.00	564.00	2,046.86	1,933.30
2.	KEV GF2	Thermal Arang Batu • Thermal Coal	Arang Batu • Coal	1989	600.00	1,486.00	4,650.74	4,341.00
3.	KEV GF3			2001	1,000.00		4,658.47	4,379.93
4.	KEV GF4			Kitar Terbuka • Open Cycle	Gas Asli • Natural Gas		1994	220.00
5.	Sultan Azlan Shah, Manjung	Thermal Arang Batu • Thermal Coal	Arang Batu • Coal	2003	2,100.00	2,070.00	15,727.49	15,036.54
6.	YTL, Paka, Terengganu	Kitar Padu • Combined Cycle	Gas Asli • Natural Gas	1995	780.00	780.00	5,674.94	4,968.54
7.	YTL, Pasir Gudang			1995	390.00	390.00	2,584.48	2,537.81
8.	Genting Sanyen (KLPP), Sepang			1995	762.00	720.00	4,697.68	4,586.71
9.	PD Power, Port Dickson			1995	440.00	436.40	648.00	648.00
10.	Segari, Lumut			1996	1,303.00	1,303.00	8,097.51	7,892.69
11.	GB3, Lumut			2002	640.00	640.00	1,943.02	1,901.21
12.	Panglima, Alor Gajah			2003	720.00	720.00	4,697.89	4,604.12
13.	Pahlawan, Melaka			1998	334.00	322.00	2,127.93	2,090.66
14.	Prai Power, Prai	2002	350.00	350.00	2,151.11	2,104.53		
15.	TTPC, Perlis	2003	650.00	650.00	4,176.33	4,091.56		
16.	Tanjung Bin Power, Pontian	Thermal Arang Batu • Thermal Coal	Arang Batu • Coal	2006 & 2007	2,100.00	2,100.00	16,068.11	15,545.69
17.	Jimah Energy Ventures, Port Dickson			2009	1,400.00	1,400.00	9,431.39	8,931.20
18.	Powertek, Alor Gajah	Kitar Terbuka • Open Cycle	Gas Asli • Natural Gas	1995	440.00	434.00	540.56	532.73
19.	NUR Generation, Kulim	Kitar Padu • Combined Cycle	Gas Asli • Natural Gas	1998	440.00		1,219.26	1,190.15
20.	Musteq Hidro, Kuala Krai	Hidro • Hydro	Hidro • Hydro	1994	20.00		52.88	52.88
JUMLAH • TOTAL					15,289.00	14,570.40	91,314.64	87,488.41

¹ Kapasiti Penjanaan Terpasang Disemak Semula 2014 • 2014 Revised Installed Generation Capacity

Musteq Hidro bersambung di talian pengagihan 33kV, manakala NUR menjana elektrik untuk kegunaan pelanggan dalam KHTP sahaja. Kedua-duanya tidak membekalkan elektrik ke grid, maka tidak diambil kira dalam kapasiti penjanaan terpasang • Musteq Hidro is connected to 33kV at the distribution side, while NUR generates electricity only to supply their consumers within KHTP. Both are not supplying electricity to the grid system, thus not considered as part of installed generation capacity.

Jadual 8: Pemegang Lesen Projek Jana Kuasa Tenaga Boleh Baharu (TBB) di Semenanjung Malaysia

Table 8: Licensees of RE Power Generation Projects in Peninsular Malaysia

Bil. • No.	NAMA PELESEN DAN LOKASI • LICENSEE AND LOCATION	JENIS LOJI • PLANT TYPE	KAPASITI PENJANAAN YANG DILESENKAN (MW) • LICENSED GENERATION CAPACITY (MW)	PUNCA TENAGA ATAU JENIS BAHAN API • ENERGY SOURCE OR FUEL TYPE	JUMLAH PENJANAAN (GWJ) • TOTAL GENERATION (GWh)	JUMLAH JUALAN GWJ • TOTAL SALES GWh
1.	ACE PIXEL SDN. BHD. (Sijil Fiah : A00000131)	Solar PV	0.40	Suria • Sun	0.25	0.25
2.	ACE PIXEL SDN. BHD. (Sijil Fiah : A00000130)	Solar PV	0.40	Suria • Sun	0.22	0.22
3.	ACHI JAYA PLANTATIONS SDN. BHD.	Biogas	1.25	POME	5.62	5.62
4.	ACIDCHEM INTERNATIONAL SDN. BHD.	Solar PV	0.50	Suria • Sun	n/a	n/a
5.	ALLIANCE CONTRACT MANUFACTURING SDN. BHD.	Solar PV	0.42	Suria • Sun	n/a	n/a
6.	ALPHA AUTOMATION (SELANGOR) SDN. BHD.	Solar PV	0.18	Suria • Sun	0.18	0.18
7.	AMBANG FIESTA SDN. BHD.	Solar PV	5.00	Suria • Sun	5.88	5.77
8.	AMBANG FIESTA SDN. BHD.	Solar PV	1.00	Suria • Sun	0.99	0.99
9.	AMCORP PERTING HYDRO SDN. BHD.	Hidro Mini • Mini Hydro	4.20	Air • Water	25.17	25.17
10.	AQUAPONICS ENERGY GARDEN SDN. BHD.	Solar PV	0.43	Suria • Sun	0.58	0.58
11.	AQUAPONICS SOLAR FARM SDN. BHD.	Solar PV	0.34	Suria • Sun	0.50	0.50
12.	ATLANTIC BLUE SDN. BHD.	Solar PV	1.00	Suria • Sun	n/a	n/a
13.	BAGAN DATOH SOLAR FARM SDN. BHD.	Solar PV	2.50	Suria • Sun	1.09	1.09
14.	BELL ECO POWER SDN. BHD.	Turbin Gas • Gas Turbine	2.00	POME	5.15	4.30
15.	BELL ECO SDN. BHD.	Turbin Stim • Steam Turbine	11.00	EFB	n/a	n/a
16.	BINA PURI NORWEST SDN. BHD.	Solar PV	0.30	Suria • Sun	n/a	n/a
17.	BIOWATER CLIMATE CARE SDN. BHD.	Turbin Gas • Gas Turbine	2.13	Gas Tapak Pelupusan • Landfill Gas	11.03	9.76
18.	BROADWAY VICTORY SDN. BHD.	Solar PV	0.99	Suria • Sun	0.01	0.01
19.	BUTTERWORTH PAPER CUPS SDN. BHD.	Solar PV	0.18	Suria • Sun	0.88	0.88
20.	CANDELA GREEN ENERGY SDN. BHD.	Solar PV	0.18	Suria • Sun	n/a	n/a
21.	CEMARA ANGSANA SDN. BHD. (No. Fiah : A00000099)	Solar PV	4.50	Suria • Sun	5.96	4.93
22.	CEMARA ANGSANA SDN. BHD. (No. Fiah : A00000394)	Solar PV	1.26	Suria • Sun	1.67	1.39
23.	CHENG HUA ENGINEERING WORKS SDN. BHD.	Solar PV	0.18	Suria • Sun	n/a	n/a
24.	CORPORATE SEASON SDN. BHD.	Solar PV	4.00	Suria • Sun	n/a	n/a
25.	CYPARK SURIA I SUN (NEGERI SEMBILAN) SDN. BHD.	Solar PV	3.00	Suria • Sun	2.73	2.73
26.	CYPARK SURIA I SUN (PAJAM) SDN. BHD.	Solar PV	5.00	Suria • Sun	4.72	4.62
27.	CYPARK SURIA I SUN (PAJAM) SDN. BHD.	Solar PV	1.00	Gas Tapak Pelupusan • Landfill Gas	n/a	n/a

Bil. No.	NAMA PELESEN DAN LOKASI • LICENSEE AND LOCATION	JENIS LOJI • PLANT TYPE	KAPASITI PENJANAAN YANG DILESENKAN (MW) • LICENSED GENERATION CAPACITY (MW)	PUNCA TENAGA ATAU JENIS BAHAN API • ENERGY SOURCE OR FUEL TYPE	JUMLAH PENJANAAN (GWJ) • TOTAL GENERATION (GWh)	JUMLAH JUALAN GWJ • TOTAL SALES GWh
28.	CYPARK SURIA I SUN (PAJAM) SDN. BHD. (Sijil Fiah : A0000486)	Solar PV	5.00	Suria • Sun	4.72	4.62
29.	DATO' IR. DR. DENNIS GANENDRA	Solar PV	0.81	Suria • Sun	n/a	n/a
30.	DATO' IR. DR. DENNIS GANENDRA	Solar PV	0.99	Suria • Sun	n/a	n/a
31.	DICKOW SDN. BHD.	Solar PV	0.42	Suria • Sun	n/a	n/a
32.	EAGLETECH INDUSTRIES SDN. BHD.	Solar PV	0.18	Suria • Sun	n/a	n/a
33.	ELEGANT GROUP SDN. BHD.	Solar PV	0.14	Suria • Sun	0.05	0.05
34.	EMERALD ESTEEM SDN. BHD.	Solar PV	0.99	Suria • Sun	0.15	0.14
35.	EN. LIM CHOO SOO	Solar PV	0.95	Suria • Sun	1.29	1.28
36.	EN. ONG AH HWA	Solar PV	1.00	Suria • Sun	n/a	n/a
37.	EN. TAN VAIT LEONG	Solar PV	0.50	Suria • Sun	0.64	0.64
38.	EN. TEW PENG HWEE	Solar PV	0.72	Suria • Sun	0.13	0.13
39.	EN. THAMILMUKILAN A/L PUSPANADAM	Solar PV	0.62	Suria • Sun	0.03	0.03
40.	EVERGREEN GOLDFEEL SDN. BHD.	Solar PV	0.50	Suria • Sun	n/a	n/a
41.	EVERISE TASKFORCE SDN. BHD.	Solar PV	0.43	Suria • Sun	n/a	n/a
42.	EXOTIC ACCESS SDN. BHD.	Solar PV	0.50	Suria • Sun	0.01	0.01
43.	FAIRVIEW EQUITY PROJECT SDN. BHD.	Solar PV	1.00	Suria • Sun	n/a	n/a
44.	FELDA PALM INDUSTRIES SDN. BHD	Biogas	1.50	POME	2.44	1.41
45.	FELDA PALM INDUSTRIES SDN. BHD.	Biogas	1.20	POME	n/a	n/a
46.	FELDA PALM INDUSTRIES SDN. BHD.	Biogas	1.20	POME	n/a	n/a
47.	FORTUNE 11 SDN. BHD	Solar PV	5.00	Suria • Sun	n/a	n/a
48.	FTJ BIO POWER SDN. BHD.	Biojisim • Biomass	13.50	EFB	n/a	n/a
49.	GADING KENCANA SDN. BHD. (Sijil Fiah : A0000442)	Solar PV	3.00	Suria • Sun	n/a	n/a
50.	GADING KENCANA SDN. BHD. (Sijil Fiah : A0000145)	Solar PV	5.00	Suria • Sun	n/a	n/a
51.	GAYA DUNIA SDN. BHD. (Fasa I)	Solar PV	3.00	Suria • Sun	3.00	2.99
52.	GAYA DUNIA SDN. BHD. (Fasa I)	Turbin Gas • Gas Turbine	0.50	Gas Tapak Pelupusan • Landfill Gas	n/a	n/a
53.	GAYA DUNIA SDN. BHD. (Fasa II)	Solar PV	2.00	Suria • Sun	n/a	n/a
54.	GAYA DUNIA SDN. BHD. (Fasa II)	Turbin Gas • Gas Turbine	0.50	Gas Tapak Pelupusan • Landfill Gas	n/a	n/a
55.	GUBAHAN CERIA SDN. BHD.	Solar PV	4.50	Suria • Sun	5.96	4.86
56.	HARTAMAS MENTARI SDN. BHD.	Solar PV	0.50	Suria • Sun	0.14	0.14
57.	HBH GLOBAL ENERGY SDN. BHD	Solar PV	0.50	Suria • Sun	0.76	0.74
58.	HEXATECH ENGINEERING SDN. BHD.	Solar PV	0.17	Suria • Sun	0.04	0.04
59.	I.S. ENERGY SDN. BHD.	Hidro Mini • Mini Hydro	2.80	Air • Water	13.67	12.86

Bil. • No.	NAMA PELESEN DAN LOKASI • LICENSEE AND LOCATION	JENIS LOJI • PLANT TYPE	KAPASITI PENJANAAN YANG DILESENKAN (MW) • LICENSED GENERATION CAPACITY (MW)	PUNCA TENAGA ATAU JENIS BAHAN API • ENERGY SOURCE OR FUEL TYPE	JUMLAH PENJANAAN (GWJ) • TOTAL GENERATION (GWh)	JUMLAH JUALAN GWJ • TOTAL SALES GWh
60.	INFRA MASYHUR SDN. BHD.	Solar PV	0.34	Suria • Sun	n/a	n/a
61.	IRM SOLAR SDN. BHD.	Solar PV	5.00	Suria • Sun	n/a	n/a
62.	ISKANDAR REGIONAL DEVELOPMENT AUTHORITY	Solar PV	0.21	Suria • Sun	n/a	n/a
63.	IVORY DAZZLE SDN. BHD.	Solar PV	0.99	Suria • Sun	1.21	1.19
64.	JANA LANDFILL SDN. BHD.	Turbin Gas • Gas Turbine	2.00	Gas Tapak Pelupusan • Landfill Gas	3.98	3.98
65.	JANA LANDFILL SDN. BHD.	Turbin Gas • Gas Turbine	1.07	Gas Tapak Pelupusan • Landfill Gas	n/a	n/a
66.	JAYADEV A/L K.K PILLAI	Solar PV	1.00	Suria • Sun	0.11	0.11
67.	JEFI AQUATECH RESOURCES SDN. BHD.	Solar PV	0.18	Suria • Sun	0.26	0.26
68.	JENG HUAT (BAHAU) REALTY SDN. BHD.	Turbin gas • Gas turbine	1.20	Gas Tapak Pelupusan • Landfill Gas	n/a	n/a
69.	JISHAN PACK SDN. BHD.	Solar PV	0.18	Suria • Sun	0.18	0.16
70.	KAYANGAN MEGAJAYA SDN. BHD.	Solar PV	0.50	Suria • Sun	0.01	0.01
71.	KEMUNING SUMIKIN BUSSAN SDN. BHD	Solar PV	1.01	Suria • Sun	0.95	0.95
72.	KLASIK AKTIF SDN. BHD.	Solar PV	0.18	Suria • Sun	0.16	0.16
73.	KOMBINASI BUMI SOLAR SDN. BHD.	Solar PV	0.31	Suria • Sun	0.27	0.27
74.	KOMBINASI BUMI SOLAR SDN. BHD.	Solar PV	1.01	Suria • Sun	0.27	0.27
75.	KOMITMEN MANTAP SDN. BHD.	Solar PV	2.00	Suria • Sun	n/a	n/a
76.	KOMITMEN MANTAP SDN. BHD. (Sijil Fiah : A00000397)	Solar PV	2.00	Suria • Sun	n/a	n/a
77.	KUALITI ALAM SDN. BHD.	Solar PV	0.15	Suria • Sun	0.15	0.15
78.	KUB-BERJAYA ENERGY SDN. BHD.	Turbin Gas • Gas Turbine	1.20	Gas Tapak Pelupusan • Landfill Gas	5.15	5.04
79.	KUB-BERJAYA ENERGY SDN. BHD.	Turbin Gas • Gas Turbine	3.12	Gas Tapak Pelupusan • Landfill gas	19.18	18.97
80.	KUB-BERJAYA ENERGY SDN. BHD.	Solar PV	0.13	Suria • Sun	0.13	0.13
81.	KUMPULAN MELAKA BERHAD (Fasa I)	Solar PV	1.30	Suria • Sun	0.32	0.32
82.	KUMPULAN MELAKA BERHAD (Fasa II)	Solar PV	1.22	Suria • Sun	0.32	0.32
83.	KUMPULAN MELAKA BERHAD (Fasa III)	Solar PV	2.48	Suria • Sun	0.61	0.61
84.	KURNIA MAJURIA SDN. BHD.	Solar PV	0.50	Suria • Sun	n/a	n/a
85.	LEMBAGA PENGELOLA SJKC SUNGAI WAY	Solar PV	0.18	Suria • Sun	n/a	n/a
86.	LEMBAGA PENGELOLA SMJK KATHOLIK PETALING JAYA	Solar PV	0.18	Suria • Sun	0.19	0.19
87.	LEONG BEE & SOO BEE SDN. BHD.	Solar PV	0.15	Suria • Sun	0.14	0.14
88.	MACGLO STEEL SERVICE CENTRE SDN. BHD.	Solar PV	0.47	Suria • Sun	0.19	0.19

Bil. • No.	NAMA PELESEN DAN LOKASI • LICENSEE AND LOCATION	JENIS LOJI • PLANT TYPE	KAPASITI PENJANAAN YANG DILESENKAN (MW) • LICENSED GENERATION CAPACITY (MW)	PUNCA TENAGA ATAU JENIS BAHAN API • ENERGY SOURCE OR FUEL TYPE	JUMLAH PENJANAAN (GWJ) • TOTAL GENERATION (GWh)	JUMLAH JUALAN GWJ • TOTAL SALES GWh
89.	MAJU INTAN BIOMASS ENERGY SDN. BHD.	Biojisim • Biomass	12.93	EFB	11.66	9.15
90.	MALAYSIAN GREEN TECHNOLOGY CORPORATION	Solar PV	0.09	Suria • Sun	0.00	0.00
91.	MARA INCORPORATED SDN. BHD.	Solar PV	0.18	Suria • Sun		
92.	MARAN ROAD SAWMILL SDN. BHD.	Solar PV	0.50	Suria • Sun	0.42	0.42
93.	MATAHARI KENCANA SDN. BHD.	Solar PV	1.00	Suria • Sun	n/a	n/a
94.	MHES ASIA SDN. BHD.	Turbin Stim • Steam Turbine	13.00	Sisa Sawit • Palm Oil Waste	n/a	n/a
95.	MIE CORPORATE HOLDINGS SDN. BHD.	Solar PV	0.20	Suria • Sun	n/a	n/a
96.	MILLEON EXTRUDER SDN. BHD.	Solar PV	0.50	Suria • Sun	n/a	n/a
97.	MUJUR SATRIA SDN. BHD.	Solar PV	0.99	Suria • Sun	0.01	0.01
98.	NEW HOONG FATT AUTO SUPPLIES SDN. BHD.	Solar PV	0.18	Suria • Sun	0.12	0.12
99.	OUTREACH GREEN SDN. BHD. (Sijil Fiah : A00001273)	Solar PV	0.50	Suria • Sun	0.63	0.61
100.	OUTREACH GREEN SDN. BHD. (Sijil Fiah : A00001544)	Solar PV	0.50	Suria • Sun	0.65	0.54
101.	PANTAS LESTARI SDN. BHD.	Solar PV	0.50	Suria • Sun	Dibatalkan pada 19/2/2014 kerana pertukaran tempat pemasangan • License revoked on 19/2/2014 due to change of installation location	
102.	PANTAS LESTARI SDN. BHD.	Solar PV	0.43	Suria • Sun	0.32	0.29
103.	PEPS-JV (M) SDN. BHD.	Solar PV	2.00	Suria • Sun	n/a	n/a
104.	PERBADANAN MEMAJUKAN IKTISAD NEGERI TERENGGANU	Solar PV	0.45	Suria • Sun	0.05	0.05
105.	PESAKA TECHNOLOGIES SDN. BHD.	Hidro Mini • Mini Hydro	12.00	Air • Water	n/a	n/a
106.	PLANET SONATA SDN. BHD.	Solar PV	0.11	Suria • Sun	n/a	n/a
107.	RECYCLE ENERGY SDN. BHD.	Turbin Stim • Steam Turbine	8.90	Sampah Terproses • Processed Waste	n/a	n/a
108.	RENEWABLE POWER SDN. BHD.	Hidro Mini • Mini Hydro	2.20	Air • Water	9.92	3.57
109.	RENTAK RAYA SDN. BHD.	Solar PV	2.00	Suria • Sun	2.18	2.17
110.	REVISION SOLAR SDN. BHD.	Solar PV	0.18	Suria • Sun	0.13	0.13
111.	ROVSKI INDUSTRIES SDN. BHD.	Solar PV	0.18	Suria • Sun	n/a	n/a
112.	SAGE MAJESTIC SDN. BHD.	Solar PV	0.18	Suria • Sun	n/a	n/a
113.	SAUJANA NAGAMAS SDN. BHD.	Solar PV	0.99	Suria • Sun	0.01	0.01
114.	SELASIH MENTARI SDN. BHD. (No. Fiah:A00000106)	Solar PV	2.00	Suria • Sun	2.53	2.53
115.	SELASIH MENTARI SDN. BHD. (No. Fiah:A00000207)	Solar PV	2.00	Suria • Sun	1.84	1.84

Bil. • No.	NAMA PELESEN DAN LOKASI • LICENSEE AND LOCATION	JENIS LOJI • PLANT TYPE	KAPASITI PENJANAAN YANG DILESENKAN (MW) • LICENSED GENERATION CAPACITY (MW)	PUNCA TENAGA ATAU JENIS BAHAN API • ENERGY SOURCE OR FUEL TYPE	JUMLAH PENJANAAN (GWJ) • TOTAL GENERATION (GWh)	JUMLAH JUALAN GWJ • TOTAL SALES GWh
116.	SELASIH MENTARI SDN. BHD. (No. Fiah:A00000393)	Solar PV	1.30	Suria • Sun	1.71	1.71
117.	SHAW & SONS (KUALA LUMPUR) SDN. BHD.	Solar PV	0.30	Suria • Sun	0.34	0.33
118.	SHEN YONG ENGINEERING WORKS SDN. BHD.	Solar PV	0.43	Suria • Sun	n/a	n/a
119.	SILVERSTAR PAVILION SDN. BHD.	Solar PV	5.00	Suria • Sun	n/a	n/a
120.	SILVERSTAR PAVILION SDN. BHD.	Solar PV	5.00	Suria • Sun	n/a	n/a
121.	SOLAR MANAGEMENT (CHEMBONG) SDN. BHD.	Solar PV	0.50	Suria • Sun	0.36	0.36
122.	SOLAR MANAGEMENT (REMBAU) SDN. BHD.	Solar PV	0.50	Suria • Sun	0.37	0.37
123.	SOLARCO HOLDINGS SDN. BHD.	Solar PV	0.49	Suria • Sun	n/a	n/a
124.	SOLARCROP SDN. BHD.	Solar PV	0.43	Suria • Sun	0.48	0.48
125.	SOLPLUS SDN. BHD.	Solar PV	0.50	Suria • Sun	0.55	0.55
126.	SOLRA SDN. BHD.	Solar PV	0.48	Suria • Sun	0.64	0.64
127.	SPECIAL UNIVERSAL SDN. BHD. (Sijil Fiah : A00000047)	Solar PV	2.50	Suria • Sun	2.39	2.39
128.	SPECIAL UNIVERSAL SDN. BHD. (Sijil Fiah : A00000049)	Solar PV	5.00	Suria • Sun	4.13	4.13
129.	SPECIAL UNIVERSAL SDN. BHD. (Sijil Fiah : A00000377)	Solar PV	2.50	Suria • Sun	2.34	2.34
130.	STAR PUBLICATIONS (MALAYSIA) BERHAD	Solar PV	0.50	Suria • Sun	0.51	0.51
131.	SUCCESS SIGNET SDN. BHD.	Solar PV	1.75	Suria • Sun	n/a	n/a
132.	SUN SENG FATT SDN. BHD. (No. Fiah: A0001398)	Solar PV	0.50	Suria • Sun	0.49	0.49
133.	SUN SENG FATT SDN. BHD. (No. Fiah: A0001612)	Solar PV	0.50	Suria • Sun	0.59	0.59
134.	SUNQUEST SDN. BHD.	Turbin Stim • Steam Turbine	6.50	Sisa Sawit • Palm Oil Waste	n/a	n/a
135.	SUNRISE PRIMA SDN. BHD.	Solar PV	0.42	Suria • Sun	0.40	0.40
136.	SUPERSPAN SDN. BHD.	Solar PV	1.50	Suria • Sun	1.60	1.60
137.	SURIA KLCC SDN. BHD.	Solar PV	0.68	Suria • Sun	0.00	0.00
138.	SYNERGY GENERATED SDN. BHD.	Solar PV	5.00	Suria • Sun	n/a	n/a
139.	SYNERGY MUST SDN. BHD. (Sijil Fiah : A00000246)	Solar PV	1.00	Suria • Sun	0.41	0.41
140.	SYNERGY MUST SDN. BHD. (Sijil Fiah : A00000247)	Solar PV	1.00	Suria • Sun	0.46	0.46
141.	SYNERGY SOLAR DEVELOPMENT SDN. BHD	Solar PV	1.37	Suria • Sun	n/a	n/a
142.	SYNERGY SOLAR DEVELOPMENT SDN. BHD.	Solar PV	0.17	Suria • Sun	n/a	n/a
143.	SYNERGY SOLAR DEVELOPMENT SDN. BHD.	Solar PV	0.17	Suria • Sun	0.06	0.06

Bil. • No.	NAMA PELESEN DAN LOKASI • LICENSEE AND LOCATION	JENIS LOJI • PLANT TYPE	KAPASITI PENJANAAN YANG DILESENKAN (MW) • LICENSED GENERATION CAPACITY (MW)	PUNCA TENAGA ATAU JENIS BAHAN API • ENERGY SOURCE OR FUEL TYPE	JUMLAH PENJANAAN (GWJ) • TOTAL GENERATION (GWh)	JUMLAH JUALAN GWJ • TOTAL SALES GWh
144.	SYNERGY SOLAR DEVELOPMENT SDN. BHD.	Solar PV	0.09	Suria • Sun	0.03	0.03
145.	SYNERGY SOLAR DEVELOPMENT SDN. BHD.	Solar PV	0.17	Suria • Sun	n/a	n/a
146.	SYNERGY SOLAR DEVELOPMENT SDN. BHD.	Solar PV	0.17	Suria • Sun	n/a	n/a
147.	SYNERGY SOLAR DEVELOPMENT SDN. BHD. (Sijil Fiah : A00001569)	Solar PV	0.42	Suria • Sun	n/a	n/a
148.	SYNERGY SOLAR DEVELOPMENT SDN. BHD.(Sijil Fiah : A00000220)	Solar PV	0.17	Suria • Sun	n/a	n/a
149.	SYNERGY SOLAR DEVELOPMENT SDN. BHD.(Sijil Fiah : A00000222)	Solar PV	0.17	Suria • Sun	n/a	n/a
150.	SYNERGY SOLAR DEVELOPMENT SDN. BHD.(Sijil Fiah : A00000223)	Solar PV	0.17	Suria • Sun	n/a	n/a
151.	TAN CHENG SIANG	Solar PV	0.16	Suria • Sun	n/a	n/a
152.	THE METHODIST CHURCH IN MALAYSIA	Solar PV	0.16	Suria • Sun	n/a	n/a
153.	THUMBPRINTS UTD SDN. BHD.	Solar PV	0.50	Suria • Sun	0.57	0.57
154.	TS SOLARTECH SDN. BHD.	Solar PV	0.18	Suria • Sun	n/a	n/a
155.	TS WORLDWIDE WAREHOUSING SDN. BHD.	Solar PV	0.18	Suria • Sun	n/a	n/a
156.	UPAYA JAYAMAS SDN. BHD.	Solar PV	0.50	Suria • Sun	n/a	n/a
157.	UPTOWN SYSTEM SDN. BHD.	Solar PV	2.47	Suria • Sun	1.10	1.10
158.	URBAN AQUAPONICS SDN. BHD.	Solar PV	0.43	Suria • Sun	0.60	0.60
159.	VIZ URBANA SDN. BHD.	Solar PV	0.10	Suria • Sun	0.12	0.12
160.	VOLTAGE RENEWABLES SDN. BHD.	Solar PV	5.00	Suria • Sun	n/a	n/a
161.	VOLTAGE RENEWABLES SDN. BHD.	Solar PV	3.00	Suria • Sun	n/a	n/a
162.	VOLTAGE RENEWABLES SDN. BHD.	Solar PV	1.01	Suria • Sun	n/a	n/a
163.	VOLTAGE RENEWABLES SDN. BHD.	Solar PV	1.01	Suria • Sun	n/a	n/a
164.	WIBAWA HARMONI SDN. BHD.	Solar PV	0.99	Suria • Sun	0.01	0.01
165.	WT PLASTIC PRODUCTS SDN. BHD.	Solar PV	0.14	Suria • Sun	0.19	0.19
166.	YIQI SDN. BHD.	Solar PV	0.18	Suria • Sun	n/a	n/a
JUMLAH • TOTAL			271.27		190.36	168.61

n/a • Data tiada kerana pemegang lesen gagal menghantar laporan / projek belum mula tugas • Data is not available due to licensee's failure to submit report / project is not yet commissioned.

EFB: Empty Fruit Bunches • Tandan Sawit Kosong

Jadual 9: Co-generation dengan Lesen Persendirian di Semenanjung Malaysia

Table 9: Co-generation with Private Licenses in Peninsular Malaysia

Bil. • No.	Pelesen dan Lokasi Pemasangan • Licensee and Location of Installation	Lokasi Pemasangan • Location of Installation	Kapasiti Penjanaan Yang Dilesenkan (MW) • Licensed Generation Capacity (MW)	Bahan Api • Fuel	Jumlah Penjanaan (GWj) • Total Generation (GWh)
1.	PERWAJA STEEL SDN. BHD.	Terengganu	9.50	Haba Buangan Proses Perindustrian • Industrial Process Waste Heat	N/A
2.	MALYSIAN NEWSPRINT INDUSTRIES SDN. BHD.	Pahang	79.20	Bahan Buangan Pertanian • Agricultural Waste	39.78
3.	LOTTE CHEMICAL TITAN (M) SDN. BHD.	Johor	56.00	Gas Asli • Natural Gas	223.03
4.	LOTTE CHEMICAL TITAN (M) SDN. BHD.	Johor	42.60	Gas Asli • Natural Gas	86.20
5.	CENTRAL SUGARS REFINERY SDN. BHD.	Selangor	8.23	Gas Asli / Diesel • Natural Gas / Diesel	13.52
6.	BASF PETRONAS CHEMICALS SDN. BHD.	Pahang	27.40	Gas Asli • Natural Gas	44.19
7.	GAS DISTRICT COOLING (PUTRAJAYA) SDN. BHD.	Putrajaya	10.74	Gas Asli • Natural Gas	21.03
8.	GAS DISTRICT COOLING (PUTRAJAYA) SDN. BHD.	Putrajaya	6.50	Gas Asli • Natural Gas	23.02
9.	MUDA PAPER MILLS SDN. BHD.	Selangor	14.40	Gas Asli • Natural Gas	73.36
10.	PETRONAS FERTILIZER (KEDAH) SDN. BHD.	Kedah	18.31	Gas Asli • Natural Gas	55.85
11.	GULA PADANG TERAP SDN. BHD.	Kedah	10.29	Bahan Buangan Proses Perindustrian • Industrial Waste	16.80
12.	MALAYAN SUGAR MANUFACTURING CO. BHD.	Pulau Pinang	8.95	Gas Asli • Natural Gas	6.32
13.	PERAK-HANJOONG SIMEN SDN. BHD.	Kuala Lumpur	12.00	Haba Buangan Proses Perindustrian • Industrial Process Waste Heat	N/A
14.	PETRONAS GAS BERHAD	Terengganu	25.00	Gas Asli • Natural Gas	N/A
15.	PETRONAS GAS BERHAD	Terengganu	25.00	Gas Asli • Natural Gas	N/A
16.	WRP ASIA PACIFIC SDN. BHD.	Selangor	8.00	Gas Asli • Natural Gas	N/A
JUMLAH • TOTAL			362.12		603.10

Jadual 10: Co-generation dengan Lesen Awam di Semenanjung Malaysia**Table 10: Co-generation with Public Licenses in Peninsular Malaysia**

Bil. • No.	Pelesen dan Lokasi Pemasangan • Licensee and Location of Installation	Lokasi Pemasangan • Location of Installation	Kapasiti Penjanaan Yang Dilesenkan (MW) • Licensed Generation Capacity (MW)	Bahan Api • Fuel	Jumlah Penjanaan (GWj) • Total Generation (GWj)
1.	GAS DISTRICT COOLING (KLCC) SDN. BHD.	Kuala Lumpur	40.00	Gas Asli • Natural Gas	N/A
2.	GAS DISTRICT COOLING (KLIA) SDN. BHD.	Selangor	60.00	Gas Asli • Natural Gas	N/A
3.	SEE SEN CHEMICAL BHD.	Terengganu	6.00	Haba Buangan Proses Perindustrian • Industrial Process Waste Heat	19.76
4.	SHELL REFINING COMPANY (FOM) BERHAD	Negeri Sembilan	35.00	Gas Buangan Proses Perindustrian • Industrial Process Waste Gas	108.74
5.	PETRONAS GAS BERHAD	Terengganu	210.00	Gas Asli • Natural Gas	1,262.43
6.	PETRONAS GAS BERHAD	Pahang	105.00	Gas Asli • Natural Gas	765.13
7.	INSTITUTE OF TECHNOLOGY PETRONAS SDN. BHD.	Bandar Seri Iskandar	8.40	Gas Asli • Natural Gas	41.13
8.	FUSION ENERGY SDN. BHD.	Selangor	418.00	Gas Buangan Proses Perindustrian • Industrial Process Waste Gas	Tidak beroperasi • Not In Operation
9.	PERSTIMA UTILITY SDN. BHD.	Johor	5.67	Gas Asli • Natural Gas	17.50
10.	OPTIMISTIC ORGANIC SDN. BHD.	Terengganu	7.00	Haba Buangan Proses Perindustrian • Industrial Process Waste Heat	N/A
11.	PETRONAS PENAPISAN (MELAKA) SDN. BHD.	Melaka	152.27	Gas Asli • Natural Gas	Tiada Penjanaan • No Generation
12.	GAS MALAYSIA ENERGY ADVANCE SDN. BHD.	Selangor	33.50	Gas Asli • Natural Gas	N/A
13.	PETRONAS PENAPISAN (MELAKA) SDN. BHD.	Melaka	145.00	Gas Asli • Natural Gas	N/A
JUMLAH • TOTAL			1,225.84		2,214.69

Jadual 11: Penjanaaan Persendirian Kurang Daripada 5 MW di Semenanjung Malaysia
Table 11: Less-Than-5MW Self Generation in Peninsular Malaysia

Bil. • No.	Pejabat Kawasan Suruhanjaya Tenaga • Suruhanjaya Tenaga's Regional Office	Bilangan Lesen Yang Masih Sah Sehingga 31 Disember 2014 • Valid License as of 31 st December 2014	Kapasiti Penjanaaan Terpasang (MW) • Installed Generation Capacity (MW)	Jumlah Penjanaaan (GWj) • Total Generation (GWh)									
				Diesel	EFB	Tempurung & Gentian Sawit • Oil Palm Shell & Fibre	Effluen Kelapa Sawit • Palm Oil Mill Effluent	Habuk Kayu • Wood Dust	Fotovolta Suria • Solar PV	Hidro • Hydro	Sisa Sawit • Palm Oil Waste	Hampas Padi • Paddy Husk	JUMLAH • TOTAL
1.	Johor	284	104.19	9.00*									9.00
2.	Kelantan & Terengganu	303	97.46	3.10	16.80								19.90
3.	Negeri Sembilan & Melaka	142	74.08	0.00							18.52		18.52
4.	Pahang	268	215.27	0.02	0.14								0.16
5.	Perak	148	70.08	6.00	59.50		7.14			5.28			77.92
6.	Pulau Pinang, Kedah & Perlis	77	41.45	0.08	0.54				0.12			0.56	1.30
7.	Selangor, Kuala Lumpur & Putrajaya	593	200.85	1.74	0.75	0.45		0.34					3.28
JUMLAH • TOTAL		1,815	803.38	19.94	77.73	0.45	7.14	0.34	0.12	5.28	18.52	0.56	130.08

* Anggapan kerana butiran bahan api tidak dimaklumkan oleh Pejabat Kawasan • Assumption due to unreported details by Regional Office
 EFB: Empty Fruit Bunches • Tandan Sawit Kosong

SISTEM PENGHANTARAN TRANSMISSION SYSTEM

Jadual 12: Keupayaan Sistem Penghantaran TNB
Table 12: TNB Transmission System Capacity

Tahun • Year	2010	2011	2012	2013	2014
TALIAN/KABEL SISTEM PENGHANTARAN • TRANSMISSION SYSTEM LINES/CABLES					
500 kV (km)	1,094 ¹	1,094 ¹	1,295 ²	668	668
275 kV (km)	8,028	8,425	8,449	8,534 ³	8,714 ³
132 kV (km)	11,415	11,672	11,640	11,891	12,088
66 kV (km) ⁴	0.9	-	-	-	-
PENCAWANG PENGHANTARAN • TRANSMISSION SUBSTATIONS					
Bilangan • Number	392	399	401	404	414
Kapasiti • Capacity (MVA)	86,030	94,325	94,265	95,960	99,478
PRESTASI • PERFORMANCE					
System Minutes	0.85	1.01	1.03	0.44	0.31
Bilangan pelantikan • Number of trippings	322	305	276	10	9
Tenaga Yang Tidak Dibekal (MWj) • Unsupplied Energy (MWh)	254	261	271	121	87

Nota • Note:

¹ Sepanjang 425.92 km talian penghantaran 500 kV dikendalikan pada voltan 275 kV • 425.92 km of 500 kV transmission lines were operated at 275 kV

² Sepanjang 627.64 km talian penghantaran 500 kV dikendalikan pada voltan 275 kV • 627.64 km of 500 kV transmission lines were operated at 275 kV

³ Termasuk 627.64 cct-km talian 500 kV beroperasi pada 275 kV • Including 627.64 cct-km 500 kV lines energized at 275 kV

⁴ Talian 66 kV yang berjumlah 0.9 km telah pun dihentitugas pada 16 September 2011 • 66 kV lines amounting to 0.9 km has been decommissioned on September 16, 2011

SISTEM PENGAGIHAN DISTRIBUTION SYSTEM

Jadual 13: Keupayaan Sistem Pengagihan TNB
Table 13: TNB Distribution System Capacity

Tahun • Year	2010	2011	2012	2013	2014
TALIAN/KABEL SISTEM PENGAGIHAN • DISTRIBUTION SYSTEM LINES/CABLES					
Talian Atas (km) • Overhead Lines (km)	475,972	477,191	495,925	487,385	516,780
Kabel Bawah Tanah (km) • Underground Cables (km)	376,226	379,661	423,758	555,272	678,026
PENCAWANG PENGAGIHAN • DISTRIBUTION SUBSTATIONS					
Bilangan • Number	63,341	65,556	67,925	68,509	70,286
Keupayaan (MVA) • Capacity (MVA)	69,456	125,222	126,969	127,217	128,717

Jadual 14: Senarai Pengagih Elektrik di Semenanjung Malaysia**Table 14: List of Electricity Distributors in Peninsular Malaysia**

Bil. • No.	Nama Pelesen Dan Alamat Perhubungan • Licensee Name and Contact Address	Kawasan Bekalan • Area of Supply	Kapasiti Yang Dilesenkan (MW) • Licensed Capacity (MW)	Tarikh Lesen Dikeluarkan • Date of License Issued
1.	PETRONAS CHEMICALS MTBE SDN. BHD. Lot 111/112, Kawasan Perindustrial Gebeng, Peti Surat 1/2, 26080 Balok, Kuantan, Pahang. Tel : 09-585 6778 / 585 6700 Faks : 09-585 6751 / 585 4090	Polypropylene Malaysia Sdn. Bhd. (PMSB) No. Lot 111 dan 112, Mukim Gebeng, Daerah Kuantan, 26080 Kuantan, Pahang.	40.00	24-12-2010
2.	KUANTAN PORT CONSORTIUM SDN. BHD. Wisma KPC, Km. 25, Tanjung Gelang, P.O.Box 199, 25720 Kuantan, Pahang. Tel : 09-586 3888 Faks : 09-586 3777	Kuantan Port, Lot 1863, Mukim Sungai Karang, Daerah Kuantan, Pahang.	3.488	05-10-2009
3.	GAS DISTRICT COOLING (KLIA) SDN. BHD. Jalan KLIA S5 (KLIA Selatan), Southern Support Zone, 64000 KLIA, Sepang, Selangor. Tel : 03-8787 4326 Faks : 03-8787 4282	Kuala Lumpur International Airport, Daerah Sepang, Selangor.	60.00 *	01-01-1996
4.	LEMBAGA PELABUHAN KELANG Beg Berkunci 202, Jalan Pelabuhan Utara, 42005 Pelabuhan Kelang, Selangor. Tel : 03-3168 8211 Faks : 03-3167 0211 / 3168 9117	Kelang Port Authority Premis, Jalan Pelabuhan, 42005 Port Klang, Selangor.	5.80	25-03-1997
5.	PANGKALAN BEKALAN KEMAMAN SDN. BHD. P.O. Box 64, Kemaman Supply Base, 24007 Kemaman, Terengganu. Tel : 09-863 1566 Faks : 09-863 1716	Kawasan Pangkalan Bekalan Kemaman, Kemaman, Terengganu.	7.40	01-12-1997
6.	MALAYSIA AIRPORTS (SEPADANG) SDN. BHD. 3rd & 4th Floor, Airport Management Centre KL International Airport, 64000 KLIA, Selangor. Tel : 03-8776 2000 Faks : 03-8926 5510 / 8926 5209	PT 13, PT 89, PT 39, Bandar Lapangan Terbang Antarabangsa Sepang, Daerah Sepang, Selangor.	120.00	14-02-1998
7.	PETRONAS GAS BHD. Centralized Utility Facilities (CUF), Integrated Petrochemical Complex, KM 106 Jalan Kuantan/K. Terengganu, 24300 Kertih, Kemaman, Terengganu. Tel : 09-830 5500 Faks : 09-830 5514	Petrochemical Complex, Kerteh Industrial Area, Terengganu.	210.00 *	28-05-1998
8.	PETRONAS GAS BHD. Centralized Utility Facilities (CUF), Integrated Petrochemical Complex, Lot 139A Gebeng Industrial Area, Phase III, 26080 Kuantan, Pahang. Tel : 09-586 3300 Faks : 09-586 3311 / 586 3328	Petrochemical Complex, Gebeng Industrial Area, Pahang.	105.00 *	28-05-1998
9.	NUR DISTRIBUTION SDN. BHD. Central Control Building (CCB), Lot 30, Jalan Hi-Tech 4, Kulim Hi-Tech Park, 09000 Kulim, Kedah. Tel : 04-401 0100 Faks : 04-401 0344 / 401 0319	Kulim Hi-Tech Industrial Park, Kedah.	440.00	17-09-1998
10.	SHELL REFINING COMPANY (FEDERATION OF MALAYA) BHD. Batu 1, Jalan Pantai, 71000 Port Dickson, Negeri Sembilan. Tel : 06-647 1311 Faks : 06-647 4622	71000 Port Dickson, Negeri Sembilan.	35.00 *	05-10-2009
11.	GAS DISTRICT COOLING (KLCC) SDN. BHD. Level 1, Bangunan DCCI, Persiaran KLCC Off Jalan Ampang, 50088 Kuala Lumpur. Tel : 03-2380 5660 Faks : 03-2381 7086	Bangunan DCC 1 / DCC 2, KLCC DCS/ Co-Generation Plant, Persiaran KLCC, Jalan Ampang, 50088 Kuala Lumpur.	40.00 *	30-08-2000
12.	AEON CO. (M) BHD. Jusco Taman Maluri Shopping Centre, 1st. Floor, Jalan Jejaka, Taman Maluri, Cheras, 55100 Kuala Lumpur. Tel : 03-9285 5222 Faks : 03-9285 9999	Lot 33, 2386, 2595, 2596 dan 2388, Taman Maluri, Jalan Jejaka, Seksyen 90A Cheras, 55100 Wilayah Persekutuan Kuala Lumpur.	4.80	21-09-2011

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13.	GENTING UTILITIES & SERVICES SDN. BHD. Tingkat 24, Wisma Genting, 28 Jalan Sultan Ismail, 50250 Kuala Lumpur. Tel : 03-2333 2288 / 6105 2637 Faks : 03-2333 3158 / 6015 2600	Kawasan Genting Highlands.	48.00	27-10-2000
14.	IKANO CORPORATION SDN. BHD. No. 2, Jalan PJU 7/2, Mutiara Damansara, 47800 Petaling Jaya, Selangor. Tel : 03-7720 7350 Faks : 03-7726 6277	Lot PT 400038, Mutiara Damansara, 47800 Petaling Jaya, Selangor.	7.936	23-12-2003
15.	JAYA JUSCO STORES BERHAD Jusco Taman Universiti Shopping Centre, No. 4, Jalan Pendidikan, Taman Universiti, 81300 Skudai, Johor. Tel : 07-520 8700 Faks : 07-521 3000	PTD 62861, Jalan Pendidikan, Taman Universiti, Mukim Pulai, Daerah Johor Bahru, Johor.	3.107	28-02-2004
16.	INSTITUTE OF TECHNOLOGY PETRONAS SDN. BHD. Bandar Seri Iskandar, 31750 Tronoh, Perak. Tel : 05-368 8000 Faks : 05-365 4075	Kampus Universiti Teknologi Petronas, Tronoh, Perak.	8.40 *	26-01-2006
17.	ENG LIAN ENTERPRISE SDN. BHD. 9 Jalan Ampang #05-00, 50450 Kuala Lumpur. Tel : 03-2056 0600 Faks : 03-2056 0700	Lot 51533, Mukim Kuala Lumpur, Kuala Lumpur.	2.291	01-03-2006
18.	AEON CO. (M) BHD. Jusco Metro Prima Shopping Centre, 1st. Floor No. 1, Jalan Metro Prima, 52100 Kepong, Kuala Lumpur. Tel : 03-6259 1122 Faks : 03-6259 2805	PT 20954, Mukim Batu, Kuala Lumpur.	4.828	15-03-2006
19.	MALAKOFF UTILITIES SDN. BHD. Suite 4-G-A, Ground Floor, Block 4, Plaza Sentral, Jalan Stesen Sentral 5, 50470 Kuala Lumpur. Tel : 03-2263 3388 Faks : 03-2263 3366	Kawasan Pembangunan Kuala Lumpur Sentral, Kuala Lumpur.	100.00	15-10-2006
20.	ASM PROPERTIES SDN. BHD. Suite 5.4, Level 5, Maju Junction Mall, 1001 Jalan Sultan Ismail, 50250 Kuala Lumpur. Tel : 03-2772 8500 Faks : 03-2772 8501	Maju Junction Mall, Lot PT 19, Seksyen 46, Kuala Lumpur.	10.80	24-11-2006
21.	LEMBAGA TABUNG HAJI Tingkat 7, Bangunan TH Perdana, 1001, Jalan Sultan Ismail, 50250 Kuala Lumpur. Tel : 03-2781 9020 Faks : 03-2781 9023	Menara TH Perdana, Lot 101, Mukim Kuala Lumpur, Kuala Lumpur.	3.00	29-12-2006
22.	AEON CO. (M) BHD. AEON Cheras Selatan Shopping Centre, Aras 1, Lebuhraya Tun Hussien Onn, 43200 Balakong, Selangor. Tel : 03-9080 3498 Faks : 03-9080 3598	AEON Cheras Selatan Shopping Centre, PT 41977, (Sebahagian Lot 2225), Mukim Cheras, Daerah Hulu Langat, Selangor.	8.16	05-02-2007
23.	AEON CO. (M) BHD. Jusco Seremban 2 Shopping Centre, 112, Persiaran S2 B1, Seremban 2 70300 Seremban, Negeri Sembilan. Tel : 06-601 5618 Faks : 06-601 5645	AEON Seremban 2, Lot PT 10787 HS(D) 97966 & PT 10790 HS(D) 97969, Mukim Rasah, Daerah Seremban, Negeri Sembilan.	7.05	30-03-2007
24.	MID VALLEY CITY ENERGY SDN. BHD. Level 32, The Gardens South Tower Mid Valley City, Lingkaran Syed Putra, 59200 Kuala Lumpur. Tel : 03-2289 8989 Faks : 03-2938 3230 / 2289 8981	The Gardens (Phase 2), Lot PT13, Mukim Kuala Lumpur, Daerah Kuala Lumpur, 59200 Wilayah Persekutuan.	55.00	03-05-2007
25.	BANDAR UTAMA CITY CORPORATION SDN. BHD. 1, Persiaran Bandar Utama, Bandar Utama, 47800 Petaling Jaya, Selangor. Tel : 03-7728 8878 Faks : 03-7728 9978	Kawasan Pembangunan Bandar Utama, Lot PT 37649, 37650, 17970-17974, 17976 dan 15366, Mukim Sungai Buloh, PT 18 dan 17968 Bandar Petaling Jaya dan PT 22, 23, 44, 45, 83, Lot 27657-27659, 27962, 27669, 27671, 27673-27676, 27679, 27680 Seksyen 39, Bandar Petaling Jaya, Daerah Petaling, 47800 Selangor.	100.00	10-05-2007

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26.	FUSION ENERGY SDN. BHD. Lot 2319, Kaw. Perindustrian Olak Lempit, Mukim Tanjung 12, 42700 Banting, Selangor. Tel : 03-3182 2000 Faks : 03-3182 2382 / 3182 2279	Lion Group Complex, Lot 2319, 2320, 2321, 2323, 2582, 2823, dan 2824, Mukim Tanjung Dua Belas, Daerah Kuala Langat, 42700 Selangor.	418.00 *	12-06-2007
27.	ENG LIAN ENTERPRISE SDN. BHD. 9 Jalan Ampang #05-00, 50450 Kuala Lumpur. Tel : 03-2056 0600 Faks : 03-2056 0700	Bangsar Village II, Lot 43872, 43873 dan 43874, Mukim Kuala Lumpur, Daerah Kuala Lumpur, 59100 Wilayah Persekutuan.	3.116	03-09-2007
28.	Y.S. TANG HOLDINGS SDN. BHD. 1-888, KB Mall, Jalan Hamzah, 15050 Kota Bharu, Kelantan. Tel : 09-747 6622 Faks : 09-747 5900	KB Mall, PT 101, Jalan Hamzah, Seksyen 16, Bandar Kota Bharu, 15050 Kelantan.	3.161	18-09-2007
29.	JURUS KOTA SDN. BHD. 2-888, M-Floor, Alor Star Mall, Kawasan Perusahaan Tandop Baru, 05400 Alor Star, Kedah. Tel : 04-772 9233 Faks : 04-771 2033	Alor Star Mall, Lot 801 & 802, Dalam Kawasan Perniagaan Dan Industri, Kecil Sri Tandop 1, Mukim Pengkalan Kundor, Daerah Kota Setar, Kedah.	3.59	18-09-2007
30.	WISMA CENTRAL MANAGEMENT CORPORATION Lot 2.142, 1st Floor, Wisma Central, Jalan Ampang, Box #198, 50450 Kuala Lumpur. Tel : 03-2161 7522 Faks : 03-2161 9721	Wisma Central, Geran 10015, Lot 150, Seksyen 58, Bandar Kuala Lumpur, 50450 Wilayah Persekutuan.	2.20	31-10-2007
31.	AEON CO. (M) BHD. AEON Bukit Tinggi Shopping Centre, Level 1, No. 1, Persiaran Batu Nilam 1/KS 6, Bandar Bukit Tinggi 2, 41200 Klang, Selangor. Tel : 03-3326 2370 Faks : 03-3326 2371	AEON Co. (M) Bhd. Mall, Lot PT 2042 HS(D) 105957 dan PT 2043 HS(D) 105958, Mukim Klang, Daerah Klang, Selangor.	12.00	11-12-2007
32.	GCH RETAIL (MALAYSIA) SDN. BHD. Giant Hypermarket Kuala Terengganu, Complex Division, Lot PT 1485, Jalan Padang Hiliran, 21100 Kuala Terengganu, Terengganu. Tel : 09-631 9220 Faks : 09-631 9230	GCH Retail (Malaysia) Sdn. Bhd. Mall, HS(D) 5917, PT 1485, Mukim Cabang Tiga, Daerah Kuala Terengganu, 21100 Terengganu.	3.30	09-01-2008
33.	AWONA LAND SDN. BHD. Suite 4.09.03, 4th Floor, Central Square, No. 23, Jalan Kampung Baru, 08000 Sungai Petani, Kedah. Tel : 04-421 2268 / 423 8288 Faks : 04-422 4552	Central Square Shopping Centre, Lot 134 HS(D) 759/95, Mukim Sungai Petani, Daerah Kuala Muda, 08000 Kedah.	4.10	14-03-2008
34.	AEON CO. (M) BHD. Kinta City Shopping Centre, No. 2, Jalan Teh Lean Swee, Off Jalan Sultan Azlan Shah Utara, 31400 Ipoh, Perak. Tel : 05-548 4668 / 545 0913 Faks : 05-546 0899	AEON Kinta City Shopping Centre, Lot 51150, Mukim Ulu Kinta, Daerah Kinta, 31400 Ipoh, Perak.	7.65	18-03-2008
35.	MENARA HAP SENG SDN. BHD. 19th Floor, Menara Hap Seng, Letter Box No. 83, Jalan P. Ramlee, 50250 Kuala Lumpur. Tel : 03-2145 1363 / 2145 9363 Faks : 03-2145 7818	Menara Hap Seng, Lot 593 & 594, Mukim Bandar Kuala Lumpur, Daerah Kuala Lumpur, 50250 Kuala Lumpur, Wilayah Persekutuan.	10.94	19-03-2008
36.	GCH RETAIL (MALAYSIA) SDN. BHD. Giant Hypermarket Kuantan, Lot 5197, Jalan Tanah Putih, Seksyen 124, 25150 Kuantan, Pahang. Tel : 09-515 6999 Faks : 09-515 6466	Lot 5197, Mukim Kuantan, Daerah Kuantan, 25100 Pahang.	2.96	10-04-2008
37.	AEON CO. (M) BHD. Aeon Seberang Prai City Shopping Centre, Management Office, 1st Floor, Perdana Mall, Jalan Perda Timur, 14000 Bukit Mertajam, Seberang Prai Tengah, Pulau Pinang. Tel : 04-537 8022 Faks : 04-537 9022	Lot H.S.(M): 378 / PT 802, Mukim 6 & 7, Seberang Perai Tengah, 14000 Pulau Pinang.	14.00	28-04-2008
38.	MALAYSIA AIRLINE SYSTEM BERHAD 3rd Floor, Administration Building 1, MAS Complex A, Sultan Abdul Aziz Shah Airport, 47200 Subang, Selangor. Tel : 03-7843 3000 Faks : 03-8783 3089	Kompleks Kampus MAS, Lot PT 19, Mukim Dengkil, Daerah Sepang, 64000 Selangor.	25.00	29-04-2008

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39.	GCH RETAIL (MALAYSIA) SDN. BHD. Giant Superstore Ulu Klang - Complex Division, Lot 13793 & 13796, Jalan Changkat Permata, Taman Permata, 53300 Kuala Lumpur. Tel : 03-4106 2275 / 4105 3194 Faks : 03-4106 7414	Lot 13793 dan 13796, Mukim Setapak, Daerah Gombak, 53300 Selangor.	2.68	20-05-2008
40.	AMTRUSTEE BERHAD Hektar Premier Sdn. Bhd. Lot F36, First Floor, Subang Parade, No. 5, Jalan SS 16/1, 47500 Subang Jaya, Selangor. Tel : 03-5032 9778 / 5633 2530 Faks : 03-5633 8079	Subang Parade, Lot 14193, Mukim Bandar Subang Jaya, Daerah Petaling, 47500 Selangor.	10.00	07-05-2008
41.	RELIABLE CAPACITY SDN. BHD. G-M-1, Axis Atrium @ Axis Pandan, Jalan Cempaka, Taman Cempaka, 68000 Ampang, Selangor. Tel : 03-9281 2307 Faks : 03-9281 2305	Parcel 1 Perdagangan 'Axis Atrium', No. Lot 27985, Mukim Ampang, Daerah Hulu Langat Selangor.	3.60	13-06-2008
42.	GCH RETAIL (MALAYSIA) SDN. BHD. (Complex Management Division - Giant Tampoi) Lot 54, Jalan Skudai, 81200 Tampoi, Johor Bahru, Johor. Tel : 07-238 2353 Faks : 07-238 2354	Lot 54, Mukim Tampoi, Daerah Johor Bharu, 81200 Johor.	5.10	08-07-2008
43.	GCH RETAIL (MALAYSIA) SDN. BHD. (Complex Division - Plentong), 3 Jalan Masai Lama, Mukim Plentong, 81750 Johor Bharu. Tel : 07-358 1402 Faks : 07-352 6532	Lot P.T.D. 116058 dan 116059, Mukim Plentong, Daerah Johor Bharu, Johor.	4.20	17-07-2008
44.	IGCH RETAIL (MALAYSIA) SDN. BHD. Giant Hypermarket Skudai, Lot 3066 & 3067, Mukim Tebrau, 81200 Johor Bharu, Johor. Tel : 07-554 7233 Faks : 07-554 7229	Lot 3066 & 3067, Mukim Tebrau, Daerah Johor Bharu, 81200 Johor.	3.70	12-08-2008
45.	LIANBANG VENTURES SDN. BHD. F4-40, Level 4, Dataran Pahlawan Melaka Megamall, Jalan Merdeka, 75000 Bandar Hilir, Melaka. Tel : 06-282 1828 Faks : 06-283 1827	Dataran Pahlawan Melaka Megamall, Lot 14, 141 dan 142, Mukim Kawasan Bandar XXVII, Daerah Melaka Tengah, Melaka.	5.523	29-10-2008
46.	GCH RETAIL (MALAYSIA) SDN. BHD. Giant Mall Kelana Jaya, No. 33, Jalan SS 6/12, SS 6, Kelana Jaya, 47301 Petaling Jaya, Selangor. Tel : 03-7880 4714 Faks : 03-7803 7858	Giant Mall Kelana Jaya, Lot PT 67 Seksyen 40, Mukim Bandar Petaling Jaya, Daerah Petaling, 47301 Selangor.	6.114	05-11-2008
47.	GCH RETAIL (MALAYSIA) SDN. BHD. Giant Hypermarket Shah Alam, Lot 2, Persiaran Sukan, Seksyen 13, 40100 Shah Alam, Selangor. Tel : 03-5544 8888 / 5511 8530 Faks : 03-5511 9681	Lot 2, Seksyen 13, Daerah Shah Alam, Selangor.	4.20	05-11-2008
48.	TROPICANA CITY SDN. BHD., (Formerly Known as Dijaya Land Sdn. Bhd.), Management Office, Lot B1-01, Basement 1, Tropicana City Mall, No. 3 Jalan SS20/27, 47400 Petaling Jaya, Selangor. Tel : 03-7710 1818 Faks : 03-7710 0202	Tropicana City, Lot 45821, Mukim Damansara Utama, Daerah Petaling Jaya, Selangor.	11.03	05-11-2008
49.	BR PROPERTY HOLDINGS SDN. BHD. Lot No. T117A, 3rd Floor, Bangsar Shopping Centre, 285 Jalan Maarof, Bukit Bandaraya, 59000 Kuala Lumpur. Tel : 03-2094 7700 Faks : 03-2094 1022	Bangsar Shopping Centre, Lot 41274, Daerah Kuala Lumpur, Wilayah Persekutuan Kuala Lumpur.	8.506	18-11-2008
50.	DREAM PROPERTY SDN. BHD. 2-12, 2nd Floor, Batu Pahat Mall, Jalan Kluang, 83000 Batu Pahat, Johor. Tel : 07-433 7733 Faks : 07-438 7773	Batu Pahat Mall, Lot 2566, Mukim Simpang Kanan, Daerah Batu Pahat, Johor.	7.35	18-11-2008
51.	AEON CO. (M) BHD. AEON Bukit Indah Shopping Centre, 1st Floor, No. 8, Jalan Indah 15/2, Bukit Indah, 51200 Johor Bahru, Johor. Tel : 07-2368 071 Faks : 07-2368 076	Lot PTD 90606, Mukim Pulai, Daerah Johor Bahru, Johor.	8.00	26-11-2008

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52.	TESCO STORES (M) SDN. BHD. (Melaka Branch), No. 1, Jalan Tun Abdul Razak Peringgiti, 74500 Melaka. Tel : 06-288 3078 Faks : 06-288 2028	Kompleks Perniagaan TESCO, Lot 1 PT 1053 dan Lot 2 PT 1111 Mukim Peringgiti, Lot 3 PT2 Mukim Town Area XXXII dan Lot 4 PT70, Mukim Town AreaXXXIII, Daerah Melaka Tengah, 75400 Melaka.	3.006	26-11-2008
53.	GCH RETAIL (MALAYSIA) SDN. BHD. Complex Management, Giant Hypermarket Klang, Lot 83191 & 83192, Persiaran Batu Nilam, Bandar Bukit Tinggi 1, 41200 Klang, Selangor. Tel : 03-3323 5518 Faks : 03-3323 5863	Lot PT 62366(HSD 63350), PT 62367 (HSD 63351) dan PT 75234A (HSD 68651), Mukim Kelang, Daerah Kelang, Selangor.	3.30	03-12-2008
54.	TANAH SUTERA DEVELOPMENT SDN. BHD. No. 2, Jalan Sutera Merah 2, Taman Sutera, 81200 Johor Bharu. Tel : 07-289 9009 Faks : 07-289 9119	Kompleks Perniagaan Sutera Mall, Lot Sebahagian PTD 67962, Mukim Pulau, Daerah Johor Bharu, Johor.	5.981	03-12-2008
55.	GCH RETAIL (MALAYSIA) SDN. BHD. Giant Hypermarket Senawang, Lot 1571 Jalan Senawang, 70450 Seremban, Negeri Sembilan. Tel : 06-678 0719 / 678 0720 Faks : 06-678 2360	Lot PT 1571 HS(D) 133690, Pekan Senawang, Daerah Seremban, Negeri Sembilan.	2.12	03-12-2008
56.	MALAYSIA AIRPORTS SDN. BHD. Lapangan Terbang Sultan Ismail Petra, 16100 Kota Bharu, Kelantan. Tel : 09-773 7400 Faks : 09-773 2852	Kompleks Lapangan Terbang Sultan Ismail Petra, Lot 833 (Sek 40), Mukim Pengkalan Chepa, Dan Lot 2209 (Sek 39), Mukim Baung, Daerah Kota Bharu, Kelantan.	2.56	19-12-2008
57.	GCH RETAIL (MALAYSIA) SDN. BHD. Giant Hypermarket Southern City, Ground Floor, Southern City, No. 3, Jalan Suria 19, Taman Suria, 81100 Johor Bahru, Johor. Tel : 07-334 7214 Faks : 07-334 6762	Lot HS(D)247769 PTB 20274, Daerah Bandar Johor Bahru, Johor.	1.95	14-01-2009
58.	PERMODALAN NASIONAL BERHAD 19th Floor, Menara Tun Ismail Mvohamed Ali, No. 25, Jalan Raja Laut, 50350 Kuala Lumpur. Tel : 03-2694 2213 Faks : 03-2691 3791	Menara Tun Ismail Mohamed Ali, Lot 1406, Mukim Bandar Kuala Lumpur, Wilayah Persekutuan Kuala Lumpur.	5.95	04-02-2009
59.	AEON CO. (M) BHD. Aeon AU2 (Setiawangsa) Shopping Centre, Setiawangsa, Lower Ground Floor, No. 6, Jalan Taman Setiawangsa (Jalan 37/56) AU2, Taman Keramat, 54200 Kuala Lumpur. Tel : 03-4257 2533 Faks : 03-4257 2633	Lot PT 1019 (HSD 83614), Mukim Hulu Kelang, Wilayah Persekutuan Kuala Lumpur.	3.889	16-02-2009
60.	IVORY GLENEARY SDN. BHD. 77-4B-1, Penang Times Square, Jalan Dato Keramat, 10150 George Town, Penang. Tel : 04-210 9020 Faks : 04-210 9021	Penang Times Square, Lot 73, 96, 98, 101, 102, 145, 146, 150, 159, 160, 163, 278, 279, 735 hingga 753 dan 767, Seksyen 10, Georgetown, 10150 Pulau Pinang.	15.80	16-02-2009
61.	BRONZE TOWERS SDN. BHD. No. B 60, First Floor, Lorong Tun Ismail 5, 25000 Kuantan, Pahang. Tel : 09-515 9303 Faks : 09-515 9304	Plaza Kuantan, Lot PT 6727/12 dan PT 6727/13, Mukim Kuala Kuantan, Daerah Kuantan, Pahang.	2.50	16-02-2009
62.	MAGIC COAST SDN. BHD. No. 2-2, Jalan SS 6/6, Kelana Jaya, 47301 Petaling Jaya, Selangor. Tel : 03-7805 2022 Faks : 03-7804 7668	Lot 582 Mukim Jalan Tun Sambanthan, Seksyen 55, Daerah Kuala Lumpur, Wilayah Persekutuan Kuala Lumpur.	13.00	23-02-2009
63.	FLORAL E-JOY SDN. BHD. No : 36A (1st Floor), Jalan Persiaran Flora Utama, Taman Flora Utama, 83000 Batu Pahat, Johor. Tel : 07-432 7899 Faks : 07-432 6899	Square 1, Lot PTD 48031, Mukim Simpang Kanan, Daerah Batu Pahat, Johor.	1.985	25-02-2009
64.	LEGEND ADVANCE SDN. BHD. M - IOI, Jalan Alor Bukit, Taman Legenda Putra, 81000 Kulai, Johor. Tel : 07-662 6101 Faks : 07-662 2510	IOI Mart, Lot 5592 - 5595, Mukim Senai, Daerah Kulai, Johor.	0.916	12-03-2009

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65.	MSL PROPERTIES SDN. BHD. Wangsa Walk Mall Management Office, Lot G93A Wangsa Walk Mall, Wangsa Avenue, 9, Jalan Wangsa Perdana 1, Bandar Wangsa Maju, 53300 Kuala Lumpur. Tel : 03-4142 8888 Faks : 03-4149 7441	Wangsa Walk Mall, Lot PT 8282 (HSD 111811), Mukim Setapak, Daerah Kuala Lumpur, Wilayah Persekutuan.	8.628	20-03-2009
66.	SALAK PARK SDN. BHD. No. 3-1-1, Block A Megan Salak Park, Jalan 2/125E, Taman Desa Petaling, 57100 Kuala Lumpur. Tel : 03-9057 5733 Faks : 03-9058 7481	Lot No. 38606 and 38603, Taman Desa Petaling, Mukim Petaling, Daerah Wilayah Persekutuan, 57100 Kuala Lumpur.	2.27	27-04-2009
67.	TENAGA NUSANTARA SDN. BHD. Lot 2-18, 2nd Floor, Kluang Mall, Jalan Rambutan, Bandar Kluang, 86000 Kluang, Johor. Tel : 07-776 1240 Faks : 07-776 1202	Lot 6113, Mukim Bandar Kluang, Daerah Kluang, 86000 Johor.	4.50	13-05-2009
68.	TECHNOLOGY PARK MALAYSIA CORPORATION SDN. BHD. Level 5, Enterprise 4, Lebuhraya Puchong - Sg. Besi, Bukit Jalil, 57000 Kuala Lumpur. Tel : 03-8998 2260 Faks : 03-8998 2226	Taman Teknologi Malaysia, Lot PT 5517, Mukim Petaling, Daerah Kuala Lumpur, Wilayah Persekutuan.	4.65	18-05-2009
69.	1ST AVENUE MALL SDN. BHD. Centre Management Office, 5th Floor, 1st Avenue 182, Jalan Magazine, 10300 Penang. Tel : 04-261 1121 Faks : 04-263 1121	Lot 386, Mukim Seksyen 17, Daerah Georgetown, Pulau Pinang.	6.077	22-05-2009
70.	MYDIN MOHAMED HOLDINGS BHD. Mydin HQ, Lot 675 & 676, Persiaran Subang Permai, Off Jalan SS13/1K, 47500 Subang Jaya, Selangor. Tel : 03-8073 6000 Faks : 03-8073 6388	MYDIN Wholesale Hypermarket, Lot 675 & 676, Mukim Damansara, Daerah Petaling Jaya Selangor.	5.622	02-06-2009
71.	TESCO STORES (MALAYSIA) SDN. BHD. TESCO Seri Alam, Lot PTD 111515, Jalan Seri Alam, Bandar Seri Alam, 81750 Masai, Johor. Tel : 07-388 5164 Faks : 07-388 6709	TESCO Seri Alam, Lot PTD 111515, Mukim Plentong, Daerah Johor Bharu, Johor.	3.40	16-06-2009
72.	TESCO STORES (MALAYSIA) SDN. BHD. No. 3 Jalan Batu Nilam 6/ks6, Bandar Bukit Tinggi, 41200 Klang, Selangor. Tel : 03-3323 1100 Faks : 03-3323 8802	TESCO Kelang, Lot 83595, Mukim Pekan, Pandamaran Daerah Kelang, Selangor.	3.40	16-06-2009
73.	TESCO STORES (MALAYSIA) SDN. BHD. 148-149 Pusat Bandar Puchong, Jalan Bandar 3, Off Jalan Puchong, 47100 Puchong, Selangor. Tel : 03-8076 2166 Faks : 03-8076 1525	TESCO Puchong, Lot PT 2, Mukim Pekan Desa, Puchong, Daerah Petaling, Selangor.	3.40	16-06-2009
74.	TESCO STORES (MALAYSIA) SDN. BHD. TESCO Ipoh, No. 2, Jalan Jambu, Taman Teh Teng Seng, 31400 Ipoh, Perak. Tel : 05-546 3352 Faks : 05-548 4159	TESCO Ipoh, Lot PT 217003, Mukim Hulu Kinta, Daerah Kinta, Perak.	3.40	16-06-2009
75.	TESCO STORES (MALAYSIA) SDN. BHD. Lot PT 37820 & 11196, Mukim Kajang Saujana Impian, 43000 Kajang, Selangor. Tel : 03-8734 1369 Faks : 03-8734 1297	TESCO Kajang, Lot PT 37820, Mukim Kajang dan Lot PT 66452 & 44628, Seksyen 9, Mukim Bandar Kajang, Daerah Ulu Langat, Selangor.	3.40	16-06-2009
76.	KUMPULAN WANG SIMPANAN PEKERJA Jabatan Pengurusan Harta, Tingkat 14, Bangunan KWSP, Jalan Raja Laut, 50350 Kuala Lumpur. Tel : 03-2616 2269 Faks : 03-2693 8704	Lot PT 144258, Bandar Ipoh, Daerah Kinta, Perak.	2.443	16-06-2009
77.	SEE SEN CHEMICAL BHD. PT 3940, Kawasan Perindustrian Teluk Kalong, 24000 Kemaman, Terengganu. Tel : 09-863 2142 / 863 2304 Faks : 09-863 2143	Malay-Sino Chemical Industries Sdn. Bhd., Lot 2989, 3558, 3557 dan 4524, Mukim Teluk Kalong, Daerah Kemaman, Terengganu.	6.00 *	17-06-2009
78.	CREST WORLDWIDE RESOURCES SDN. BHD. Wisma SKN, No. 5, Persiaran Lidco 1, Off Jalan Yap Kwan Seng, 50450 Kuala Lumpur. Tel : 03-2162 1929 Faks : 03-2162 0929	Lot 134, PT 32, Seksyen 44, Mukim Bandar Kuala Lumpur, Daerah Kuala Lumpur, Wilayah Persekutuan.	7.00	17-06-2009

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79.	WESTPORTS MALAYSIA SDN. BHD. P.O. Box 266, Pulau Indah, 42009 Port Klang. Tel : 03-3169 4000 Faks : 03-3169 4101	Lot PT 65746, Mukim Klang, Daerah Klang, Selangor.	83.00	26-06-2009
80.	TESCO STORES (MALAYSIA) SDN. BHD. TESCO Extra Ipoh, No. 2, Laluan Tasek Timur 6, Taman Tasek Indra, Off Jalan Kg. Bercham, 31400 Ipoh, Perak. Tel : 05-546 3352 Faks : 05-548 4159	TESCO Extra Ipoh, Lot PT 128421, Mukim Hulu Kinta, Daerah Kinta, Perak.	2.763	02-07-2009
81.	TESCO STORES (MALAYSIA) SDN. BHD. TESCO Extra Sungai Dua, No. 657, Jalan Sg. Dua, 11700 Sungai Dua, Pulau Pinang. Tel : 04-656 9888 Faks : 04-659 1188	TESCO Extra Sungai Dua, Lot 10252, Mukim 13, Daerah Timur Laut (DTL), Jalan Sungai Dua, Pulau Pinang.	1.70	02-07-2009
82.	TESCO STORES (MALAYSIA) SDN. BHD. No 1, Persiaran Sukan, Peti Surat 7427, Seksyen 13, 40714 Shah Alam, Selangor. Tel : 03-5512 2600 Faks : 03-5510 2305	TESCO Extra Shah Alam, Lot 1107, Mukim Bandar Shah Alam, Daerah Petaling, Selangor.	2.975	02-07-2009
83.	TESCO STORES (MALAYSIA) SDN. BHD. No. 2, Jalan Midah 2, Taman Midah Cheras, Cheras, 56000 Kuala Lumpur. Tel : 03-9133 5100 Faks : 03-9132 3641	TESCO Extra Cheras, Lot PT 4476, Mukim Kuala Lumpur, Daerah Kuala Lumpur, Wilayah Persekutuan.	2.975	02-07-2009
84.	MRCB SELBORN CORPORATION SDN. BHD. MRCB Central Properties Sdn. Bhd. Level 22, 1 Sentral, Jalan Travers, Kuala Lumpur Sentral, P.O.Box 12640, 50470 Kuala Lumpur. Tel : 03-2786 8080 Faks : 03-2780 7787	Plaza Alam Sentral, Lot 58, Seksyen 14, Mukim Bandar Shah Alam, Daerah Petaling, Selangor.	11.00	08-07-2009
85.	MALAYSIA AIRPORTS SDN. BHD. Lapangan Terbang Antarabangsa Langkawi, 07100 Padang Mat Sirat, Langkawi, Kedah. Tel : 04-955 1311 / 955 1312 Faks : 04-955 1314	Lapangan Terbang Antarabangsa Langkawi, TK1 Mukim Bohor & TK2 Mukim Padang Mat Sirat & TK3, TK4 Mukim Kedawang, Daerah Langkawi, Kedah.	2.293	17-07-2009
86.	AMTRUSTEE BERHAD PT 487, Mahkota Parade, Jalan Banda Hilir, Kg. Banda Hilir, 75000 Melaka. Tel : 06-282 6151 Faks : 06-282 7305	Mahkota Parade, Lot PT 487, Mukim Melaka Tengah, Daerah Melaka, Melaka.	10.80	17-07-2009
87.	MALAYSIA AIRPORTS SDN. BHD. Lapangan Terbang Sultan Ahmad Shah, 25150 Kuantan, Pahang. Tel : 09-531 2150 / 531 2123 Faks : 09-538 4017	Lapangan Terbang Sultan Ahmad Shah, Lot PT 86418, Mukim Kuala Kuantan, Daerah Kuantan, Pahang.	0.344	17-07-2009
88.	MALAYSIA AIRPORTS SDN. BHD. Lapangan Terbang Antarabangsa Pulau Pinang, 11900 Bayan Lepas, Pulau Pinang. Tel : 04-643 4411 Faks : 04-643 5399	Lapangan Terbang Antarabangsa Pulau Pinang, Lot 7565 dan PT 230, 231, 232, 228, 229, 3096, 1610, TK1 dan TK2, Mukim 12, Daerah Barat Daya, Pulau Pinang.	4.00	17-07-2009
89.	MYDIN MOHAMED HOLDINGS BHD. Mydin Melaka Hypermarket, Lot 15060, 15061, 15062, Mukim Bukit Katil, Melaka Tengah, 75450 Ayer Keroh, Melaka. Tel : 06-231 3007 Faks : 06-231 3070	MYDIN Wholesale Hypermarket MITC Melaka, Lot 15060, 15061 & 15062, Mukim Bukit Katil, Daerah Melaka Tengah, Melaka.	4.30	14-09-2009
90.	PEMBINAAN TITIS JAYA SDN. BHD. TJ Mart, Lot 5035, Batu 17 1/2, Jalan Air-Hitam, Saleng, 81400 Senai, Johor. Tel : 07-598 4323 Faks : 07-598 5323	T.J. Mart, Lot 5035, Mukim Kulai, Daerah Kulajaya, Johor.	0.55	11-09-2009
91.	AEON CO. (M) BHD. AEON Bandaraya Melaka Shopping Centre, No. 2, Jalan Lagenda, Taman 1 - Lagenda, 75400 Melaka. Tel : 06-282 9389 Faks : 06-281 6398	Jusco Shopping Mall, Lot PT 1, Kawasan Bandar 32 dan PT 69, Kawasan Bandar 33, Daerah Melaka Tengah, Melaka.	22.50	05-10-2009
92.	COUTURE HOMES SDN. BHD. A-12-02, Empire Office, Empire Subang, Jalan SS 16/1, 47500 Subang Jaya, Selangor. Tel : 03-5638 9888 Faks : 03-5631 9888	Lot 6 dan PT 20912, Mukim Bandar Subang Jaya, Daerah Petaling, Selangor.	8.67	22-12-2009

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93.	KUMPULAN WANG SIMPANAN PEKERJA Jabatan Pengurusan Harta, Tingkat 14, Bangunan KWSP, Jalan Raja Laut, 50350 Kuala Lumpur. Tel : 03-2616 2269 Faks : 03-2693 8704	Lot 842, Seksyen 14, Mukim Bandar Georgetown, Daerah Timur Laut, Pulau Pinang.	3.40	25-01-2010
94.	IPOH TOWER SDN. BHD. Unit No. 2FO-1, Ipoh Tower, Jalan Dato' Seri Ahmah Said, Greentown, 30450 Ipoh, Perak. Tel : 05-241 4662 Faks : 05-242 4563	Complex Ipoh Tower Sdn. Bhd., Lot 23628, Mukim Bandar Ipoh (S) & 23629, 8701U, 9570U, Mukim Bandar Ipoh (U), Daerah Kinta, Perak.	4.25	03-05-2010
95.	JASA IMANI SDN. BHD. B-44, Tingkat Bawah dan Atas, Pusat Komersial Semambu, Jalan Semambu, 25300 Kuantan, Pahang. Tel : 09-566 9024 Faks : 09-568 4770	Menara Pejabat Putra Square, Lot 423, Seksyen 20 (PN5596), Jalan Bukit Sekilau, Bandar Kuantan, Pahang.	4.25	27-09-2010
96.	SEPANG GOLDCOAST SDN. BHD. No. 30B 1st & 2nd Floor, Jalan Pekedai U1/36, Section U1, Hicom Glenmarie Industrial Park, 40150 Shah Alam, Selangor. Tel : 03-5569 0800 Faks : 03-5569 0900 / 5569 2488	Lot PT 5247 (PKT 67), Pantai Bagan Lalang, Mukim Sepang, Daerah Sepang, Selangor.	9.50	13-12-2010
97.	SETIA HARUMAN SDN. BHD. (Property Management Department), The Lodge, Persiaran Multimedia, Cyber 7, 63000 Cyberjaya, Selangor. Tel : 03-8312 8000 Faks : 03-8312 8077	The Lodge, Persiaran Multimedia, Cyber 7, 63000 Cyberjaya, Selangor.	15.50	22-12-2010
98.	GCH RETAIL (MALAYSIA) SDN. BHD. Giant Superstore Lukut, Lot 12532, Jalan Dataran Segar, Batu 3, Jalan Seremban 71010 Port Dickson, Negeri Sembilan.	Giant Superstore Lukut Complex, Lot No. 12532 (Old Lot 1058), Mukim Port Dickson, Daerah Port Dickson, Negeri Sembilan.	2.55	22-12-2010
99.	SUN VICTORY SDN. BHD. Unit A5-UG1-01, Block A5, Solaris Dutamas, No. 1, Jalan Dutamas 1, 50480 Kuala Lumpur. Tel : 03-6207 9426 Faks : 03-6207 9427	No. 1, Jalan Dutamas 1, 50480 Kuala Lumpur.	5.078	18-01-2011
100.	ASTON VILLA SDN. BHD. 33-1-1 Villa Scott, Jalan Scott, Brickfields, 50470 Kuala Lumpur. Tel : 03-2381 7777 Faks : 03-2381 8010	Lot 1810 (P.T. 3717 & P.T. 3718), Jalan Kelang Lama, 58200 Kuala Lumpur.	5.41	29-04-2011
101.	AMTRUSTEE BERHAD Capitamalls Malaysia Trust, 170-06-01, Plaza Gurney, Persiaran Gurney, 10250 Penang. Tel : 03-2279 9863 Faks : 03-2279 9889	No. Lot 2903, Mukim Seksyen 1, Daerah Timur Laut, 10250 Pulau Pinang.	22.50	29-04-2011
102.	FESTIVAL CITY SDN. BHD. Level 5, Klang Parade, No. 2112, Jalan Meru, 41050 Klang, Selangor. Tel : 03-3344 2882 / 3344 9889 Faks : 03-3344 2889	No. Lot 26220, Mukim Setapak, 53300 Kuala Lumpur.	7.862	29-04-2011
103.	VIVA MALL SDN. BHD. Penthouse Corporate Suites, D-11-1 & @, Level 13, Block D, Menara Uncang Emas (Ue3), No. 85, Jalan Loke Yew, 55200 Kuala Lumpur. Tel : 03-9281 3888 Faks : 03-9281 8993	Lot P.T. 4, Section 91A, Jalan Loke Yew, 55200 Kuala Lumpur.	14.019	29-04-2011
104.	AEON CO. (M) BHD. AEON Mahkota Cheras Shopping Centre, Management Office, 1st Floor, Jalan Temenggung 21/9, Persiaran Mahkota Cheras 1, Bandar Mahkota Cheras, 43200 Cheras, Selangor. Tel : 03-9080 3579 Faks : 03-9080 3580	Lot PT 47250, Mukim Cheras, Daerah Hulu Langat, 43200 Selangor.	3.50	29-04-2011
105.	AEON CO. (M) BHD. AEON Taman Equine Shopping Centre, No. 2, Jalan Equine Taman Equine, Bandar Putra Permai, 43300 Seri Kembangan, Selangor. Tel : 03-8945 2700 Faks : 03-8945 3700	AEON Taman Equine Shopping Mall, No. Lot 53391 (PT 27427), Mukim Petaling, Daerah Petaling, Selangor.	5.44	11-05-2011

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106.	JASTAMAX SDN. BHD. Wisma Mah Sing, Penthouse Suite 2, No. 163, Jalan Sungai Besi, 57100 Kuala Lumpur. Tel : 03-9221 6888 Faks : 03-9222 8380	Lot PT 12125, Mukim Dengkil, Daerah Sepang, 63000 Selangor.	2.72	26-05-2011
107.	UPWELL SHOPPING COMPLEX (SEGAMAT) SDN. BHD. No. 25 - 39, Jalan Syed Abdul Kadir, 85000 Segamat, Johor. Tel : 07-932 8888 Faks : 07-932 4732	Lot PTD 6880 – 6894, Jalan Syed Abdul Kadir, 85000 Segamat, Johor.	0.751	26-05-2011
108.	GREENHILL RESOURCES SDN. BHD. Setia Alam Welcome Centre, No. 2, Jalan Setia Indah AD/U13 1 AD, Setia Alam, Seksyen U13, 40170 Shah Alam, Selangor. Tel : 03-3344 9949 Faks : 03-3344 3546	No. PT 26535, Mukim Bukit Raja, Daerah Petaling, Selangor.	17.00	24-06-2011
109.	MALAYSIA AIRPORTS SDN. BHD. Lapangan Terbang Sultan Abdul Aziz Shah, 47200 Subang, Selangor. Tel : 03-7846 7777 Faks : 03-7846 3300	Lapangan Terbang Sultan Abdul Aziz Shah Complex, Lot 1210 dan PT 46225, Mukim Sungai Buloh dan Damansara, Daerah Petaling, Selangor.	14.00	29-06-2011
110.	MALAYSIA AIRPORTS SDN. BHD. Lapangan Terbang Sultan Mahmud, 21300 Kuala Terengganu, Terengganu. Tel : 09-667 3666/662 4084 Faks : 09-662 6670	Lot 11467, PT12716K, PT12717K, PT12718, Lapangan Terbang Sultan Mahmud, Terengganu.	1.60	29-06-2011
111.	MALAYSIA AIRPORTS SDN. BHD. Lapangan Terbang Sultan Abdul Halim, 06550 Alor Setar, Kedah. Tel : 04-714 2994 Faks : 04-714 5345	Lot TK1, TK2, TK3, PT230, 945, 824, 831, 828, 001061, Lapangan Terbang Sultan Abdul Halim, Kedah.	1.312	29-06-2011
112.	BADAN PENGURUSAN BERSAMA RIVIERA BAY CONDOMINIUM b/p Badan Pengurusan Bersama, Kondominium Riviera Bay, P.O. Box 112, 75720 Melaka. Tel : 06-292 6700 Faks : 06-292 6700	Lot 134, 135, 136, 137, 292 dan Sebahagian Lot 281 dan 133, Tanjung Keling, Melaka Tengah, Melaka.	3.00	25-07-2011
113.	GSL DEVELOPMENT SDN. BHD. (Bellworth Developments Sdn. Bhd.), No. 16, Jalan Wan Kadir, Taman Tun Dr. Ismail, 60000 Kuala Lumpur. Tel : 03-7726 6688 Faks : 03-7725 8285	No. Lot 51888, Mukim Kuala Lumpur, 60000 Wilayah Persekutuan Kuala Lumpur.	6.417	27-07-2011
114.	PERSTIMA UTILITY SDN. BHD. PLO 255 Jalan Timah 3, Kawasan Perindustrian Pasir Gudang, 81700 Pasir Gudang, Johor. Tel : 07-254 1200 Faks : 07-251 4618	Perstima Berhad, No. Lot 00051694, Mukim Plentong, Daerah Johor Bahru, Johor.	5.67 *	27-07-2011
115.	KENANGA WHOLESALE CITY SDN. BHD. 8-01, Kompleks Kenanga Wholesale City, No. 2, Jalan Gelugor, Off Jalan Kenanga, 55200 Kuala Lumpur. Tel : 03-9222 2082 Faks : 03-9221 8082	Lot 477, Jalan Merlimau, Seksyen 69, 55200 Kuala Lumpur.	14.45	04-08-2011
116.	PLUS EXPRESSWAYS Menara Korporat, Persada PLUS, Persimpangan Bertingkat Subang, KM 15, Lebuhraya Baru Lembah Klang, 47301 Petaling Jaya, Selangor. Tel : 03-7801 6666 / 7666 4666 Faks : 03-7801 6600	35 Locations under PLUS Expressways.	6.993	26-08-2011
117.	AEON CO. (M) BHD. JUSCO Melaka Shopping Centre, Leboh Ayer Keroh, 75450 Melaka. Tel : 06-7232 4899 / 231 4929 Faks : 06-233 2988	Lot 4991 (P.T. 7041), Mukim Bukit Baru, Daerah Melaka Tengah, 75450 Melaka.	5.60	21-09-2011
118.	AEON CO. (M) BHD. JUSCO Permas Jaya Shopping Centre, No. 1, Jalan Permas Jaya Utara, Bandar Baru Permas Jaya, 81750 Johor Bahru, Johor. Tel : 07-388 0600 Faks : 07-386 1600	AEON Bandar Baru Permas Jaya, Lot 147003, Zone 3-1, Mukim Permas Jaya, 81750 Johor Bahru, Johor.	4.049	21-09-2011

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119.	CSF ADVISERS SDN. BHD. 3552 Jalan Teknokrat 6, 63000 Cyberjaya, Selangor. Tel : 03-8318 1313 Faks : 03-8318 0303	Lot PT 12125, Mukim Dengkil, Daerah Sepang, 63000 Selangor.	6.80	18-10-2011
120.	CSF CX SDN. BHD. 7118 Jalan Impact, 63000 Cyberjaya, Selangor. Tel : 03-8318 1313 Faks : 03-8318 0303	Lot PT 12144 dan Lot 12145, Mukim Dengkil, Daerah Sepang, 63000 Selangor.	20.40	18-10-2011
121.	OPTIMISTIC ORGANIC SDN. BHD. Lot 3351, Teluk Kalong Industrial Estate, 24007 Kemaman, Terengganu Tel : 09-863 3029/863 3031 Faks : 09-863 3085	Plot No. 4248, Telok Kalong Industries Estate, 24007 Kemaman, Terengganu.	7.00 *	20-10-2011
122.	HUNZA PROPERTIES (PENANG) SDN. BHD. 5-4-8/11, Hunza Complex, Jalan Gangsa, Island Park, 11600 Penang. Tel : 04-659 6210 Faks : 04-657 2831	No. Lot 2960 (Plot A) dan 2961 (Plot B), Mukim Seksyen 1, Daerah Timur Laut, Pulau Pinang.	16.00	03-11-2011
123.	OSK TRUSTEE BERHAD 6th Floor, Plaza OSK, Jalan Ampang, 50450 Kuala Lumpur. Tel : 03-7494 3000 Faks : 03-7492 6333	Sunway Pyramid Shopping Centre, PT 161, Lot 32 dan Lot 51175, Bandar Sunway, Petaling Jaya, Selangor.	22.00	28-11-2011
124.	AEON CO. (M) BHD. AEON Ipoh Station 18 Shopping Centre, No. 2, Susuran Stesen 18, Station 18, 31650 Ipoh, Perak.	AEON Station 18, No. Lot 305553, 305554 & 305555 (PT 239099), Mukim Hulu Kinta, Daerah Kinta, 31650 Perak.	16.00	03-11-2011
125.	AMTRUSTEE BERHAD CapitaMalls Malaysia Trust, Box No. 228, Level 4, Centre Management Office, The Mines, Jalan Dulang, MINES Resort City, Seri Kembangan, 43300 Selangor. Tel : 03-8949 6288 Faks : 03-8949 6388	The Mines, No. Lot PT 16722, Mukim Petaling, Daerah Petaling, 43300 Selangor.	10.00	22-11-2011
126.	JELAS PURI SDN. BHD. No. 63, Lorong Batu Nilam 1A, Bandar Bukit Tinggi, 41200 Klang, Selangor. Tel : 03-3324 3255 Faks : 03-3323 3257	Paradigm Shopping Complex @ Kelana Jaya, Lot PT11, PT12, PT13 dan PT15, Bandar Petaling Jaya Tambahan II, Daerah Petaling, Selangor.	9.50	13-12-2010
127.	AEON CO. (M) BHD. AEON Rawang Anggun Shopping Centre, No. 1, Kompleks Beli-belah AEON Rawang Anggun, Persiaran Anggun, Taman Anggun, 48000 Rawang, Selangor.	AEON Rawang Shopping Complex, No. Lot 1851 & 1246 Mukim Rawang Daerah Gombak, Selangor.	8.50	14-02-2012
128.	WISMA MIRAMA SDN. BHD. 6th Floor, Wisma Mirama, Jalan Wisma Putra, 50460 Kuala Lumpur. Tel : 03-2142 1666 Faks : 03-2148 1229	Wisma Mirama Complex, Lot 888, Seksyen 69, Daerah Kuala Lumpur, 50460 Wilayah Persekutuan Kuala Lumpur.	1.44	14-02-2012
129.	SUNGEI WANG PLAZA MANAGEMENT CORPORATION Lower Basement 1, Sungei Wang Plaza, SWP Box No.:009, Jalan Bukit Bintang, 55100 Kuala Lumpur. Tel : 03-2142 6636 / 2144 9988 Faks : 03-2144 5269	Kompleks Beli-Belah Sungei Wang, No. Lot 1197, Daerah Bukit Bintang, Wilayah Persekutuan Kuala Lumpur.	20.00	21-02-2012
130.	GCH RETAIL (MALAYSIA) SDN. BHD. Mezzanine Floor, Giant Hypermarket Shah Alam Stadium, Lot 2, Persiaran Sukan, Seksyen 13, 40100 Shah Alam, Selangor. Tel : 03-5544 8888 Faks : 03-5511 9692	Giant Hypermarket, No. Lot PT 128899, Jalan Kebun (KS7), Mukim Klang, Daerah Klang, Selangor.	1.53	23-02-2012
131.	UNIVERSITI TENAGA NASIONAL SDN. BHD. UNITEN, Kampus Putrajaya, Jalan IKRAM-UNITEN, 43000 Kajang, Selangor. Tel : 03-8921 2020 Faks : 03-8928 7166	Kampus UNITEN Putrajaya, Jalan IKRAM-UNITEN, 43000 Kajang, Selangor.	3.825	22-03-2012
132.	UNIVERSITI TENAGA NASIONAL SDN. BHD. UNITEN, Kampus Putrajaya, Jalan IKRAM-UNITEN, 43000 Kajang, Selangor. Tel : 03-8921 2020 Faks : 03-8928 7166	Kampus UNITEN Sultan Haji Ahmad Shah, 26700 Bandar Muadzam Shah, Pahang.	2.975	22-03-2012

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133.	GCH RETAIL (MALAYSIA) SDN. BHD. Mezzanine Floor, Giant Hypermarket Shah Alam Stadium, Lot 2, Persiaran Sukan, Seksyen 13, 40100 Shah Alam, Selangor. Tel : 03-5544 8888 Faks : 03-5511 9692	Giant Hypermarket Banting , Sebahagian Lot 555 seluas 8.15 ekar, Mukim Tanjung Dua Belas, Daerah Kuala Langat, Selangor.	3.40	22-03-2012
134.	GCH RETAIL (MALAYSIA) SDN. BHD. Mezzanine Floor, Giant Hypermarket Shah Alam Stadium, Lot 2, Persiaran Sukan, Seksyen 13, 40100 Shah Alam, Selangor. Tel : 03-5544 8888 Faks : 03-5511 9692	Kompleks Beli-belah Giant Cheras Hypermarket, No. Lot 33924, Mukim Pekan Cheras, Daerah Hulu Langat, 43200 Selangor.	3.40	23-03-2012
135.	AMTRUSTEE BERHAD Lot 10.00.00 Level 10, Pavilion Kuala Lumpur, 168 Jalan Bukit Bintang, 55100 Kuala Lumpur. Tel : 03-2118 8888 Faks : 03-2118 8911	Pavillion Kuala Lumpur Complex, Lot 174, 185, 187, 188, 281 (New Lot : Lot 332) dan 260, Jalan Bukit Bintang/Jalan Raja Chulan, Seksyen 67, Kuala Lumpur Wilayah Persekutuan.	22.10	17-04-2012
136.	EC ALAMJAYA SDN. BHD. No. 2, Jalan 1/128, Taman Gembira, Jalan Klang Lama, 58200 Kuala Lumpur. Tel : 03-7983 7399 Faks : 03-7981 8813	Kota Bharu Trade Centre (KBTC), No. Lot PT 255, Seksyen 7, Jajahan Kota Bharu, 15000 Bandar Kota Bharu, Kelantan.	5.84	20-04-2012
137.	UNIVERSITI TELEKOM SDN. BHD. Universiti Multimedia, Persiaran Multimedia, 63100 Cyberjaya, Selangor. Tel : 03-8312 5000 Faks : 03-8312 5022	Kawasan Universiti Multimedia Cyberjaya, Lot PT 12197, Mukim Dengkil, Daerah Sepang, 63100 Selangor.	5.10	26-04-2012
138.	UNIVERSITI TELEKOM SDN. BHD. Universiti Multimedia, Jalan Ayer Keroh Lama, 75450 Melaka. Tel : 06-252 3500 Faks : 06-231 7989	Kawasan Universiti Multimedia Melaka, Lot PT452, PT453, Lot 56, 57, 58 dan 60, Bukit Beruang, Melaka Tengah, 75450 Melaka.	8.00	26-04-2012
139.	MALAYSIAN LANDED PROPERTY SDN. BHD. Jones Lang Wootton, Lower Ground, Menara Perak, No. 24, Jalan Perak, 50450 Kuala Lumpur. Tel : 03-2380 5032 Faks : 03-2380 5029	Lot 1370, Jalan Perak, Seksyen 57, Kuala Lumpur.	3.00	10-05-2012
140.	ERA BARU SDN. BHD. Property Management Division, Terminal 2, Level 4 Lot 7968-C, Jalan Era Square 4, Era Square, 70200 Seremban. Tel : 06-768 7680 Faks : 06-768 7686	Lot 734, Bandar Seremban, 70200 Negeri Sembilan.	5.95	22-05-2012
141.	MAMMOTH EMPIRE ESTATE SDN. BHD. A-12-02, Empire Office, Empire Subang, Jalan SS16/1, 47500 Selangor. Tel : 03-5638 9888 Faks : 03-5631 9888	Lot PT47371, Mukim Sungai Buloh, Daerah Petaling, Selangor.	8.484	25-06-2012
142.	GCH RETAIL (MALAYSIA) SDN. BHD. Mezzanine Floor, Giant Hypermarket Shah Alam Stadium, Lot 2, Persiaran Sukan, Seksyen 13, 40100 Shah Alam, Selangor. Tel : 03-5544 8888 Faks : 03-5511 9692	Giant Subang Jaya Hypermarket, No. Lot 672 dan 673, Persiaran Subang Permai, Taman Industri Subang, Ulu Subang Jaya 1, 47300 Mukim Damansara, Daerah Petaling, Selangor.	4.25	02-07-2012
143.	GCH RETAIL (MALAYSIA) SDN. BHD. Mezzanine Floor, Giant Hypermarket Shah Alam Stadium, Lot 2, Persiaran Sukan, Seksyen 13, 40100 Shah Alam, Selangor. Tel : 03-5544 8888 Faks : 03-5511 9692	Giant Kuala Pilah Supermarket No. Lot 3640 Ampang Tinggi 72000 Daerah Kuala Pilah Negeri Sembilan.	2.04	02-07-2012
144.	GCH RETAIL (MALAYSIA) SDN. BHD. Mezzanine Floor, Giant Hypermarket Shah Alam Stadium, Lot 2, Persiaran Sukan, Seksyen 13, 40100 Shah Alam, Selangor. Tel : 03-5544 8888 Faks : 03-5511 9692	Giant Setapak Hypermarket, No. Lot 23341, 23344 (PT8750) dan Sebahagian Lot 23343, Off Jalan Genting Kelang, Taman Danau Kota, Mukim Setapak, 53000 Wilayah Persekutuan Kuala Lumpur.	2.72	02-07-2012
145.	MUST EHSAN DEVELOPMENT SDN. BHD. No. 46G, Jalan PJU 5/22, The Strand Encorp, Pusat Perdagangan Kota Damansara, Kota Damansara PJU 5, 47810 Petaling Jaya, Selangor. Tel : 03-6286 7777 Faks : 03-6286 7615	No. Lot PT 10562, Pusat Bandar 1, Kota Damansara, Mukim Sungai Buloh, Daerah Petaling, Selangor.	8.547	02-07-2012

Bil. No.	Nama Pelesen Dan Alamat Perhubungan • Licensee Name and Contact Address	Kawasan Bekalan • Area of Supply	Kapasiti Yang Dilesenkan (MW) • Licensed Capacity (MW)	Tarikh Lesen Dikeluarkan • Date of License Issued
146.	ESQUIRE COLLECTION SDN. BHD. Suite 6.04, Penthouse, Wisma Academy, 4A Jalan 19/1, 46300 Petaling Jaya, Selangor. Tel : 03-7958 5928 Faks : 03-7954 2098	Bangunan PanGlobal, No. Lot 53, Seksyen 20, Mukim Bandar Petaling Jaya, Daerah Petaling, Selangor.	1.00	05-07-2012
147.	PRESTIGE SCALE SDN. BHD. Unit 9-3, Level 9, Wisma UOA Damansara II, No. 6, Changkat Semantan, Damansara Heights, 50490 Kuala Lumpur. Tel : 03-2094 8778 Faks : 03-2094 8779	Menara Prestige, Lot 844 dan PT 845, Seksyen 57, Jalan P. Ramlee/Jalan Pinang, 50450 Kuala Lumpur.	8.50	05-07-2012
148.	BADAN PENGURUSAN BERSAMA QUEENSBAY MALL 1F-78, Queensbay Mall, 100, Persiaran Bayan Indah, 11900 Bayan Lepas, Pulau Pinang. Tel : 04-646 8888 Faks : 04-646 4848	Lot 11736 & Lot 11737 (PT. 5494) Tanah Tebusguna, Kawasan Persisiran Pantai Sungai Nibong, Mukim 12, Daerah Barat Daya, 11900 Pulau Pinang.	20.00	05-07-2012
149.	MCT GREEN TECHNOLOGIES SDN. BHD. No. 25, Jalan USJ 21/10, 47630 UEP Subang Jaya, Selangor. Tel : 03-8023 9988 Faks : 03-8024 9185	One City Skypark, No. Lot 54445 & 77027 Mukim Damansara, Daerah Petaling Jaya, Selangor.	10.156	16-07-2012
150.	PASTI ANGGUN SDN. BHD. 6th Floor, Asmah Tower, Jalan Cerdas, Taman Connaught, 56100 Kuala Lumpur. Tel : 03-9100 2882 Faks : 03-9100 1881	Ikon Mall, No. Lot 39891, Mukim Petaling, Daerah Kuala Lumpur, Wilayah Persekutuan Kuala Lumpur.	3.441	16-07-2012
151.	WIZE PLATINUM SDN. BHD. 2A-2, Jalan Puteri ¼, Bandar Puteri, 47100 Puchong, Selangor. Tel : 03-8061 3380 Faks : 03-8061 3315	South City Plaza, Lot PT 520, Serdang Perdana, Seri Kembangan, Mukim Petaling, Daerah Petaling, Selangor.	3.00	27-07-2012
152.	GENTING SIMON SDN. BHD. Johor Premium Outlets, Jalan Premium Outlets, Indahpura, 81000 Kulajaya, Johor. Tel : 07-661 8888 Faks : 07-661 8810	Lot PTD 104549, Zone 23, Jalan Premium Outlets, Indahpura, Kulajaya 81000 Johor.	8.25	13-08-2012
153.	GCH RETAIL (MALAYSIA) SDN. BHD. Complex Management, Giant Hypermarket Rawang, No. 1, Jalan Bintang, Pusat Bandar Rawang, 48000 Rawang, Selangor. Tel : 03-6092 0161 Faks : 03-6092 0161	Giant Hypermarket Rawang, Lot PT 65 & PT 66, Mukim Rawang, Daerah Gombak, 48000 Selangor.	1.275	05-9-2012
154.	ATRIA DAMANSARA SDN. BHD. 9th Floor, Plaza OSK Jalan Ampang, 50450 Kuala Lumpur. Tel : 03-2161 3322 Faks : 03-2175 3216	No. Lot PT 9089, PT 9090, PT 10168, PT10197, PT 10198, Mukim Sungai Buloh, Daerah Petaling, 47400 Selangor.	11.50	27-09-2012
155.	PETRONAS GAS BERHAD Level 49-51, Tower 1, Petronas Twin Towers, Kuala Lumpur City Centre, 50088 Kuala Lumpur. Tel : 03-2051 5000 Faks : 03-2051 5885	Sebahagian Kawasan Laut, Mukim Tangga Batu, Daerah Melaka Tengah, Melaka.	5.95	05-10-2012
156.	AMTRUSTEE BERHAD CapitaMalls Malaysia Trust, Level 3, Jalan Putra Square 6, Putra Square, 25200 Kuantan Pahang. Tel : 09-565 8688 Faks : 09-565 8599	East Coast Mall, Putra Square, Lot 423(PN 5596) Mukim Kuantan, 25000 Kuantan Pahang.	10.00	05-10-2012
157.	MINES WATERFRONT BUSINESS PARK SDN. BHD. Level 1, Block B, Mines Waterfront Business Park, No. 3, Jalan Tasik, The Mines Resort City, 43300 Seri Kembangan, Selangor. Tel : 03-8943 8811 Faks : 03-8943 1837	Mines Waterfront Business Centre, Lot PT 16715, 43300 Daerah Petaling, Selangor.	4.80	11-12-2012
158.	MINES 2 SDN. BHD. No.L-4-6E The Mines Shopping Fair, Jalan Dulang Mines Resort City, 43300 Seri Kembangan, Selangor. Tel : 03-8958 3773 Faks : 03-8942 5153	Mines 2 Mall, Lot 1584, Mukim Pekan Baru Sungai Besi, 43300 Daerah Petaling, Selangor.	3.20	12-12-2012

Bil. No.	Nama Pelesen Dan Alamat Perhubungan • Licensee Name and Contact Address	Kawasan Bekalan • Area of Supply	Kapasiti Yang Dilesenkan (MW) • Licensed Capacity (MW)	Tarikh Lesen Dikeluarkan • Date of License Issued
159.	GCH RETAIL (MALAYSIA) SDN. BHD. GCH Retail (Malaysia) Sdn. Bhd., Giant Hypermarket Cheng Melaka, Lot 2-13, Jalan TTC 9, Taman Technology Cheng, 75250 Melaka. Tel : 06-336 5519 Faks : 06-336 5517	Giant Hypermarket Cheng Melaka, Lot 8519, Mukim Cheng, Daerah Melaka Tengah, Melaka.	2.10	27-12-2012
160.	NUSAJAYA LIFESTYLE SDN. BHD. 16-1, Mercu UEM, Jalan Stesen Sentral 5, Kuala Lumpur Sentral, 50470 Kuala Lumpur. Tel : 03-2727 6000 Faks : 03-2727 2000	Medini Lifestyle Mall, No. Lot PTD 170657 dan PTD 170658, Mukim Pulai, 79200 Daerah Johor Baharu, Johor.	3.40	21-12-2012
161.	JAYA ONE MANAGEMENT SDN. BHD. No. 35-LG2, Block J, Jaya One, No. 72A, Jalan Universiti, 46200 Petaling Jaya, Selangor. Tel : 03-7958 4833 Faks : 03-7957 4223	Jaya One Mall, No. Lot PT12, Mukim Bandar Petaling Jaya, Daerah Petaling, 46200 Selangor.	8.50	04-01-2013
162.	AEON CO. (M) BHD. 3rd. Floor, Jusco Taman Maluri Shopping Centre, Jalan Jejaka, Taman Maluri, Cheras, 55100 Kuala Lumpur. Tel : 03-9207 2005 Faks : 03-9207 2006 / 9207	Kompleks Beli-Belah AEON, No. Lot PT 15074, Mukim Lumut, Daerah Manjung, Perak.	12.80	10-01-2013
163.	AEON BIG (M) SDN. BHD. No. 3, Jalan SS 16/1, 47500 Subang Jaya, Selangor. Tel : 03-8022 3600 Faks : 03-8022 3617	AEON Big Cheras, Part of Lot 528, Seksyen 90, Bandar Kuala Lumpur, 55100 Wilayah Persekutuan Kuala Lumpur.	2.00	10-01-2013
164.	AEON BIG (M) SDN. BHD. No. 3, Jalan SS 16/1, 47500 Subang Jaya, Selangor. Tel : 03-8022 3600 Faks : 03-8022 3617	AEON Big Kepong, No. Lot 63579, Mukim Batu, Daerah Kuala Lumpur, Wilayah Persekutuan Kuala Lumpur.	3.40	10-01-2013
165.	AEON BIG (M) SDN. BHD. No. 3, Jalan SS 16/1, 47500 Subang Jaya, Selangor. Tel : 03-8022 3600 Faks : 03-8022 3617	AEON Big Ampang, No. Lot 613, 47638 dan 47636, Mukim Bandar Ampang, Daerah Hulu Langat, 68000 Selangor.	4.08	10-01-2013
166.	AEON BIG (M) SDN. BHD. No. 3, Jalan SS 16/1, 47500 Subang Jaya, Selangor. Tel : 03-8022 3600 Faks : 03-8022 3617	AEON Big Subang Jaya, Lot PT1, Bandar Subang Jaya, Daerah Petaling, 47500 Selangor.	4.40	10-01-2013
167.	AEON BIG (M) SDN. BHD. No. 3, Jalan SS 16/1, 47500 Subang Jaya Selangor. Tel : 03-8022 3600 Faks : 03-8022 3617	AEON Big Wangsa Maju, Lot 28059, Mukim Setapak, 53300 Wilayah Persekutuan Kuala Lumpur.	3.60	10-01-2013
168.	AEON BIG (M) SDN. BHD. No. 3, Jalan SS 16/1, 47500 Subang Jaya Selangor. Tel : 03-8022 3600 Faks : 03-8022 3617	AEON Big Midvalley, Part Of Lot 80, Seksyen 95A, Bandar Kuala Lumpur, 58000 Wilayah Persekutuan Kuala Lumpur.	2.40	10-01-2013
169.	AEON BIG (M) SDN. BHD. No. 3, Jalan SS 16/1, 47500 Subang Jaya Selangor. Tel : 03-8022 3600 Faks : 03-8022 3617	AEON Big Batu Pahat, Lot PTD 39842 dan PTD 39849, Mukim Simpang Kanan, 83000 Johor.	3.60	14-01-2013
170.	AEON BIG (M) SDN. BHD. No. 3, Jalan SS 16/1, 47500 Subang Jaya, Selangor. Tel : 03-8022 3600 Faks : 03-8022 3617	AEON Big Rahang, Lot PT 8541, Bandar Seremban, Seremban, 70300 Negeri Sembilan.	2.40	14-01-2013
171.	AEON BIG (M) SDN. BHD. No. 3, Jalan SS 16/1, 47500 Subang Jaya Selangor. Tel : 03-8022 3600 Faks : 03-8022 3617	AEON Big Johor Bahru, Lot 138 (PTD 68951), Batu 7.5, Jalan Kota Tinggi, Mukim Tebrau, 81100 Pandan, Johor Bahru.	2.80	14-01-2013
172.	CAPITOL PROSPER SDN. BHD. 37-11, Block C, Boulevard Mid Valley City, Lingkaran Syed Putra, 59200 Kuala Lumpur. Tel : 03-8941 3660 Faks : 03-8941 3661	Kompleks Beli-Belah Capitol Prosper, No. Lot 17501 dan 17502, Seksyen 2, Pekan Bukit Kepayang, Daerah Seremban, 40480 Negeri Sembilan.	8.50	16-01-2013
173.	SISTEM DUTA SDN. BHD. No. 88, Jalan IM 14/1, Kaw. Perindustrian Indera Mahkota, 25200 Kuantan Pahang. Tel : 09-508 2088 Faks : 09-508 1506	Mentakab Star Mall, Lot 234 dan 237, Mukim Mentakab, Daerah Temerloh, 28000 Pahang.	5.50	30-01-2013
174.	NIHON PROPERTIES SDN. BHD. No. 1, Jalan Pasar, Pudu, 55100 Kuala Lumpur. Tel : 03-9222 2266 Faks : 03-9222 3266	Lot 213, 214, 216, 217, 218, 219, 220, 221, 222 dan 223, Seksyen 65, Jalan Pasar Bahru Bandar, Kuala Lumpur.	2.50	30-01-2013
175.	GCH RETAIL (MALAYSIA) SDN. BHD. Mezzanine Floor, Giant Hypermarket Shah Alam Stadium, Lot 2, Persiaran Sukan, Seksyen 13, 40100 Shah Alam, Selangor. Tel : 03-5544 8888 Faks : 03-5511 9692	Giant Superstore Gong Badak, Lot 22051, Mukim Kuala Nerus, Daerah Kuala Terengganu, Terengganu.	3.00	31-01-2013

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176.	KHOR JOO SAIK SDN. BHD. No. 3-1, Jalan Indrahana 2, Off Jalan Kuchai Lama, 58200 Kuala Lumpur. Tel : 03-7983 6128 / 0277 Faks : 03-7981 9912	Menara Binjai, No. Lot 390, Seksyen 63, Kuala Lumpur, 50450 Wilayah Persekutuan Kuala Lumpur.	9.30	04-03-2013
177.	OSK TRUSTEES BERHAD 6th Floor, Plaza OSK, Jalan Ampang, 50450 Kuala Lumpur. Tel : 03-9207 7777 Faks : 03-2175 3288	Lot 5497, 5498 dan 5499, Daerah Seberang Perai Tengah, 13700 Pulau Pinang.	10.50	13-03-2013
178.	PACIFIC PLACE ASSETS SDN. BHD. No. 9, Jalan USJ Sentral 1, USJ Sentral, Persiaran Subang 1, 47600 Subang Jaya, Selangor. Tel : 03-8023 2767 Faks : 03-8024 5767 / 8023 2170	Kawasan Pembangunan Komersial Pacific Place, Lot 59215 dan 59216, Mukim Damansara, Daerah Petaling, Selangor.	27.10	15-03-2013
179.	PLAZA 33 SDN. BHD. Jaya33, Courtyard@4, No. 3, Jalan Semangat, Section 13, 46100 Petaling Jaya, Selangor. Tel : 03-7954 9888 Faks : 03-7960 8060	Plaza 33, Lot 76, Mukim Seksyen 13, Daerah Petaling Jaya, Selangor.	6.36	08-04-2013
180.	AEON BIG (M) SDN. BHD. No. 3, Jalan SS16/1, 47500 Subang Jaya, Selangor. Tel : 03-8022 3600 Faks : 03-8022 3420	AEON Big Bukit Rimau, Lot No. 90556, Mukim Klang, Daerah Klang, 40460 Selangor.	3.40	11-04-2013
181.	AEON BIG (M) SDN. BHD. No. 3, Jalan SS16/1, 47500 Subang Jaya, Selangor. Tel : 03-8022 3600 Faks : 03-8022 3420	AEON Big Shah Alam, Lot PT 322, Mukim Seksyen 23, Daerah Shah Alam, 40460 Selangor.	2.55	11-04-2013
182.	AEON BIG (M) SDN. BHD. No. 3, Jalan SS16/1, 47500 Subang Jaya, Selangor. Tel : 03-8022 3600 Faks : 03-8022 3420	AEON Big Tropicana, Lot No. 45821, Mukim Bandar Petaling Jaya, Daerah Petaling, 47400 Selangor.	2.72	11-04-2013
183.	PERTUBUHAN KESELAMATAN SOSIAL (PERKESO) Kementerian Sumber Manusia, Menara PERKESO, 281, Jalan Ampang, 50538 Kuala Lumpur. Tel : 03-4264 5000 Faks : 03-4256 7713	Wisma Perkeso, No. 155, Jalan Tun Razak, 50400 Wilayah Persekutuan Kuala Lumpur.	2.55	08-05-2013
184.	LAMBANG EHSAN SDN. BHD. No. 2, Jalan 12/91A, Taman Shamelin Perkasa, Batu 3 1/2, Jalan Cheras, 56100 Kuala Lumpur. Tel : 03-9285 4990 Faks : 03-9284 1236	1 Shamelin Mall, Lot 11637, Mukim Ampang, 56000 Wilayah Persekutuan Kuala Lumpur.	12.80	08-05-2013
185.	ELSOFT RESEARCH BERHAD PLOT 85B, Lintang Bayan Lepas 9, Bayan Lepas Industrial Park Phase 4, 11900 Penang. Tel : 04-646 8122 Faks : 04-643 3918	Lot 14841, Mukim 12, Daerah Barat Daya, 11900 Pulau Pinang.	1.25	13-06-2013
186.	AEON BIG (M) SDN. BHD. No. 3, Jalan SS16/1, 47500 Subang Jaya Selangor. Tel : 03-8022 3600 Faks : 03-8022 3420	AEON Big Puchong, Lot 4029 Mukim Pekan Puchong Perdana, Daerah Petaling 47100 Selangor.	3.40	09-07-2013
187.	MAJU PUNCAKBUMI SDN. BHD. No. 19, Jalan USJ Sentral 3, USJ Sentral, Persiaran Subang, 47600 Subang Jaya Selangor. Tel : 03-8023 3366 Faks : 03-8023 7128	2 Blok Hostel Apartment, Sebahagian PT 41469 (Lot 47702), Persiaran Bestari Cyberjaya, Mukim Dengkil, 43900 Sepang, Selangor.	2.25	16-07-2013
188.	MYDIN MOHAMED HOLDINGS BHD. Lot 675 & 676, Persiaran Subang Permai, USJ 1, 47500 Subang Jaya, Selangor. Tel : 03-8073 6032 / 8073 6033 Faks : 03-8023 8059	Mydin Wholesale Cash & Carry, Lot H/S(D) KA 70076, PT 3676, Mukim Raya dan Teja, 36100 Daerah Kinta, Perak.	3.00	23-07-2013
189.	CAPITAL ASSETS SDN. BHD. No. 1A, Lorong Jernih 7, 14000 Bukit Mertajam, Pulau Pinang. Tel : 04-6433 622 Faks : 04-6448 652	One Precinct, Lot 17335, Mukim 12, Daerah Barat Daya, 11950 Pulau Pinang.	8.50	13-09-2013
190.	CITYMADE CORPORATION (M) SDN. BHD. 180-3-5 Wisma Mahkota, Jalan Mahkota, Taman Maluri, 55100 Kuala Lumpur. Tel : 03-9283 3009 Faks : 03-9284 4009	Bangunan Citymade, Lot PT127, Seksyen 62, Bandar Kuala Lumpur, 55100 Wilayah Persekutuan Kuala Lumpur.	2.04	20-09-2013

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191.	SEGI ASTANA SDN. BHD. Gateway@KLIA2, Management Office, Level 1, Terminal KLIA2, KL International Airport, Jalan KLIA2/1, 64000 KLIA, Sepang, Selangor. Tel : 03-4065 0005 Faks : 03-4065 0008	Kompleks Bersepadu Gateways@KLIA2, Lapangan Terbang Kuala Lumpur International Airport (KLIA2) di atas sebahagian Lot 1 (PA 76588), Mukim Dengkil, Daerah Sepang, 64000 Selangor.	13.84	25-09-2013
192.	MINLON LAND SDN. BHD. #06-01, Wisma Minlon, Bt. 12, Lebuhraya Sungai Besi, 43300 Seri Kembangan, Selangor. Tel : 03-8947 6167 Faks : 03-8947 6100	No. Lot 28062, Mukim Kajang, Daerah Hulu Langat, 43300 Selangor.	4.65	02-10-2013
193.	DANAHARTA HARTANAH SDN. BHD. Tingkat 10, Bangunan Setia 1, 15 Lorong Dungun, Bukit Damansara, 50490 Kuala Lumpur. Tel : 03-2096 5111 Faks : 03-2096 5118	Menara 238, No. Lot 405, Seksyen 87A, Mukim Bandar Kuala Lumpur, Daerah Kuala Lumpur, 50490 Wilayah Persekutuan Kuala Lumpur.	3.67	14-10-2013
194.	MINES INTERNATIONAL EXHIBITION CENTRE Level G, Mines International Exhibition & Convention Centre, Jalan Dulang, MINES Resort City, 43300 Seri Kembangan, Selangor. Tel : 03-8945 2055 Faks : 03-8945 2155	Kompleks Pameran Mines Exhibition Centre, Lot PT 16721, Mukim Petaling, Daerah Petaling, 43300 Selangor.	11.05	24-10-2013
195.	ISKANDAR MALAYSIA STUDIOS SDN. BHD. Persiaran Layar Perak, 79250 Nusajaya, Johor. Tel : 07-560 1888 Faks : 07-560 1889	No. Lot PTD 182864, Mukim Pulau, Daerah Johor Bharu, Johor.	15.75	30-10-2013
196.	AEON BIG (M) SDN. BHD. No. 3, Jalan SS 16/1, 47500 Subang Jaya, Selangor. Tel : 03-8022 3600 Faks : 03-8022 3617	Pasaraya AEON Big Bukit Mertajam, No. Lot PT 868, Mukim 13, Daerah Seberang Perai Tengah, Pulau Pinang.	2.365	01-11-2013
197.	PREFERRED ACCOMPLISHMENT SDN. BHD. Suite 01-01, Menara IJM Land, 1, Lebu Tunku Kudin 3, 11700 Penang. Tel : 04-296 1222 Faks : 04-296 1223	No. Lot 776, Mukim Sek. 4, Bandar Jelutong, Daerah D.T.L., 11700 Pulau Pinang.	6.80	15-11-2013
198.	DK-MY PROPERTIES SDN. BHD. No. 4, Jalan PPU 3, Taman Perindustrian Puchong Utama, 47100 Puchong, Selangor. Tel : 03-8064 6766 Faks : 03-8062 6768	Sebahagian PT 344, Mukim Pekan Penaga, Daerah Petaling, Selangor.	3.74	15-11-2013
199.	AEON BIG (M) SDN. BHD. No. 3, Jalan SS 16/1, 47500 Subang Jaya, Selangor. Tel : 03-8022 3600 Faks : 03-8022 3617	AEON Big Seberang Perai Shopping Mall, No. Lot PT 4545, Mukim 01, Daerah Seberang Perai Tengah, 13700 Pulau Pinang.	5.36	20-11-2013
200.	SUNSHINE ELECTRICAL SUPERSTORE SDN. BHD. No. 1-20-1, Suntech@Penang Cybercity, Lintang Mayang Pasir 3, 11950 Bayan Baru, Penang. Tel : 04-643 1111 Faks : 04-643 0500	Sebahagian No. Lot 12767 & Sebahagian No. Lot 20016, Mukim 6, Daerah Utara, Pulau Pinang.	3.4	28-11-2013
201.	AEON BIG (M) SDN. BHD. No. 3, Jalan SS 16/1, 47500 Subang Jaya, Selangor. Tel : 03-8022 3600 Faks : 03-8022 3617	AEON Big Kota Damansara, Lot No. PT 10103, Mukim Pekan Baru Sungai Buloh, Daerah Petaling, Selangor.	4.04	03-12-2013
202.	AEON BIG (M) SDN. BHD. No. 3, Jalan SS 16/1, 47500 Subang Jaya, Selangor. Tel : 03-8022 3600 Faks : 03-8022 3617	AEON Big Klang, Lot No. PT 52635, Mukim Kapar, Daerah Klang, 41400 Selangor.	4.04	30-12-2013
203.	AEON CO. (M) BHD. 3rd. Floor, Jusco Taman Maluri Shopping Centre, Jalan Jejaka, Taman Maluri, Cheras, 55100 Kuala Lumpur. Tel : 03-9207 2005 Faks : 03-9207 2006 / 9207	AEON Seberang Perai Tengah, Lot No. 1379 & 14344, Mukim 15, Daerah Alma, Seberang Perai Tengah, 14000 Pulau Pinang.	12.155	30-12-2013
204.	AEON CO. (M) BHD. 3rd. Floor, Jusco Taman Maluri Shopping Centre, Jalan Jejaka, Taman Maluri, Cheras, 55100 Kuala Lumpur. Tel : 03-9207 2005 Faks : 03-9207 2006 / 9207	AEON Kamunting, Lot 8576 & 8571, Daerah Larut & Matang, 34600 Perak.	13.43	30-12-2013
205.	MANJA MESRA SDN. BHD. 5th Floor Prima 8, Prima Avenue, Block 3508, Jalan Teknokrat 6, 63000 Cyberjaya, Selangor.	No. Lot 43970, Mukim Dengkil, Daerah Sepang, 63000 Selangor.	1.198	30-12-2013

Bil. No.	Nama Pelesen Dan Alamat Perhubungan • Licensee Name and Contact Address	Kawasan Bekalan • Area of Supply	Kapasiti Yang Dilesenkan (MW) • Licensed Capacity (MW)	Tarikh Lesen Dikeluarkan • Date of License Issued
206.	PERTUBUHAN KESELAMATAN SOSIAL (PERKESO) Kementerian Sumber Manusia, Menara PERKESO, 281, Jalan Ampang, 50538 Kuala Lumpur. Tel : 03-4264 5000 Faks : 03-4256 7713	Wisma PERKESO Seberang Jaya, Lot 6237, Mukim 01, Daerah Seberang Perai Tengah, Pulau Pinang.	1.57	07-01-2014
207.	PERTUBUHAN KESELAMATAN SOSIAL (PERKESO) Kementerian Sumber Manusia, Menara PERKESO, 281, Jalan Ampang, 50538 Kuala Lumpur. Tel : 03-4264 5000 Faks : 03-4256 7713	Wisma PERKESO Alor Setar, Lot 139, Seksyen 16, Bandar Alor Setar, Kedah.	1.17	07-01-2014
208.	PERTUBUHAN KESELAMATAN SOSIAL (PERKESO) Kementerian Sumber Manusia, Menara PERKESO, 281, Jalan Ampang, 50538 Kuala Lumpur. Tel : 03-4264 5000 Faks : 03-4256 7713	Wisma PERKESO Pulau Pinang, Lot 2270 & 2279, Bandar Georgetown, Daerah Timur Laut, Pulau Pinang.	1.87	07-01-2014
209.	PERTUBUHAN KESELAMATAN SOSIAL (PERKESO) Kementerian Sumber Manusia, Menara PERKESO, 281, Jalan Ampang, 50538 Kuala Lumpur. Tel : 03-4264 5000 Faks : 03-4256 7713	Wisma PERKESO Ipoh, Lot 9866 N, Bandar Ipoh Utara, Daerah Kinta, Ipoh, Perak.	0.935	07-01-2014
210.	PERTUBUHAN KESELAMATAN SOSIAL (PERKESO) Kementerian Sumber Manusia, Menara PERKESO, 281, Jalan Ampang, 50538 Kuala Lumpur. Tel : 03-4264 5000 Faks : 03-4256 7713	Wisma PERKESO Kuantan, Lot PT 104118, Bandar Kuantan, Pahang.	0.98	07-01-2014
211.	PERTUBUHAN KESELAMATAN SOSIAL (PERKESO) Kementerian Sumber Manusia, Menara PERKESO, 281, Jalan Ampang, 50538 Kuala Lumpur. Tel : 03-4264 5000 Faks : 03-4256 7713	Wisma PERKESO Johor Bahru, Lot PTB 23324, Bandar Johor Bahru, Johor.	2.08	07-01-2014
212.	MCT GREEN TECHNOLOGY SDN. BHD. A-03-02 9 (3rd Flr), SkyPark @ One City, Jalan USJ 25/1, 47650 Subang Jaya Selangor. Tel : 03-5115 9988 Faks : 03-5115 9995	Lot PT 12018, Mukim Dengkil, Daerah Sepang, Selangor.	5.1	15-01-2014
213.	FUYUU RESOURCES SDN. BHD. F3-96, Hatten Square, Jalan Merdeka, Bandar Hilir, 75000 Melaka. Tel : 06-282 1828 Faks : 06-282 2696	Hatten Square, Lot PT 973, PT 974 dan Lot 8, Mukim Kawasan Bandar XL, Daerah Melaka Tengah, Melaka.	29.80	18-03-2014
214.	TAR PH SDN. BHD. Unit 9.03, Level 9, Menara UAC, 12 Jalan PJU 7/5, Mutiara Damansara, 47800 Petaling Jaya, Selangor. Tel : 03-7651 0288 Faks : 03-7651 0388	Puteri Harbour, Lot PT 171461, Bandar Nusajaya, Mukim Pulai, Daerah Johor Bahru, Johor.	3.40	18-03-2014
215.	SOGO (K.L.) DEPARTMENT STORE SDN. BHD. Kompleks Sogo, 190, Jalan Tuanku Abdul Rahman, 50100 Kuala Lumpur. Tel : 03-2698 2111 Faks : 03-2698 2886	Kompleks SOGO, Lot 1733, Bandar Kuala Lumpur, Daerah Kuala Lumpur, 50100 Wilayah Persekutuan Kuala Lumpur.	18.50	15-04-2014
216.	AEON CO. (M) BHD. Jusco Taman Maluri Shopping Centre, 1st. Floor, Jalan Jejaka, Taman Maluri, Cheras, 55100 Kuala Lumpur. Tel : 03-9285 5222 Faks : 03-9285 9999	AEON Kulajjaya, Lot PTD 106273, Mukim Kulai, 81000 Daerah Kulajjaya, Johor.	14.07	24-04-2014
217.	IOI CITY MALL SDN. BHD. Level 9, Two IOI Square, IOI Resort, 62502 Putrajaya. Tel : 03-8947 8888 Faks : 03-8947 8919	IOI City Mall, Lot PT 83, Pekan Bukit Bisa, 62520 Daerah Sepang, Selangor.	40.83	15-05-2014
218.	PETRONAS PENAPISAN (MELAKA) SDN. BHD. Persiaran Penapisan, 76300 Sungai Udang, Melaka. Tel : 06-352 2020 Faks : 06-352 2574	Kompleks Petronas Penapisan Melaka, Mukim Sungai Udang, 76300 Melaka.	152.26	28-05-2014
219.	SIGNATURE LANDMARK PROPERTY SDN. BHD. No. 6 & 6A, Jalan Greentown 3, Greentown Nova, 30450 Ipoh, Perak. Tel : 05-254 1200 Faks : 05-255 1350	Lot PT 2283, Mukim Ulu Telom, 39100 Daerah Cameron Highlands, Pahang.	2.89	18-06-2014
220.	DAMANSARA ASSETS SDN. BHD. Tingkat 19, Menara KOMTAR, Johor Bahru City, Centre, 80000 Johor Bahru, Johor. Tel : 07- 223 0159 Faks : 07-223 4210	Lot 14530, Jalan Tun Abdul Razak, Daerah Johor Bahru, 80000 Johor.	11.80	18-06-2014

Bil. No.	Nama Pelesen Dan Alamat Perhubungan • Licensee Name and Contact Address	Kawasan Bekalan • Area of Supply	Kapasiti Yang Dileeskan (MW) • Licensed Capacity (MW)	Tarikh Lesen Dikeluarkan • Date of License Issued
221.	DPULZE VENTURES SDN. BHD. No. 4800-3-6, 3rd Floor, Suites, CBD Perdana, Off Jalan Persiaran Multimedia, 63000 Cyberjaya, Selangor. Tel : 03-8320 1228 Faks : 03-8318 3018	Lot 47594, Lingkaran Cyber Point Timur, Cyber 12, Cyberjaya, Mukim Dengkil, Daerah Sepang, 63000 Selangor.	11.56	26-06-2014
222.	QUILL RETAIL MALLS SDN. BHD. Level 7, Quill 9, 112, Jalan Semangat, 46300 Petaling Jaya, Selangor. Tel : 03-7947 6333 Faks : 03-7947 6222	Quill City Mall, Lot 2523, Seksyen 41, Mukim Bandar Kuala Lumpur, Daerah Kuala Lumpur, 50250 Wilayah Persekutuan Kuala Lumpur.	21.233	26-06-2014
223.	JAYA SECTION FOURTEEN SDN. BHD. 6th Floor, Jaya Shopping Centre, Jalan Semangat, 46100 Petaling Jaya, Selangor. Tel : 03-7932 0955 Faks : 03-7932 0959	Lot HSD 173945, Mukim Petaling Jaya, Daerah Petaling, 46100 Selangor.	8.5	16-07-2014
224.	SETARA HATI SDN. BHD. No. 45, Jalan Anggerik Vanilla BF 31/8F, Kota Kemuning, Section 31, 40460 Shah Alam, Selangor. Tel : 03-5122 1055 Faks : 03-5121 3230	Gamuda Walk, Lot PT 65966, Mukim Klang, Daerah Klang, 40460 Selangor.	7.0465	16-07-2014
225.	NORTHPORT (MALAYSIA) BHD. Jalan Pelabuhan, North Port, 42000 Pelabuhan Klang, Selangor. Tel : 03-3169 8888 Faks : 03-3169 8088	Plot 4, PT 509, PT 11690, PT 134728, PT 13729 dan PT 11689, Mukim Kapar, 42009 Daerah Klang, Selangor.	17.00	18-08-2014
226.	PREFERRED ACCOMPLISHMENT SDN. BHD. Suite 01-01, Menara IJM Land, 1, Lebuh Tunku Kudin 3, 11700 Penang. Tel : 04-296 1222 Faks : 04-296 1223	Pearl Regency Building - Block A, Lot 775, Seksyen 4, Bandar Jelutong, Mukim Bandar Jelutong, Daerah Timor Laut, 11700 Pulau Pinang.	3.40	10-09-2014
227.	GAS MALAYSIA ENERGY ADVANCE SDN. BHD. No. 5, Jalan Serendah 26/17, Section 26, Peti Surat 7901, 40732 Shah Alam, Selangor. Tel : 03-5192 3000 Faks : 03-5192 6749	Kawasan Kompleks Perindustrian Toray, Lot PT 2812, Mukim 01, Daerah Seberang Perai Tengah, Pulau Pinang.	33.50	16-10-2014
228.	INAI BENUA SDN. BHD. A-8-4, 8th Floor, Northpoint Offices, Mid Valley City, No. 1 Medan Syed Putra Utara, 59200 Kuala Lumpur. Tel : 03-2287 0989 Faks : 03-2287 0908	Lot 15 Seksyen 95A, Jalan Syed Putra, Mukim Kuala Lumpur, Wilayah Persekutuan Kuala Lumpur.	4.76	29-10-2014
229.	KERJAYA HOTEL SDN. BHD. No. 1, Jalan Wangsa Permai, 1st Floor, Bangunan One Wangsa, Taman Wangsa Permai, 52200 Kuala Lumpur. Tel : 03-2287 0989 Faks : 03-2287 0908	Lot 239 (10635), Kawasan Bandar XIX, Daerah Melaka Tengah, 75300 Melaka.	11.90	30-10-2014
230.	KSL PROPERTIES SDN. BHD. L1-95, KSL City, No. 33, Jalan Seladang, Taman Abad, 80250 Johor Bahru, Johor. Tel : 07-288 2888 Faks : 07-288 2889	Lot PTB 22817, Mukim Johor Bahru, 80250 Daerah Johor Bahru, Johor.	8.8	12-11-2014
231.	PROJEK IMPIANA SDN. BHD. Unit B-6, Block B, Tingkat 6, Menara KIP No. 1, Jalan Sri Utara 1, Sri Utara Off Jalan Ipoh, 68100 Kuala Lumpur. Tel : 03-6252 0888 Faks : 03-6258 8919	KIP Mart, Sebahagian Lot 9207, Mukim Bachang, Melaka Tengah, 75250 Melaka.	4.25	12-11-2014
232.	MFMA DEVELOPMENT SDN. BHD. Suit 2.7, Level 2, Block C, Plaza Damansara, 45 Jalan Medan 1, Bukit Damansara, 50490 Kuala Lumpur. Tel : 03-8778 0075	Sebahagian Lot PT 89, Mukim Bandar Lapangan Terbang Antabangsa Sepang, Daerah Sepang, 64000 Selangor.	7.06	02-12-2014
233.	ONE MEDINI SDN. BHD. No. 63, Lorong Batu Nilam 1A, Bandar Bukit Tinggi, 41200 Klang, Selangor. Tel : 03-3324 3256 Faks : 03-3324 3257	Kompleks Beli-Belah One Medini, Lot PTD 170704, Mukim Pulai, 81110 Daerah Johor Bahru, Johor.	4.25	23-12-2014

Nota • Note:

* Menjana dan mengagih elektrik • Generating and distributing electricity



MAKLUMAT DAN STATISTIK INDUSTRI PEMBEKALAN ELEKTRIK MALAYSIA
INFORMATION AND STATISTICS OF ELECTRICITY SUPPLY INDUSTRY IN MALAYSIA

Maklumat Dan Statistik Industri Pembekalan Elektrik Di Sabah
Information and Statistics of Electricity Supply Industry In Sabah

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Jadual 15: Maklumat Utama Prestasi Sabah Electricity Sdn Bhd (SESB)
Table 15: Key Information on SESB Performance

Petunjuk • Indicator	Unit	2010	2011	2012	2013	2014
Kehendak Maksimum • Maximum Demand	MW	780	830	828	874	908
Jumlah Unit Penjanaan • Total Units Generated	GWj • GWh	1,178	1,524	1,294	1,357	1,270
Jumlah Unit Jualan • Total Units Sold	GWj • GWh	4,127	4,275	4,456	4,670	4,810
Hasil Jualan Elektrik • Sales of Electricity	RM Juta • RM Million	1,055	1,155	1,350	1,382	1,636
Kapasiti Penjanaan Boleh Harap • Dependable Generation Capacity	MW	375	435	417	495	400
Jumlah Kakitangan • Number of Employees	orang • person	2,613	2,613	2,679	2,788	2,975
Hasil Jualan Setiap Kakitangan • Sales of Electricity per Employee	RM Juta/Kakitangan • RM Million/Employee	0.40	0.44	0.50	0.50	0.55
Unit Jualan Setiap Kakitangan • Units Sold per Employee	GWj/Kakitangan • GWh/Employee	1.58	1.64	1.66	0.50	3.26
Kapasiti Penjanaan Setiap Kakitangan • Installed Capacity per Employee	MW/Kakitangan • MW/Employee	0.14	0.17	0.16	0.21	0.12
Jumlah Unit Pembelian • Total Units Purchased	GWj • GWh	3,648	3,765	3,843	3,866	3,081
Jumlah Unit Eksport • Total Units Exported	GWj • GWh	-	-	-	-	-
Jumlah Unit Import • Total Units Imported	GWj • GWh	-	-	-	-	-

*Sumber: Unit Operasi Pasaran • Source: Market Operation Unit

Jadual 16: Stesen Jana Kuasa SESB

Table 16: SESB Power Stations

Bil. • No.	Stesen Jana Kuasa • Power Stations	Jenis Loji • Plant Type	Bahan Api • Fuel	Kapasiti Penjanaan Terpasang Yang Dilesenkan (MW) • Licensed Installed Generation Capacity (MW)	Kapasiti Penjanaan Terpasang (MW) • Installed Generation Capacity (MW)	Unit Penjanaan (GWj) • Units Generated (GWh)	Unit Jualan (GWj) • Units Sold (GWh)
1.	Patau-Patau (Labuan, WC)	Kitar Padu • Combined Cycle	Gas Asli • Natural Gas	112.00	104.50	Gas Asli • Natural Gas: 451.50	477.38
2.	Melawa (K.Kinabalu, WC)	Enjin Diesel • Diesel Engine	Diesel	44.00	32.50	MFO / Diesel: 472.58	63.41
3.	Kudat (Kudat, WC)			0.00	0.00		n/a
4.	Kota Belud (K.Belud, WC)			0.00	0.00		n/a
5.	Kota Marudu (Kudat, WC)			0.00	0.00		n/a
6.	Beluran			0.00	0.00		n/a
7.	Melawa Canopy Genset (K.Kinabalu, WC)			10.00	9.0		n/a
8.	Batu Sapi (Sandakan, EC)			14.00	14.00		57.99
9.	Batu Sapi GT SimeBest			22.50	18.00		n/a
10.	Gantisan (Sandakan, EC)			9.00	17.00		n/a
11.	Labuk (Sandakan, EC)			4.70	0.00		n/a
12.	Labuk Canopy Genset			8.30	7.20		n/a
13.	Tawau (Tawau, EC)			56.00	40.00		188.22
14.	Kubota, Tawau GT1 - COMM 15 JULY 2013, (Tawau, EC) GT2 - COMM 15 JUNE 2013			64.00	64.00		n/a
15.	Lahat Datu (Lahat Datu, EC)			8.50	6.20		n/a
16.	Semporna(Semporna, EC)			0.00	0.00		n/a
17.	Sim-Sim Canopy Genset			0.00	0.00		n/a
18.	Pasir Putih Canopy Genset			20.40	7.40		n/a
19.	POIC Lahat Datu			20.00	11.30		n/a
20.	Tenom Pangli (Tenom, WC)	Hidro • Hydro	Hidro • Hydro	66.00	66.0	Hidro • Hydro: 284.70	261.62
21.	Tawau (Tawau, EC) – Merotai	Hidro Mini • Mini Hydro		1.00	0.80		n/a
22.	Tawau (Tawau, EC) –Bombalai			1.00	0.80		n/a
23.	Mini Hidro Melangkap & Sayap			2.00	2.00	n/a	
JUMLAH • TOTAL				463.40	400.70	1,208.78	

Jadual 17: Kapasiti Boleh Harap (MW) dan Kebolehdapatan Keseluruhan (%) SESB
Table 17: SESB Dependable Capacity (MW) and Overall Availability (%)

Tahun • Year	BAHAN API • FUEL TYPE						Kebolehdapatan Keseluruhan (%) • Overall Availability (%)
	Hidro • Hydro	Gas Asli • Natural Gas	Arang Batu • Coal	Medium Fuel Oil (MFO)	Diesel	JUMLAH • TOTAL	
2010	74.0	101.0	-	-	200.0	375.0	57.00
2011	70.0	107.0	-	-	259.0	435.0	57.00
2012	68.0	105.0	-	-	245.0	417.0	70.75
2013	69.0	105.0	-	-	304.0	495.0	75.96
2014	69.6	104.5	-	-	226.6	400.7	76.80

Jadual 18: Campuran Penjanaan (GWj) SESB
Table 18: SESB Generation Mix (GWh)

Tahun • Year	BAHAN API • FUEL TYPE					
	Hidro • Hydro	Gas Asli • Natural Gas	Arang Batu • Coal	Medium Fuel Oil (MFO)	Diesel	JUMLAH • TOTAL
2010	482.0	260.0	-	173.0	263.0	1,178.0
2011	754.0	398.0	-	-	372.0	1,524.0
2012	377.0	589.0	-	-	328.0	1,294.0
2013	410.0	619.0	-	-	328.0	1,357.0
2014	262.0	405.0	-	-	391.0	1,058.0

Jadual 19: Jualan Tenaga Elektrik (GWj) SESB
Table 19: SESB Sales of Electricity (GWh)

Tahun • Year	Domestik • Domestic	Komersil • Commercial	Industri • Industry	Lampu Awam • Public Lighting	Perombongan • Mining	Eksport • Export	JUMLAH • TOTAL
2010	1,295	1,602	1,178	52	-	-	4,127
2011	1,332	1,742	1,146	56	-	-	4,275
2012	1,436	1,923	1,038	59	-	-	4,456
2013	1,530	2,018	1,061	60	-	-	4,670
2014	1,583	2,046	1,118	63	-	-	4,810

Jualan Tenaga Elektrik bagi SESB termasuk pembelian daripada IPP di Sabah • Sales of Electricity for SESB includes the energy purchases from IPPs in Sabah

Jadual 20: Bilangan Pengguna SESB
Table 20: SESB Number of Consumers

Tahun • Year	Domestik • Domestic	Komersil • Commercial	Industri • Industry	Lampu Awam • Public Lighting	Perombongan • Mining	Eksport • Export	JUMLAH • TOTAL
2010	364,376	68,877	2,971	4,302	-	-	440,526
2011	684,384	72,288	2,865	4,516	-	-	464,053
2012	403,387	75,375	2,903	4,820	-	-	486,485
2013	422,964	79,188	2,937	5,128	-	-	510,217
2014	442,516	82,472	2,906	5,349	-	-	533,243

Jadual 21: Stesen Jana Kuasa Penjana-Penjana Bebas (IPP) di Sabah**Table 21: Independent Power Producers' Power Plants in Sabah**

Bil. • No.	Stesen Jana Kuasa • Power Stations	Jenis Loji • Plant Type	Bahan Api • Fuel	Kapasiti Penjanaan Terpasang Yang Dilesenkan (MW) • Licensed Installed Generation Capacity (MW)	Kapasiti Boleh Harap (MW) • Dependable Capacity (MW)	Jumlah Penjanaan (GWj) • Total Generation (GWh)	Jumlah Jualan (GWj) • Total Sales (GWh)	
1.	ARL Power Sdn. Bhd. (K.Kinabalu, WC)	Diesel	Medium Fuel Oil	50.00	47.50	MFO / Diesel: 336.24	40.45	
2.	Serudong Power Sdn. Bhd. (Tawau, EC)	Diesel	Diesel	37.50	36.00		174.13	
3.	Stratavest Sdn. Bhd. (Libaran, Sandakan, EC)	Diesel	Diesel	64.40	60.00		29.26	
4.	Ranhill Powertron Sdn. Bhd. (K.Kinabalu, WC)	Kitar Padu • Combined Cycle	Gas Asli • Natural Gas	212.00	190.00	Gas Asli • Natural Gas: 3,652.19	1,060.37	
5.	Sepangar Bay Power Corporation Sdn. Bhd. (K.Kinabalu, WC)	Kitar Padu • Combined Cycle	Gas Asli • Natural Gas	112.00	105.00		537.06	
6.	Ranhill Powertron II (K.Kinabalu, WC)	Kitar Padu • Combined Cycle	Gas Asli • Natural Gas	205.00	199.00		1,238.93	
7.	Kimanis	Kitar Padu • Combined Cycle	Gas Asli • Natural Gas	285.00	285.00		*	
8.	SPR	Kitar Padu • Combined Cycle	Gas Asli • Natural Gas	108.20	100.00		*	
JUMLAH • TOTAL				1,074.10	1,022.50		3,988.43	3,080.20

* Belum Beroperasi • * Not in Operation yet

Jadual 22: Pemegang Lesen Projek Jana Kuasa Tenaga Boleh Baharu (TBB) in Sabah
Table 22: Licensees of RE Power Generation Projects in Sabah

Bil. No.	Nama Pelesen dan Lokasi Licensee and Location	Jenis Loji Type Of Plant	Kapasiti Penjanaan Terpasang Yang Dilesenkan (MW) Licensed Installed Generation Capacity (MW)	Kapasiti Boleh Harap (MW) Dependable Capacity (MW)	Punca Tenaga Atau Jenis Bahan Api Source Of Energy Or Fuel Type	Jumlah Penjanaan (GWj) Total Generation (GWh)	Jumlah Jualan (GWj) Total Sales (GWh)
1.	SYARIKAT ESAJADI POWER SDN. BHD. Sungai Pangpuyan	Hidro Mini Mini Hydro	4.50	4.50	Air • Water	7.27	7.27
2.	SYARIKAT ESAJADI POWER SDN. BHD. Sungai Kadamaian	Hidro Mini Mini Hydro	2.00	2.00	Air • Water	9.38	9.38
3.	TSH BIO ENERGY SDN. BHD.	Turbin Stim Steam Turbine	14.00	10.0	EFB	73.60	67.86
4.	CASH HORSE (M) SDN BHD	Turbin Stim Steam Turbine	12.00	10.00	EFB	7.22	5.31
5.	SEGUNTOR BIOENERGY SDN. BHD.	Turbin Stim Steam Turbine	13.50	10.00	EFB	75.32	65.09
6.	KINA BIOPOWER SDN. BHD.	Turbin Stim Steam Turbine	11.50	10.00	EFB	73.78	61.03
7.	MARUDU ENGINEERING SDN. BHD.	Solar PV	1.00	1.00	Suria • Sun	*	*
8.	GREEN LEADERSHIP SDN. BHD.	Solar PV	1.00	1.00	Suria • Sun	*	*
9.	TIONG CHEONG BRICKS SDN. BHD.	Solar PV	0.69	0.69	Suria • Sun	*	*
JUMLAH • TOTAL			60.19	49.19		246.57	215.94

* Belum Beroperasi • * Not in Operation yet
 EFB: Empty Fruit Bunches • Tandan Sawit Kosong

Jadual 23: Co-generation dengan Lesen Awam di Sabah**Table 23: Co-generation with Public Licenses in Peninsular Malaysia**

Bil. • No.	Nama Pelesen • Licensee	Kapasiti Penjanaan Yang Dilesenkan (MW) • Licensed Generation Capacity (MW)	Bahan Api • Fuel	Jumlah Penjanaan (GWj) • Total Generation (GWh)
1.	BAHAGAYA SDN. BHD.	3.00	EFB	17.25
2.	BIO FUEL ASIA SDN. BHD.	10.00	Sisa Kayu • Wood Waste	26.20
3.	EVERGREEN INTERMERGE SDN. BHD.	6.00	EFB	19.58
4.	SEO ENERGY SDN. BHD.	1.20	EFB	12.00
5.	PETRONAS METHANOL (LABUAN) SDN. BHD.	41.80	Gas Asli • Natural Gas	n/a
6.	PROFOUND HERITAGE SDN. BHD.	38.00	Diesel	Lesen telah dibatalkan pada 7/7/2014 • License revoked on 7/7/2014
7.	IJM BIOFUEL SDN. BHD.	3.60	EFB	Tiada Aktiviti Penjanaan • No Generation
8.	UNTUNG RIA SDN. BHD.	4.00	Sisa Kayu • Wood Waste	17.37
9.	IOI BIO-ENERGY SDN. BHD.	15.00	Biojisim • Biomass	n/a
JUMLAH • TOTAL		122.60		92.40

n/a Tiada maklumat • Information is not available
 EFB: Empty Fruit Bunches • Tandan Sawit Kosong

Jadual 24: Co-generation dengan Lesen Persendirian di Sabah**Table 24: Co-generation with Private Licenses in Peninsular Malaysia**

Bil. • No.	Nama Pelesen • Licensee	Kapasiti Penjanaan Yang Dilesenkan (MW) • Licensed Generation Capacity (MW)	Bahan Api • Fuel	Jumlah Penjanaan (GWj) • Total Generation (GWh)
1.	FELDA PALM INDUSTRIES SDN. BHD.	7.50	EFB/Diesel	2.82
2.	PALM ENERGY SDN. BHD.	6.50	Bahan Buangan Pertanian • Agricultural Waste	8.03
3.	SABAH FOREST INDUSTRIES SDN. BHD.	79.50	Sisa Kayu / Diesel • Wood Waste / Diesel	52.60
JUMLAH • TOTAL		93.50		63.45

EFB: Empty Fruit Bunches • Tandan Sawit Kosong

Jadual 25: Penjanaaan Persendirian Kurang Daripada 5 MW di Sabah
Table 25: Less-Than-5 MW Self Generation in Sabah

Bil. • No.	Pejabat Kawasan Suruhanjaya Tenaga • Energy Commission's Regional Office	Bilangan Lesen Yang Masih Sah Sehingga 31 Disember 2014 • Valid License as of 31 December 2014	Kapasiti Penjanaaan Terpasang (MW) • Installed Generation Capacity (MW)	Jumlah Penjanaaan (GWj) • Total Generation (GWh)					JUMLAH • TOTAL
				Diesel	Distillate	EFB	Biogas	Habuk Kayu • Wood Dust	
1.	Pantai Barat Negeri Sabah	123	1769	5.17	-	-	-	-	5.17
2.	Pantai Timur Negeri Sabah	802	525.14	71.00	40.00	170.00	4.00	4.00	289.00
	JUMLAH • TOTAL	925	542.83	76.17	40.00	170.00	4.00	4.00	294.17

EFB: Empty Fruit Bunches • Tandan Sawit Kosong

SISTEM PENGHANTARAN TRANSMISSION SYSTEM

Jadual 26: Keupayaan Sistem Penghantaran SESB
Table 26: SESB Transmission System Capacity

Tahun • Year	2010	2011	2012	2013	2014
TALIAN/KABEL SISTEM PENGHANTARAN • TRANSMISSION SYSTEM LINES/CABLES					
500 kV (km)	-	-	-	-	-
275 kV (km)	492	492	492	493	585
132 kV (km)	1,721	1,780	1,772	1,200	1,731
66 kV (km)	123	123	123	163	95
PENCAWANG PENGHANTARAN • TRANSMISSION SUBSTATION					
Bilangan • Number	39	41	42	39	36
Kapasiti • Capacity (MVA)	4,517	4,652	4,672	3,657	4,497

SISTEM PENGAGIHAN DISTRIBUTION SYSTEM

Jadual 27: Keupayaan Sistem Pengagihan SESB
Table 27: SESB Distribution System Capacity

Tahun • Year	2010	2011	2012	2013	2014
TALIAN/KABEL SISTEM PENGAGIHAN • DISTRIBUTION SYSTEM LINES/CABLES					
Talian Atas (km) • Overhead Lines (km) ¹	7,490	7,761	8,525	8,904	9,038
Kabel Bawah Tanah (km) • Underground Cables (km) ¹	1,418	1,317	1,136	729	903
PENCAWANG PENGAGIHAN • DISTRIBUTION SUBSTATION					
Bilangan • Number	5,815	5,878	6,365	6,619	6,781
Kapasiti • Capacity (MVA)	4,618	4,813	4,813	5,864	5,865

¹ Sistem 33 kV dan 11 kV sahaja • 33 kV and 11 kV system only

Jadual 28: Senarai Pengagih Elektrik di Sabah
Table 28: List of Electricity Distributors in Sabah

Bil. No.	Nama Pelesen Dan Alamat Perhubungan Licensee Name and Contact Address	Kawasan Bekalan • Area of Supply	Kapasiti Yang Dilesenkan (MW) • Licensed Capacity (MW)	Tarikh Lesen Dikeluarkan • Date of License Issued
1.	C3 POWER SDN. BHD. 2nd Floor, U0271, Block F, Jati Commercial Centre, P.O. Box 80737, 87017 F.T. Labuan. Tel : 087-411 175 Faks : 087-419 731	Temporary Settlement in some areas in W. Persekutuan Labuan, Daerah Kota Kinabalu and Sandakan, Sabah.	5.85	26-08-2010
2.	K.K.I.P. POWER SDN. BHD. Lot A7, Salut Commercial Centre, Kota Kinabalu Industrial Park, Jalan Politeknik, 88460 Kota Kinabalu, Sabah. Tel : 088-497 801 / 497 802 Faks : 088-498 177	Kota Kinabalu Industrial Park (KKIP), Sabah.	210.00	15-06-1998
3.	EVERGREEN INTERMERGE SDN. BHD. Teck Guan Regency, 318 Jalan St Patrick, Off Jalan Belunu, Peti Surat 33, 91007 Tawau, Sabah. Tel : 089-758 955 Faks : 089-760 955	Cacao Paramount Sdn. Bhd., Lot CL 105323797, Km 3, Tanjung Batu Laut, Tawau, Sabah.	6.00*	10-10-2006
4.	SEO ENERGY SDN. BHD. KM 8, Jalan Batu Sapi, Karamunting, P.O. Box 2605, 90729 Sandakan, Sabah. Tel : 089-611 011 / 611 012 Faks : 089-611 014 / 617 355	Lot No. 077533754, KM 8, Jalan Batu Sapi Karamunting, Sabah.	1.20	10-10-2006
5.	ASIAN SUPPLY BASE SDN. BHD. Ranca-Ranca Industrial Estate, P.O. Box 80751, 87017 Labuan Federal Territory, Sabah. Tel : 087-411 611 / 411 614 Faks : 087-415 477	Asian Supply Base, Lot 206291581, Daerah Labuan, Wilayah Persekutuan Labuan, Sabah.	12.00	13-11-2006
6.	PROFOUND HERITAGE SDN. BHD. 1st Floor, Lorong Grace Square, Jalan Pantai Sembulan, 88100 Kota Kinabalu, Sabah. Tel : 088-318 801 / 318 802 Faks : 088-233 362	Sutera Harbour Resort, Lot 2, LA. 93010260, Kota Kinabalu, Sabah.	38.00 *	01-10-2006
7.	TSH-WILMAR (BF) SDN. BHD. Bangunan TSH, TB9, KM 7, Apas Road, 91000 Tawau, Sabah. Tel : 089-912 020 / 911 056 Faks : 089-913 000	TSH Edible Oils Sdn Bhd, PL 26166110 & 246290228, Kunak, Lahad Datu, Sabah.	10.00 *	29-12-2006
8.	EKSONS BIOMASS ENERGY SDN. BHD. TB 4327, 2nd Floor, Block 31, Fajar Complex, Jalan Haji Karim, 91000 Tawau, Sabah. Tel : 089-757 911 / 757 913 Faks : 089-761 022	Rajang Plywood (Sabah) Sdn. Bhd., CLS 105486762, 105486771 dan PT2000100538 Sungai Umas, Umas, Mukim Merotai, Tawau, 91000 Sabah.	3.00*	07-03-2007
9.	PETRONAS METHANOL (LABUAN) SDN. BHD. Kawasan Perindustrian Ranca-Ranca, P.O. Box No. 80079, 87010 Wilayah Persekutuan Labuan. Tel : 087-411 211 Faks : 087-413 921 / 425 831	Kawasan Perindustrian Ranca-Ranca, Labuan, 87010 Wilayah Persekutuan Labuan.	41.80	18-07-2007
10.	1BORNEO MANAGEMENT CORPORATION SDN. BHD. G-600A, Ground Floor, 1Borneo Hypermall, Jalan Sulaman, 88400 Kota Kinabalu, Sabah. Tel : 088-447 744 Faks : 088-447 743	Kompleks Beli-Belah 1 Borneo Hy- permall, CL 015607057, Mukim Kuala Menggatal, Daerah Kota Kinabalu, 88450 Sabah.	20.00	08-04-2008
11.	GCH RETAIL (MALAYSIA) SDN. BHD. Giant Superstore Sandakan, Lot 3, Jalan IJM, Bandar Utama, Batu 6, Off Jalan Utara, 90000 Sandakan, Sabah. Tel : 089-214 219 Faks : 089-214 207	Lot CL075477584, Mukim Sandakan, Daerah Sandakan, Sabah.	1.70	17-11-2008
12.	IJM BIOFUEL SDN. BHD. Wisma IJM Plantations, Lot 1, Jalan Bandar Utama, Batu 6, Jalan Utara, 90000 Sandakan, Sabah. Tel : 089-667 721 Faks : 089-674 810	IJM Edible Oils Sdn. Bhd., IJMP Integrated Downstream Processing Complex, Lot NT. 073019299, Mukim Sungai Mowtas, Daerah Sandakan, Poskod 90009 Sabah.	3.60 *	18-06-2009

Bil. No.	Nama Pelesen Dan Alamat Perhubungan • Licensee Name and Contact Address	Kawasan Bekalan • Area of Supply	Kapasiti Yang Dilesenkan (MW) • Licensed Capacity (MW)	Tarikh Lesen Dikeluarkan • Date of License Issued
13.	GCH RETAIL (MALAYSIA) SDN. BHD. Giant Complex Tawau, CL105466055, KM 5 1/2, Jalan Chong Thien Yun, Off Jalan Apas, 91000 Tawau, Sabah. Tel : 089-911 890 Faks : 089-911 891	Giant Hypermarket, Lot CL105466055, Jalan Datuk Chong Fuen Yun, 91000 Tawau, Sabah.	3.00	10-07-2009
14.	MAKAMEWAH SDN. BHD. 9th Floor, 9-3, Suria Sabah Shopping Mall, 1, Jalan Tun Fuad Stephens, 88000 Kota Kinabalu, Sabah. Tel : 088-238 949 Faks : 088-239 040	Suria Sabah Shopping Mall, Lot T.L. 017539810, Mukim Kota Kinabalu, Daerah Kota Kinabalu, Sabah.	13.00	27-08-2009
15.	TSH BIO-GAS SDN. BHD. Bangunan TSH, TB 9, KM7, Apas Road, 91000 Tawau, Sabah. Tel : 089-912 020 / 911 056 Faks : 089-913 000	Lot CL 105392989, Mukim Kalumpang, Daerah Tawau, 91000 Sabah.	3.00	11-03-2010
16.	SEH POWER SDN. BHD. No. 2A, 2nd Floor, NKE Building, Lorong Kacang Tanah, Jalan Kolombong, Off Mile 5 1/2, Jalan Tuaran, 88450 Kota Kinabalu, Sabah. Tel : 088-426 322 Faks : 088-424 215	Sandakan Education Hub, Lot 01 to 25, Mukim Sungai Batang, Daerah Sandakan, Sabah.	45.00	11-03-2010
17.	UNTUNG RIA SDN. BHD. 11th Floor, Wisma Perindustrian, Jalan Istiadat, Likas, 88400 Kota Kinabalu, Sabah. Tel : 088-242 257 / 242 258 Faks : 088-242 169	Lot No. CL 135193752 dan CL 135366139, Kg. Ulu Patikang, Keningau, Sabah.	4.00	09-08-2010
18.	SUARA WIRA SDN. BHD. Ground Floor, Lot 3, Blk. E, Donggongan New Township, Penampang, 89500 Kota Kinabalu, Sabah. Tel : 088-712 792 Faks : 088-710 792	Lot TL 217501874 & TL 217502086, Mukim Donggongan New Township, Daerah Penampang, Sabah.	4.052	27-09-2010
19.	MALAYSIA AIRPORTS SDN. BHD. Lapangan Terbang Antarabangsa Kota Kinabalu, Pejabat Pengurusan, Aras 5 Bangunan Terminal, Beg Berkunci 134, 88740 Kota Kinabalu, Sabah.	Lapangan Terbang Antarabangsa Kota Kinabalu, Lot PT 92010207, TK1, TK2 & TK3, Mukim Kota Kinabalu dan PT 92210081, Mukim Penampang, Daerah Kota Kinabalu, Sabah.	5.50	03-11-2010
20.	MALAYSIA AIRPORTS SDN. BHD. Lapangan Terbang Tawau, P.O. Box 60132, 91011 Tawau, Sabah. Tel : 089-950 777 Faks : 089-950 781	Lapangan Terbang Tawau, Lot TK1, Mukim Apas Balong, Daerah Tawau, Sabah.	2.50	03-11-2010
21.	MALAYSIA AIRPORTS SDN. BHD. Lapangan Terbang Sandakan, P.O. Box 730, 90009, Sandakan, Sabah. Tel : 089-667 784 Faks : 089-667 778	Lapangan Terbang Sandakan, Lot TK1, Mukim Sandakan, Daerah Sandakan, Sabah.	2.50	03-11-2010
22.	ICSD VENTURES SDN. BHD. Harbour Mall Sandakan, Management Office, Level 5, Sandakan Harbour Square, 90000 Sandakan, Sabah. Tel : 089-276 888 Faks : 089-276 999	No. Lot T.L. 077579394, Daerah Sandakan, Sabah.	4.00	08-06-2011
23.	SAGAJUTA (SABAH) SDN. BHD. Lot No. CL.015080145 dan CL.015026392, Mukim Kuala Menggatal, Daerah Kota Kinabalu, Sabah. Tel : 088-447 722 / 447 288 Faks : 088-447 272 / 447 788	Bangunan Parcel 1 Phase 1 Shoplex (Tingkat Bawah - Tingkat 2, 106 unit) No. Lot CL. 015080145 dan CL.015026392, Mukim Kuala Menggatal, Daerah Kota Kinabalu, Sabah.	3.22	30-04-2012

Nota • Note:

* Menjana dan mengagih elektrik • Generating and distributing electricity



MAKLUMAT DAN STATISTIK INDUSTRI PEMBEKALAN ELEKTRIK MALAYSIA
INFORMATION AND STATISTICS OF ELECTRICITY SUPPLY INDUSTRY IN MALAYSIA

Maklumat Dan Statistik Industri Pembekalan Elektrik Di Sarawak
Information and Statistics of Electricity Supply Industry In Sarawak

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Jadual 29: Maklumat Utama Prestasi Sarawak Energy Berhad (SEB)
Table 29: Key Information on SEB Performance

Petunjuk • Indicator	Unit	2010	2011	2012	2013	2014
Kehendak Maksimum • Maximum Demand	MW	1,091	1,278	1,229	1,466	2,036
Jumlah Unit Penjanaan ¹ • Total Units Generated ¹	GWj • GWh	2,321	7,279	7,025	6,572	6,494
Jumlah Unit Jualan ² • Total Units Sold ²	GWj • GWh	5,728	6,486	7,587	10,420	13,440
Hasil Jualan Elektrik • Sales of Electricity	RM Juta • RM Million	1,518	1,673	1,862	2,266	2,752
Kapasiti Penjanaan Terpasang ³ • Installed Generation Capacity ³	MW	530	1,358	1,352	1,332	1,551
Jumlah Kakitangan • Number of Employees	orang • person	2,242	3,529	3,882	4,040	4,174
Hasil Jualan Setiap Kakitangan • Sales of Electricity per Employee	RM Juta/Kakitangan • RM Million/Employee	0.68	0.47	0.48	0.56	0.66
Unit Jualan Setiap Kakitangan • Units Sold per Employee	GWj/Kakitangan • GWh/Employee	2.55	1.84	1.95	2.58	3.59
Kapasiti Penjanaan Setiap Kakitangan • Installed Capacity per Employee	MW/Kakitangan • MW/Employee	0.24	0.38	0.35	0.33	0.95
Jumlah Unit Pembelian • Total Units Purchased	GWj • GWh	4,672	759	2,712	5,414	8,457
Jumlah Unit Eksport • Total Units Exported	GWj • GWh	-	-	-	-	-
Jumlah Unit Import • Total Units Imported	GWj • GWh	-	-	-	-	-

Nota • Note:

¹ Jumlah Unit Penjanaan bagi SEB tidak termasuk IPP di Sarawak • Generation Mix for SEB excludes IPPs in Sarawak

² Jualan Tenaga Elektrik bagi SEB termasuk pembelian daripada IPP di Sarawak • Sales of Electricity for SEB includes the purchase from IPPs in Sarawak

³ Jumlah Kapasiti Penjanaan Terpasang SEB tidak termasuk IPP di Sarawak • Installed Generation Capacity for SEB excludes IPPs in Sarawak

Jadual 30: Kapasiti Terpasang (MW) SEB**Table 30: SEB Installed Capacity (MW)**

Tahun • Year	BAHAN API • FUEL						JUMLAH • TOTAL
	Hidro • Hydro	Gas Asli • Natural Gas	Arang Batu • Coal	Medium Fuel Oil (MFO)	Diesel	Lain-lain • Others	
2010	101	271	-	-	158	-	530
2011	101	675	480	-	102	-	1,358
2012	101	608	480	-	163	-	1,352
2013	101	588	480	-	163	-	1,332
2014	337	576	480	-	158	-	1,551

Jadual 31: Campuran Penjanaan (GWj) SEB**Table 31: SEB Generation Mix (GWh)**

Tahun • Year	BAHAN API • FUEL						JUMLAH • TOTAL
	Hidro • Hydro	Gas Asli • Natural Gas	Arang Batu • Coal	Medium Fuel Oil (MFO)	Diesel	Lain-lain • Others	
2010	542	1,516	-	-	263	-	2,321
2011	424	3,243	3,368	-	244	-	7,279
2012	433	2,777	3,037	-	778	-	7,025
2013	363	3,015	3,046	-	148	-	6,572
2014	444	2,706	3,157	-	187	-	6,494

Jadual 32: Jualan Tenaga Elektrik (GWj) SEB**Table 32: SEB Sales of Electricity (GWh)**

Tahun • Year	Domestik • Domestic	Komersil • Commercial	Industri • Industry	Lampu Awam • Public Lighting	Perlombongan • Mining	Eksport • Export	Lain-lain • Others	JUMLAH • TOTAL
2010	1,335	1,735	2,593	64	-	-	-	5,728
2011	1,423	1,846	3,151	66	-	-	-	6,486
2012	1,584	2,026	3,904	73	-	-	-	7,587
2013	1,722	2,169	6,457	72	-	-	-	10,420
2014	1,817	2,291	9,254	78	-	-	-	13,440

Jualan Tenaga Elektrik bagi SEB termasuk pembelian daripada IPP di Sarawak • Sales of Electricity for SEB includes the purchase from IPPs in Sarawak

Jadual 33: Bilangan Pengguna**Table 33: Number of Consumers**

Tahun • Year	Domestik • Domestic	Komersil • Commercial	Industri • Industry	Lampu Awam • Public Lighting	Perlombongan • Mining	Eksport • Export	JUMLAH • TOTAL
2010	424,550	72,921	923	6,811	-	-	505,205
2011	444,340	76,222	947	7,042	-	-	528,551
2012	461,422	79,278	970	7,383	-	-	549,053
2013	483,106	82,160	985	7,699	-	-	573,950
2014	498,601	85,188	984	8,152	-	-	592,925

Jadual 34: Stesen Jana Kuasa Penjana-penjara Bebas di Sarawak**Table 34: IPP's Power Plants in Sarawak**

Bil. • No.	Nama Pelesen dan Lokasi • Licensee and Location	Jenis Loji • Type Of Plant	Kapasiti Penjanaan Terpasang Yang Dilesenkan (MW) • Licensed Installed Generation Capacity (MW)	Unit Penjanaan (GWj) • Units Generated (GWh)	Unit Jualan (GWj) • Units Sold (GWh)
1.	Sarawak Hidro Sdn. Bhd. Bakun, Sarawak	Hidro • Hydro	2,400	8,576.72	8,475.32

Nota • Note:

Bakun dimiliki dan dikendalikan oleh sebuah entiti di bawah Kerajaan Persekutuan iaitu Sarawak Hidro Sdn. Bhd. • Bakun is owned and operated by an entity under the Federal Government namely Sarawak Hidro Sdn. Bhd.

SISTEM PENGHANTARAN TRANSMISSION SYSTEM

Jadual 35: Keupayaan Sistem Penghantaran**Table 35: Transmission System Capacity**

Tahun • Year	2010	2011	2012	2013	2014
TALIAN/KABEL SISTEM PENGHANTARAN • TRANSMISSION SYSTEM LINES/CABLES					
500 kV (km)	-	-	-	-	-
275 kV (km)	765	867	1086	1,188	1,235
132 kV (km)	225	235	383	398	372
66 kV (km)	-	-	-	-	-
PENCAWANG PENGHANTARAN • TRANSMISSION SUBSTATIONS					
Bilangan • Number	24	22	25	27	28
Kapasiti (MVA) • Capacity (MVA)	4,886	5,206	5,876	6,356	6,440
PRESTASI • PERFORMANCE					
Bilangan Kejadian Pelantikan • Number of Tripping Incidents	7	8	16	20	26
Tenaga yang Tidak Dibekal (MWj) • Unsupplied Energy (MWh)	191	507	421	6,018	1,754

SISTEM PENGAGIHAN DISTRIBUTION SYSTEM

Jadual 36: Keupayaan Sistem Pengagihan**Table 36: Distribution System Capacity**

Tahun • Year	2010	2011	2012	2013	2014
TALIAN/KABEL SISTEM PENGAGIHAN • DISTRIBUTION SYSTEM LINES/CABLES					
Talian Atas (km) • Overhead Lines (km)	19,803	20,254	21,030	22,350	23,210
Kapasiti (km) • Underground Cables (km)	6,087	6,450	6,680	6,969	7,274
PENCAWANG PENGAGIHAN • DISTRIBUTION SUBSTATIONS					
Bilangan • Number	8,685	9,130	9,588	10,365	10,927
Kapasiti (MVA) • Capacity (MVA)	3,321	3,490	3,744	4,002	4,174
PRESTASI • PERFORMANCE					
Bilangan Gangguan Bekalan • Number of Supply Interruptions	8,003	7,759	7,507	8,460	9,496

MAKLUMAT DAN STATISTIK INDUSTRI PEMBEKALAN ELEKTRIK MALAYSIA
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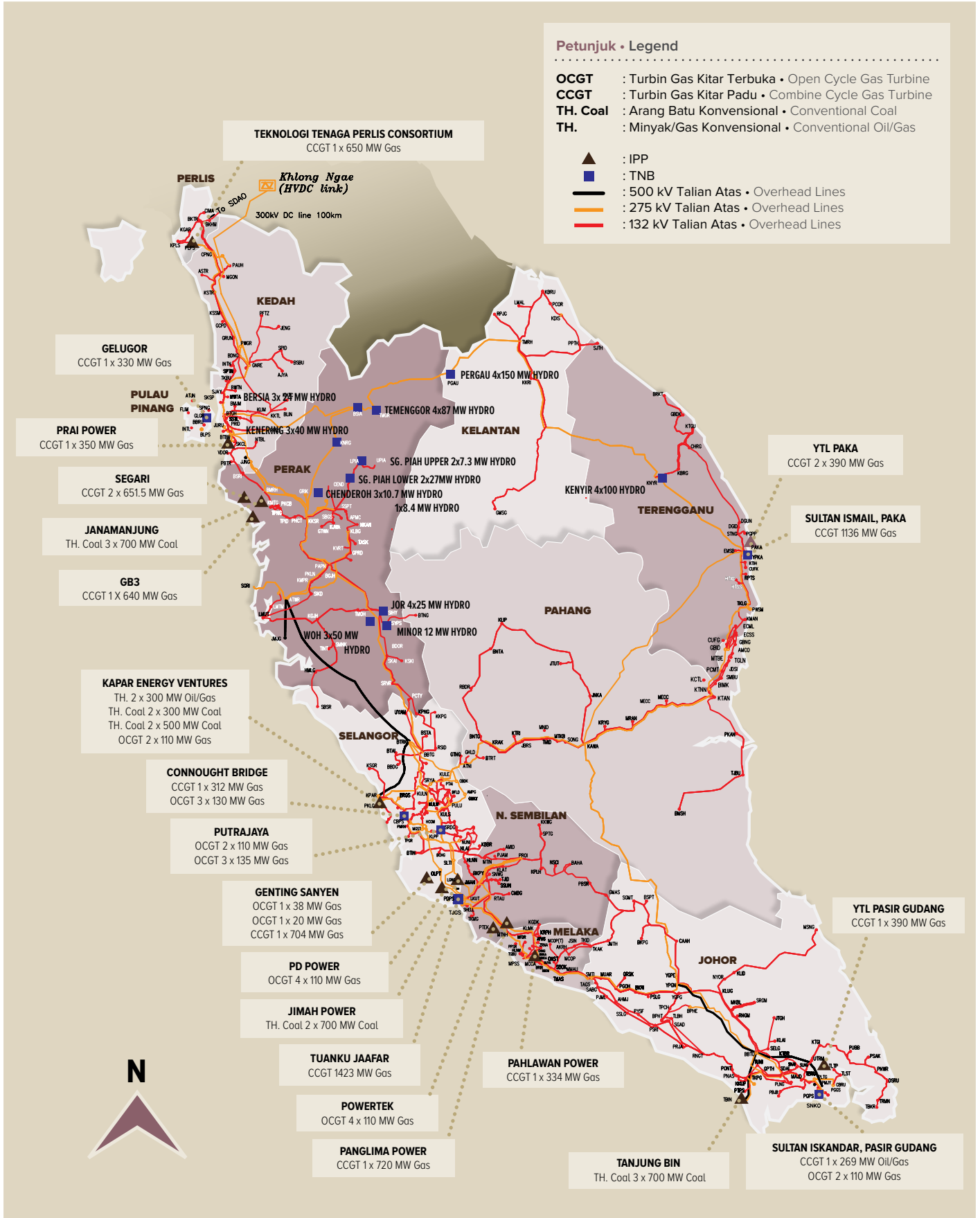
Peta Lokasi Stesen Jana Kuasa Utama Di Malaysia
Location Maps of Main Power Generation Stations In Malaysia

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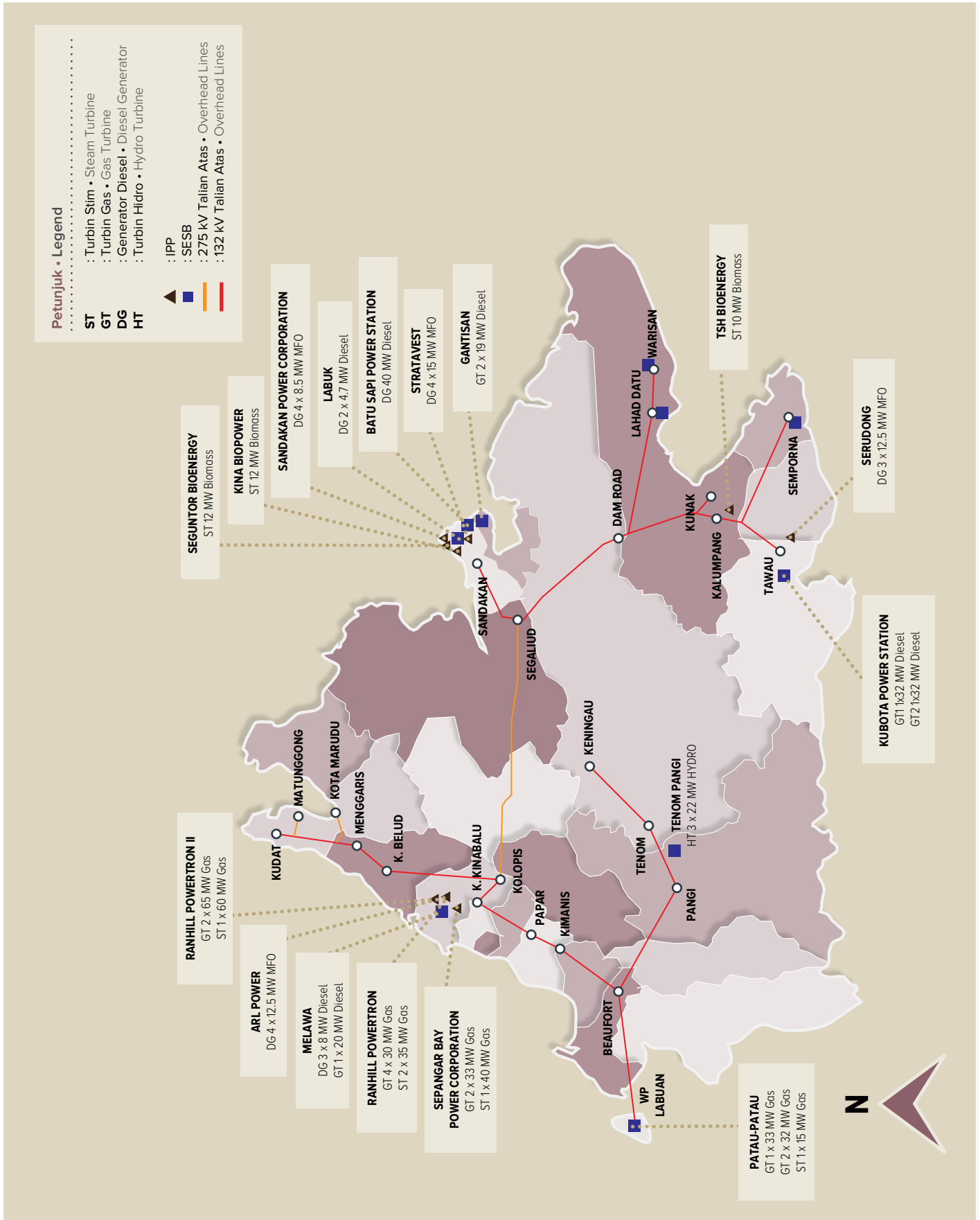
PETA LOKASI STESEN-STESEN JANA KUASA UTAMA DAN SISTEM GRID DI MALAYSIA

LOCATION MAPS OF MAJOR POWER STATIONS IN MALAYSIA

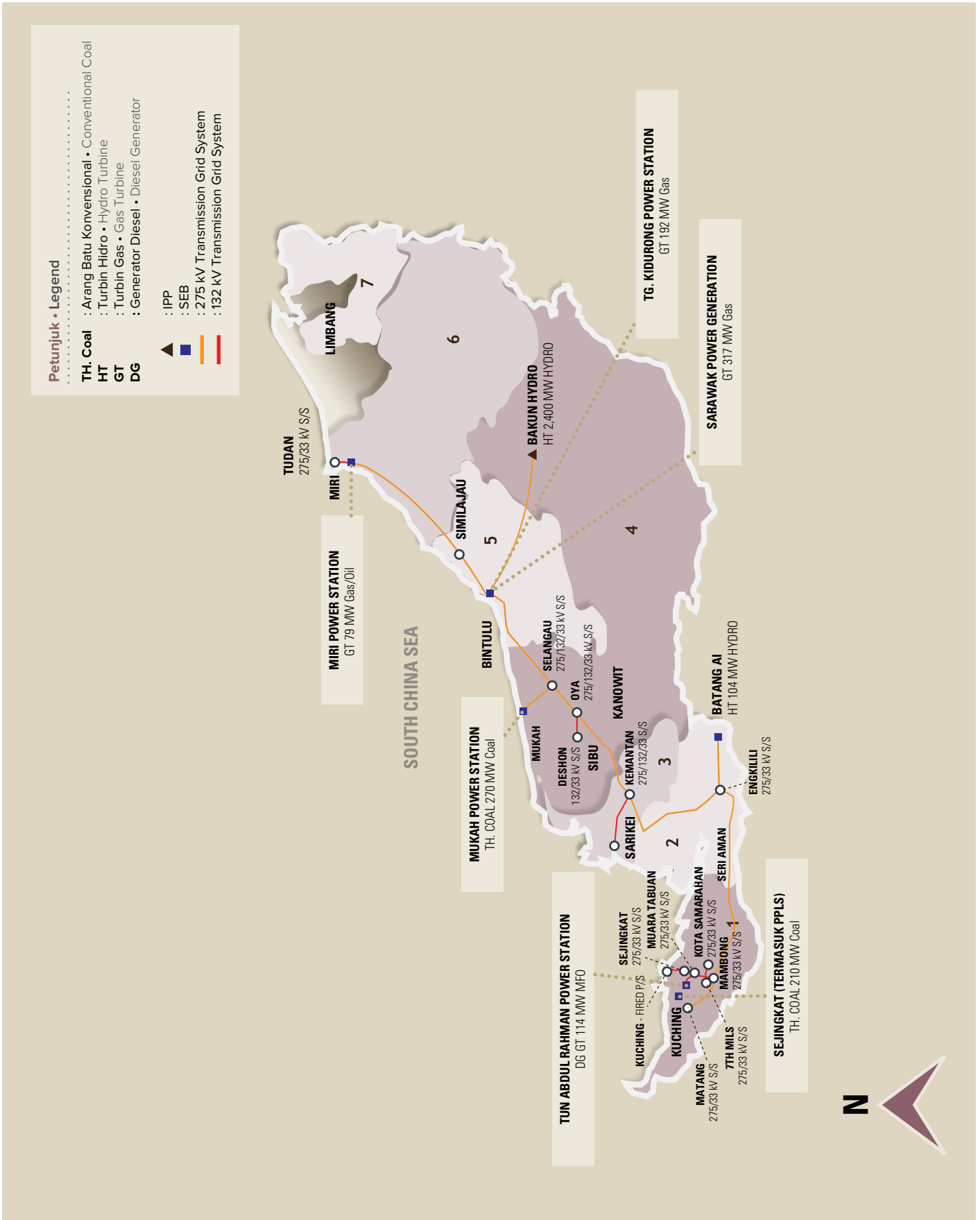
Peta 1: Lokasi Stesen Jana Kuasa Utama dan Sistem Grid di Semenanjung Malaysia
Map 1: Location of Major Power Stations and Grid System in Peninsular Malaysia



Peta 2: Lokasi Stesen Jana Kuasa Utama dan Sistem Grid di Sabah
Map 2: Location of Major Power Stations and Grid System in Sabah



Peta 3: Lokasi Stesen Jana Kuasa Utama dan Sistem Grid di Sarawak
Map 3: Location of Major Power Stations and Grid System in Sarawak



PRESTASI INDUSTRI PEMBEKALAN ELEKTRIK DI MALAYSIA INFORMATION AND STATISTICS OF ELECTRICITY SUPPLY INDUSTRY IN MALAYSIA

Prestasi Industri Pembekalan Elektrik Di Semenanjung Malaysia
Performance of Electricity Supply Industry In Peninsular Malaysia

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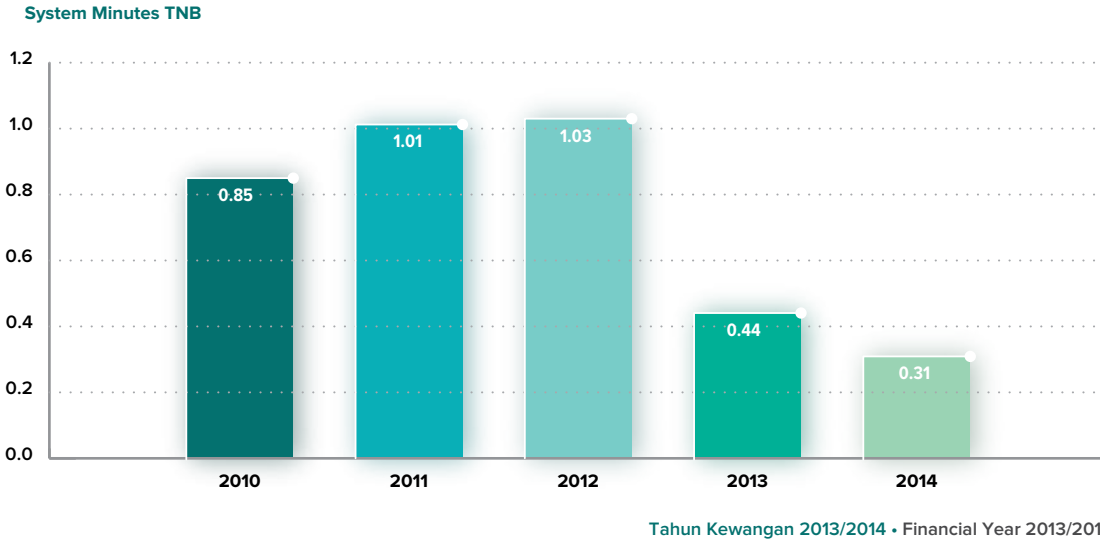
Laporan Kualiti Perkhidmatan TNB dan Nur Distribution
Service Performance Report of TNB and Nur Distribution

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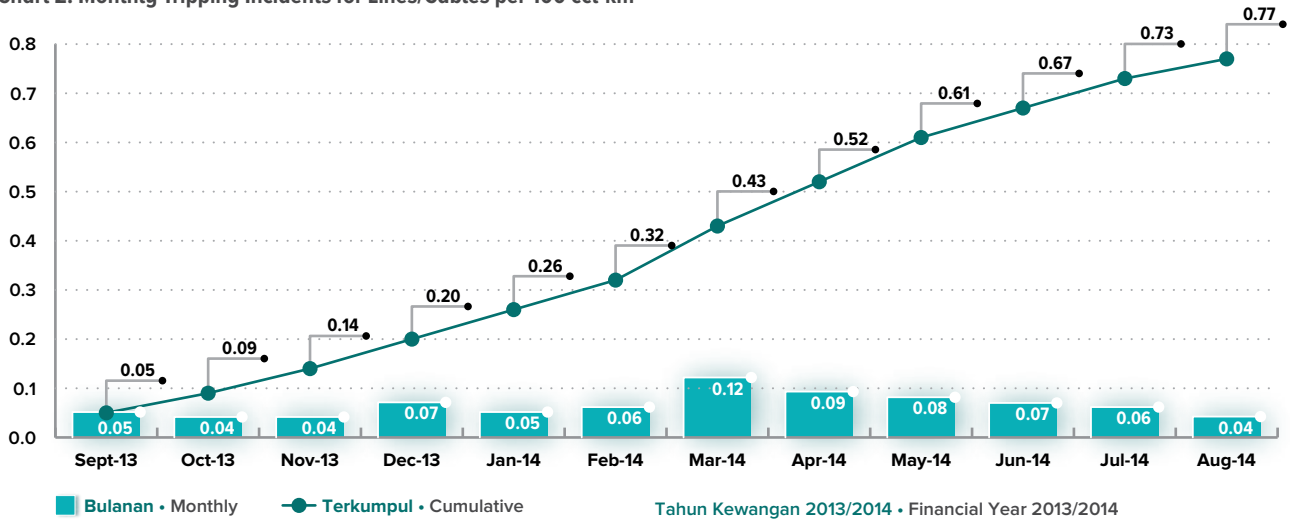
SEMENANJUNG MALAYSIA
PENINSULAR MALAYSIA
Jadual 37: Purata Kecekapan Thermal (%), Purata Faktor Kesiediaan Setara (EAF) (%) dan Purata Faktor Henti Tugas Tidak Berjadual Setara (EUOF) mengikut jenis Loji
Table 37: Average Thermal Efficiency (%), Average Equivalent Availability Factor (EAF) (%) and Average Equivalent Unplanned Outage Factor (EUOF) by type of Plant

Jenis Loji • Type Of Plant	2010		2011		2012		2013		2014	
	TNB	IPP	TNB	IPP	TNB	IPP	TNB	IPP	TNB	IPP
KITAR PADU • COMBINED CYCLE										
Purata Kecekapan Thermal (%) • Average Thermal Efficiency (%)	41.00	42.00	40.80	44.00	44.34	43.96	43.30	44.00	43.63	43.66
EAF(%)	91.00	91.00	85.00	88.60	94.14	95.10	83.50	91.60	90.17	91.19
EUOF	2.30	3.00	5.50	3.95	3.48	3.27	6.28	2.13	1.49	1.38
KITAR TERBUKA • OPEN CYCLE										
Purata Kecekapan Thermal (%) • Average Thermal Efficiency (%)	23.00	27.00	22.30	27.10	26.29	26.77	26.70	27.40	26.70	26.93
EAF(%)	93.00	98.00	97.60	94.50	94.14	95.10	90.40	84.80	84.44	90.14
EUOF	3.99	0.98	0.98	0.71	1.32	1.71	5.89	13.8	10.07	8.23
KONVENSIONAL (MINYAK/GAS) • CONVENTIONAL (OIL/GAS)										
Purata Kecekapan Thermal (%) • Average Thermal Efficiency (%)	26.00	32.00	27.30	30.60	26.60	32.34	27.00	32.70	-	32.81
EAF(%)	98.00	88.00	82.50	87.40	88.53	85.42	94.50	82.40	-	75.62
EUOF	0.33	4.38	17.53	5.62	0.46	2.96	5.55	6.57	-	11.48
KONVENSIONAL (ARANG BATU) • CONVENTIONAL (COAL)										
Purata Kecekapan Thermal (%) • Average Thermal Efficiency (%)	-	33.00	-	35.10	-	35.53	-	35.20	-	36.30
EAF(%)	-	84.00	-	80.50	-	84.18	-	80.10	-	81.31
EUOF	-	7.77	-	10.61	-	6.07	-	9.58	-	7.40
HIDRO • HYDRO										
Purata Kecekapan Thermal (%) • Average Thermal Efficiency (%)	-	-	-	-	-	-	-	-	-	-
EAF(%)	86.00	-	92.30	-	90.77	-	90.60	-	91.38	-
EUOF	0.37	-	0.93	-	1.90	-	3.94	-	1.74	-

Carta 1: Delivery Point Unreliability Index (DePUI) - System Minutes TNB
Chart 1: Delivery Point Unreliability Index (DePUI) - System Minutes TNB

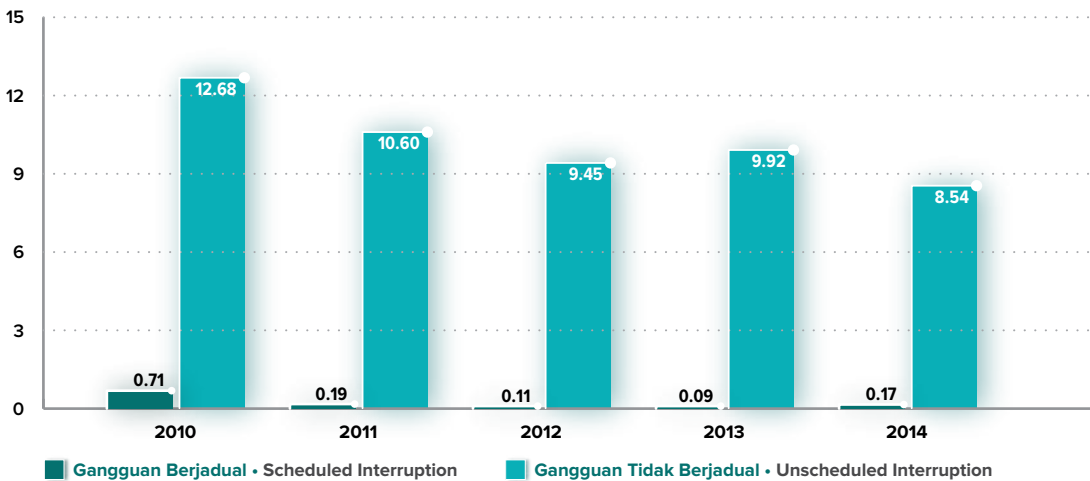


Carta 2: Insiden Pelantikan bagi Talian/Kabel per 100 cct-km Bulanan
Chart 2: Monthly Tripping Incidents for Lines/Cables per 100 cct-km

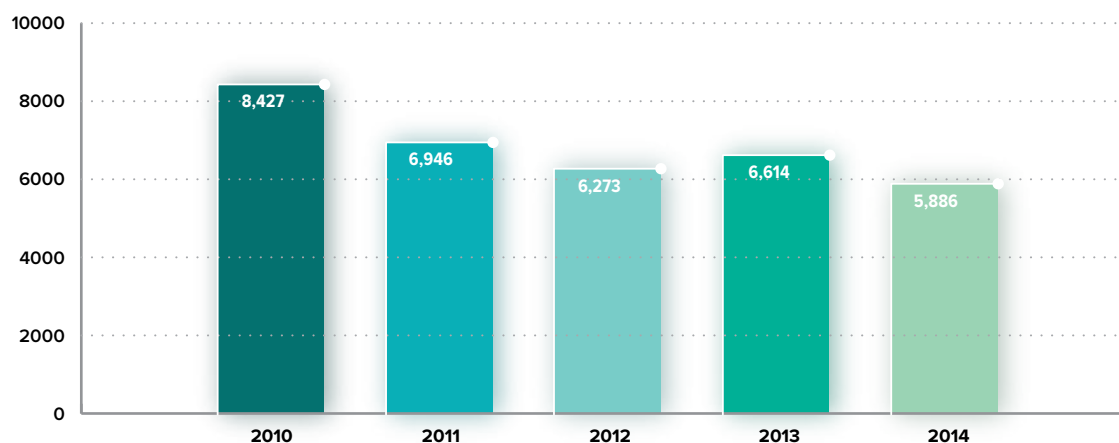


SISTEM PENGAGIHAN TNB
TNB DISTRIBUTION SYSTEM

Carta 3: Gangguan Bekalan Elektrik per 1,000 Pengguna
Chart 3: Electricity Supply Interruptions per 1,000 Consumers



Carta 4: Purata Gangguan Bekalan Elektrik Bulanan
Chart 4: Monthly Average Electricity Supply Interruptions



Jadual 40: Gangguan Bekalan Elektrik mengikut Negeri
Table 40: Electricity Supply Interruptions by State

Negeri • State	2010	2011	2012	2013	2014
Johor	16,590	12,540	11,935	11,554	7,719
Kedah	7,901	7,635	6,590	6,642	5,538
Kelantan	10,151	8,211	7,843	7,469	5,901
Kuala Lumpur	11,970	9,620	10,481	9,861	9,391
Melaka	4,131	4,772	2,318	3,307	3,939
N. Sembilan	6,461	5,248	4,876	6,264	4,966
P. Pinang	7,376	5,662	6,269	6,678	5,021
Pahang	5,621	4,226	4,039	4,460	5,399
Perak	10,835	8,930	7,598	8,029	8,050
Perlis	772	1,240	420	422	1,086
Putrajaya / Cyberjaya	13	8	7	9	4
Selangor	14,569	11,885	9,745	10,968	9,768
Terengganu	3,866	3,370	3,150	3,709	3,847
JUMLAH • TOTAL	100,256	83,347	75,271	79,372	70,629

Jadual 41: Gangguan Bekalan Elektrik mengikut Tahap Voltan
Table 41: Electricity Supply Interruptions by Voltage Level

Tahap Voltan • Voltage Level	2010	2011	2012	2013	2014
Voltan Tinggi (66 kV dan ke atas) • High Voltage (66 kV and above)	24	26	17	14	17
Voltan Sederhana (6.6 kV – 33 kV) • Medium Voltage (6.6 kV – 33 kV)	12,170	9,681	8,376	9,295	8,663
Voltan Rendah (1 kV dan ke bawah) • Low Voltage (1 kV and below)	88,932	73,640	66,878	70,063	61,949
JUMLAH • TOTAL	101,126	83,347	75,271	79,372	70,629

Jadual 42: Bilangan Gangguan Bekalan Elektrik
Table 42: Number of Electricity Supply Interruptions

Bilangan • Number	2010	2011	2012	2013	2014
Gangguan Tidak Berjadual • Unscheduled Interruptions	94,940	81,860	74,436	78,647	69,260
Gangguan Berjadual • Scheduled Interruptions	6,011	1,487	835	725	1,369
JUMLAH • TOTAL	101,126	83,347	75,271	79,372	70,629

Gangguan tidak berjadual pada Voltan Rendah, Voltan Sederhana dan Voltan Tinggi • Unscheduled interruptions at Low Voltage, Medium Voltage and High Voltage

Jadual 43: Peratus Gangguan Bekalan Elektrik Tidak Berjadual mengikut Jenis Gangguan (Tidak Termasuk Gangguan Voltan Tinggi)
Table 43: Percentage of Unscheduled Supply Interruptions by Type of Interruptions (Excluding High Voltage Interruptions)

Kategori • Category	Voltan Rendah • Low Voltage	Voltan Sederhana • Medium Voltage	Jumlah • Total	%
Haiwan • Animal	568	200	768	1.11
Auto Reclose	-	8	8	0.01
Kabel • Cable	1,800	2,734	4,534	6.55
Konduktor • Conductor	8,351	330	8,681	12.54
Feeder Pillar	2,230	-	2,230	3.22
Banjir • Flood	11	-	11	0.02
Fius • Fuse	3,894	14	3,908	5.64
Kotak Fius • Fuse Box	7,464	20	7,484	10.81
Insulating Piercing Connectors (IPC)	22,980	-	22,980	33.19
Penebat • Insulator	-	5	5	0.01
Sambungan • Joint	14	3,614	3,628	5.24
Jumper	-	10	10	0.01
Pautan • Link	20	7	27	0.04
Null	-	41	41	0.06
Lain-lain • Others	53	28	81	0.12
Pokok • Tree	7,330	115	7,445	10.75
Tiang • Pole	2,339	43	2,382	3.44
Relay	-	18	18	0.03
Ribut • Storm	253	40	293	0.42
Peralatan Suis • Switchgear	-	152	152	0.22
Penamatan • Termination	285	83	368	0.53
Pihak Ketiga • Third Party	2,722	841	3,563	5.15
Alat ubah • Transformer	-	96	96	0.14
Ubah tika • Transient	-	101	101	0.15
Vandalisme	367	62	429	0.62
JUMLAH • TOTAL	60,681	8,562	69,243	100.00

Jadual 44: SAIDI (Minit/Pelanggan/Tahun) mengikut Tahap Voltan**Table 44: SAIDI (Minutes/Customer/Year) by Voltage Level**

Tahap Voltan • Voltage Level	2010	2011	2012	2013	2014
Voltan Tinggi (66 kV dan ke atas) • High Voltage (66 kV and above)	1.17	0.94	6.87	0.11	2.64
Voltan Sederhana (6.6 kV – 33 kV) • Medium Voltage (6.6 kV – 33 kV)	88.10	63.25	49.30	56.20	50.84
Voltan Rendah (1 kV dan ke bawah) • Low Voltage (1 kV and below)	6.98	4.93	4.29	4.04	3.16
JUMLAH • TOTAL	96.25	69.11	60.46	60.35	56.65

Jadual 45: SAIDI (Minit/Pelanggan/Tahun) mengikut Negeri**Table 45: SAIDI (Minutes/Customer/Year) by State**

Negeri • State	2010	2011	2012	2013	2014
Johor	119.95	78.03	61.77	70.84	57.98
Kedah	127.66	87.18	81.36	74.38	84.34
Kelantan	85.01	72.78	72.35	69.61	56.23
Kuala Lumpur	41.94	33.45	33.69	35.85	32.96
Melaka	60.47	43.52	45.64	38.11	45.27
N. Sembilan	81.38	55.94	54.60	69.96	53.79
P. Pinang	109.62	76.56	73.29	68.89	50.40
Pahang	74.35	88.95	62.15	63.70	68.94
Perak	194.71	119.74	83.61	78.95	69.04
Perlis	64.64	37.80	35.24	36.79	38.94
Putrajaya/Cyberjaya	9.08	0.22	8.48	0.99	0.17
Selangor	79.73	61.34	56.69	54.42	55.84
Terengganu	55.57	54.26	50.29	44.64	43.33
Semenanjung Malaysia • Peninsular Malaysia	96.25	69.11	60.46	60.35	56.65

Jadual 46: SAIFI (Bilangan Gangguan/Pelanggan/Year) mengikut Tahap Voltan**Table 46: SAIFI (Number of Interruptions/Customer/Year) by Voltage Level**

Tahap Voltan • Voltage Level	2010	2011	2012	2013	2014
Voltan Tinggi (66 kV dan ke atas) • High Voltage (66 kV and above)	0.01	0.01	0.01	0.00	0.00
Voltan Sederhana (6.6 kV – 33 kV) • Medium Voltage (6.6 kV – 33 kV)	1.17	0.93	0.80	0.87	0.92
Voltan Rendah (1 kV dan ke bawah) • Low Voltage (1 kV and below)	0.05	0.02	0.00	0.00	0.00
JUMLAH • TOTAL	1.23	0.97	0.81	0.87	0.92

Jadual 47: SAIFI (Bilangan Gangguan/Pelanggan/Year) mengikut Negeri
Table 47: SAIFI (Number of Interruptions/Customers/Year) in by State

Negeri • State	2010	2011	2012	2013	2014
Johor	1.57	0.95	0.12	0.94	0.83
Kedah	1.76	1.32	0.29	1.11	1.65
Kelantan	1.75	1.48	0.24	1.26	1.21
Kuala Lumpur	0.48	0.44	0.03	0.37	0.67
Melaka	0.71	0.60	0.15	0.56	0.71
N. Sembilan	0.87	0.64	0.10	0.73	0.78
P. Pinang	1.46	1.06	0.16	1.00	0.81
Pahang	0.90	1.24	0.19	1.42	1.49
Perak	2.35	1.81	0.21	1.10	1.08
Perlis	0.86	0.48	0.05	0.47	0.43
Putrajaya/Cyberjaya	0.04	0.00	0.00	0.01	0.08
Selangor	0.95	0.86	0.12	0.76	0.74
Terengganu	1.22	1.29	0.16	1.03	1.05
Semenanjung Malaysia • Peninsular Malaysia	1.23	0.97	0.81	0.87	0.92

Jadual 48: CAIDI (Customer Average Interruption Duration Index) mengikut Tahap Voltan
Table 48: CAIDI (Customer Average Interruption Duration Index) by Voltage Level

Tahap Voltan • Voltage Level	2010	2011	2012	2013	2014
Voltan Tinggi (66 kV dan ke atas) • High Voltage (66 kV and above)	114.60	92.00	687.00	0.00	0.00
Voltan Sederhana (6.6 kV – 33 kV) • Medium Voltage (6.6 kV – 33 kV)	75.50	68.04	61.63	64.60	55.26
Voltan Rendah (1 kV dan ke bawah) • Low Voltage (1 kV and below)	136.90	245.60	429.00	403.00	316.00
JUMLAH • TOTAL	78.30	71.62	74.64	69.37	61.58

Jadual 49: CAIDI (Customer Average Interruption Duration Index) mengikut Negeri
Table 49: CAIDI (Customer Average Interruption Duration Index) by State

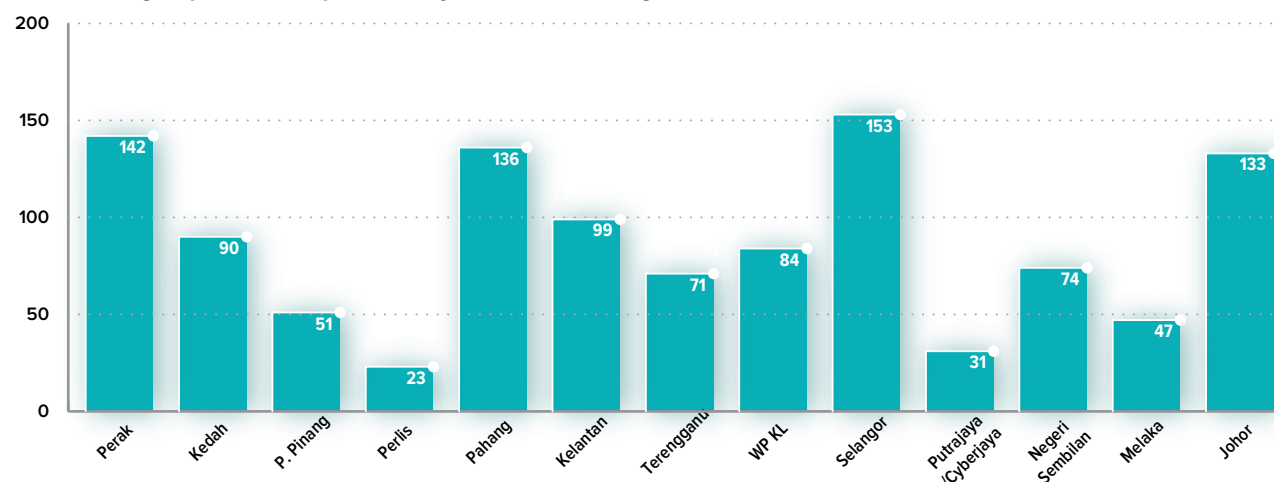
Negeri • State	2010	2011	2012	2013	2014
Johor	76.19	77.25	73.07	75.36	69.86
Kedah	72.50	55.55	47.45	67.01	51.12
Kelantan	48.53	89.94	54.80	55.25	46.47
Kuala Lumpur	87.30	62.88	98.59	96.89	49.19
Melaka	85.14	89.32	73.74	68.05	63.76
N. Sembilan	93.59	79.68	82.21	95.84	68.96
P. Pinang	75.09	64.43	67.06	68.89	62.22
Pahang	82.16	42.69	57.46	44.86	46.27
Perak	82.93	65.39	66.52	71.77	63.93
Perlis	75.49	95.73	72.67	78.28	90.56
Putrajaya/Cyberjaya	211.99	52.00	35.78	99.00	2.13
Selangor	83.77	63.07	66.77	71.61	75.46
Terengganu	45.72	83.62	49.12	43.34	41.27
Semenanjung Malaysia • Peninsular Malaysia	78.25	71.62	74.64	69.37	61.58

KUALITI PEMBEKALAN ELEKTRIK TNB TNB ELECTRICITY SUPPLY QUALITY

Jadual 50: Kejadian Voltan Luar Biasa yang Dilaporkan Mengikut Negeri
Table 50: Reported Overvoltage Incidents by State

Negeri • State	2010	2011	2012	2013	2014
Johor	6	7	113	29	9
Kedah	22	2	18	3	8
Kelantan	0	1	8	8	28
Kuala Lumpur	1	11	208	146	0
Melaka	0	3	47	18	0
N. Sembilan	0	3	127	22	7
P. Pinang	54	5	219	6	36
Pahang	12	2	21	10	6
Perak	35	8	203	0	49
Perlis	0	0	10	1	1
Putrajaya/Cyberjaya	0	0	1	6	0
Selangor	3	8	610	618	86
Terengganu	0	0	38	5	13
JUMLAH • TOTAL	133	50	1,623	872	243

Carta 5: Kejadian Junaman Voltan yang dilaporkan di Kawasan Perindustrian Utama mengikut Negeri
Chart 5: Voltage Dip Incidents Reported in Major Industrial Areas by State



Jadual 51: Bilangan Pengguna Terlibat dalam Insiden Junaman Voltan mengikut Negeri
Table 51: Number of Consumers Involved in Voltage Dip Incidents by State

Negeri • State	2010	2011	2012	2013	2014
Johor	6	7	7	4	20
Kedah	2	2	0	2	5
Kelantan	9	1	0	1	3
Kuala Lumpur	2	3	2	3	3
Melaka	18	3	3	6	17
N. Sembilan	4	3	1	7	4
P. Pinang	22	13	5	3	7
Pahang	0	0	0	0	0
Perak	3	6	7	27	29
Perlis	91	12	16	28	33
Putrajaya/Cyberjaya	0	0	1	2	2
Selangor	18	1	6	8	10
Terengganu	0	0	0	2	19
Semenanjung Malaysia • Peninsular Malaysia	175	51	48	93	152

Jadual 52: SARFI (System Average RMS Frequency Index)
Table 52: SARFI (System Average RMS Frequency Index)

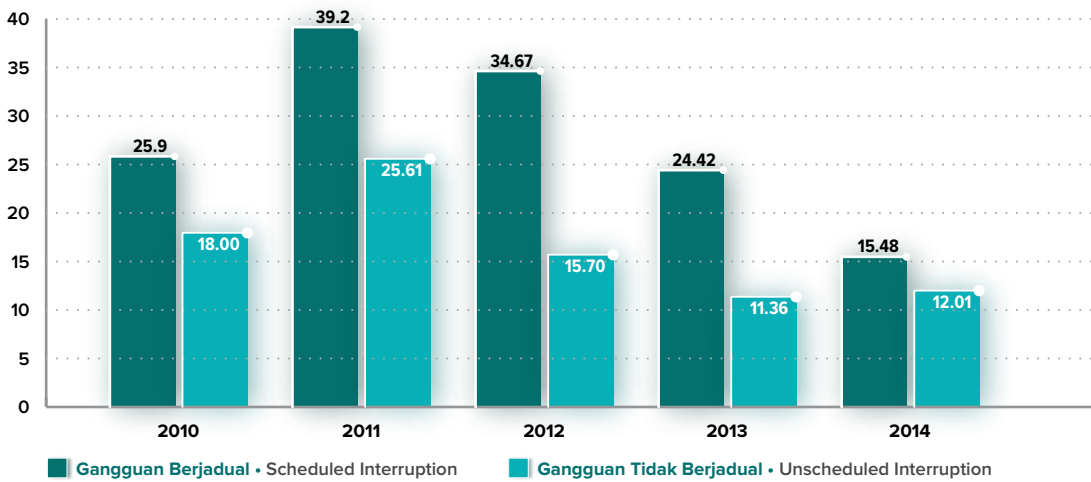
Sistem TNB • TNB System	SARFI ₉₀	SARFI ₈₀	SARFI ₇₀
11 kV	6.49	3.82	2.34
22 kV	6.71	4.14	2.79
33 kV	7.91	3.27	1.67
Sistem Keseluruhan • Overall System	6.15	3.16	1.90

Jadual 53: SARFI (System Average RMS Frequency Index): Perbandingan dengan Syarikat Utiliti yang Terpilih
Table 53: SARFI (System Average RMS Frequency Index): Comparison with Selected Power Utility Companies

Syarikat • Company	SARFI ₉₀	SARFI ₈₀	SARFI ₇₀
Singapore Power Grid	3.50	1.10	0.70
Tenaga Nasional Berhad	6.15	3.16	1.90

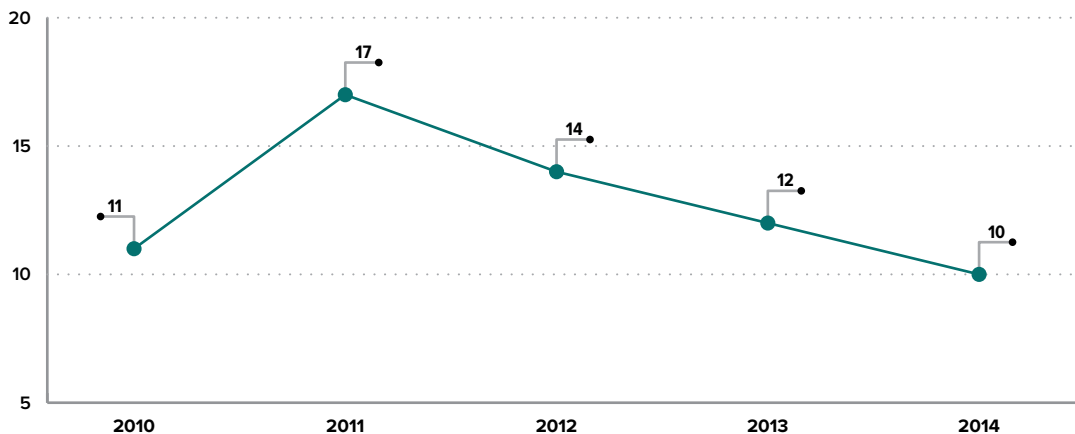
SISTEM PENGAGIHAN NUR DISTRIBUTION SDN. BHD. (NUR DISTRIBUTION) NUR DISTRIBUTION SDN. BHD. ELECTRICITY DISTRIBUTION SYSTEM

Carta 6: Gangguan Bekalan Elektrik per 1,000 Pengguna
Chart 6: Electricity Supply Interruptions per 1,000 Consumers



Carta 7: Purata Gangguan Bekalan Elektrik Bulanan
Chart 7: Monthly Average Electricity Supply Interruptions

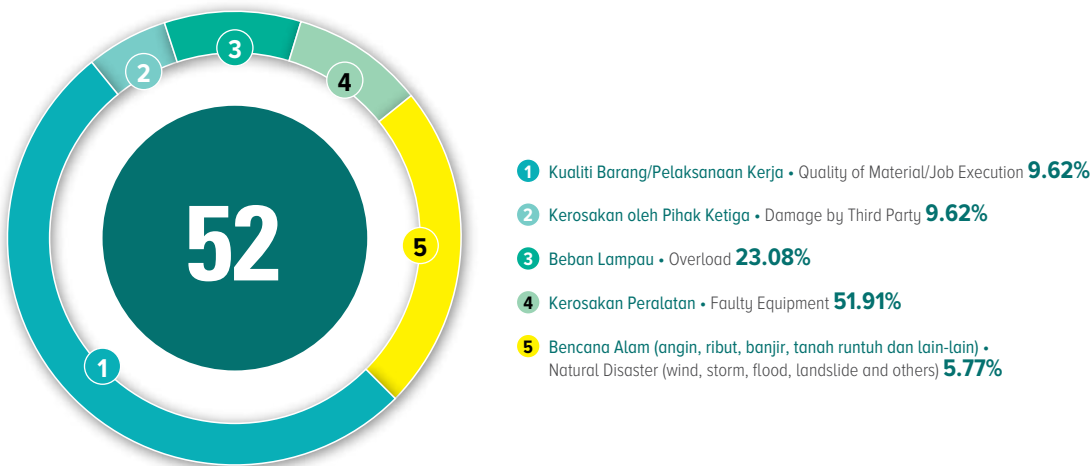
Purata Gangguan Bekalan Elektrik Bulanan • Monthly Average Electricity Supply Interruptions



Jadual 54: Bilangan Gangguan Bekalan Elektrik
Table 54: Number of Electricity Supply Interruptions

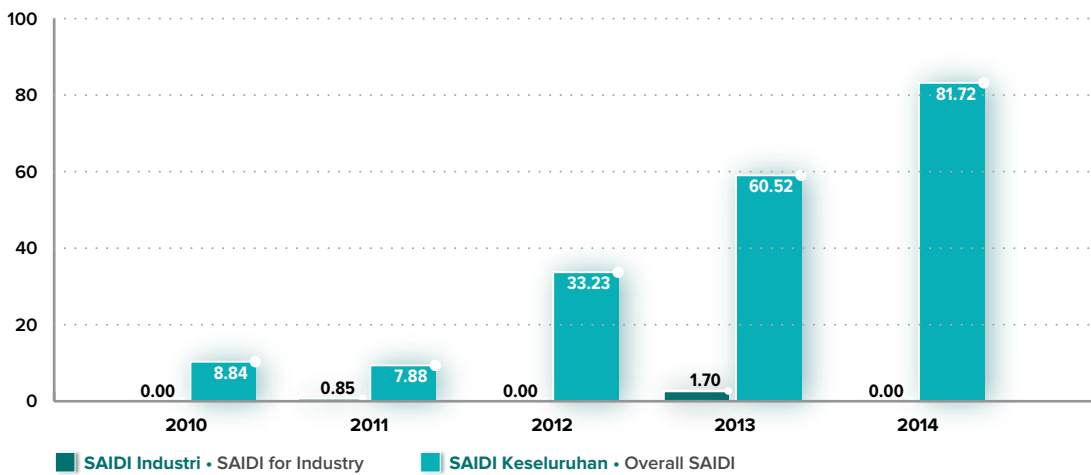
Bilangan • Number	2010	2011	2012	2013	2014
Gangguan Tidak Berjadual • Unscheduled Interruptions	53	81	53	47	52
Gangguan Berjadual • Scheduled Interruptions	76	124	117	101	67
Jumlah Gangguan • Total Interruptions	129	205	170	148	119

Carta 8: Peratus Gangguan Bekalan Elektrik Tidak Berjadual mengikut Jenis Gangguan
Chart 8: Percentage of Unscheduled Supply Interruption by Type of Interruptions

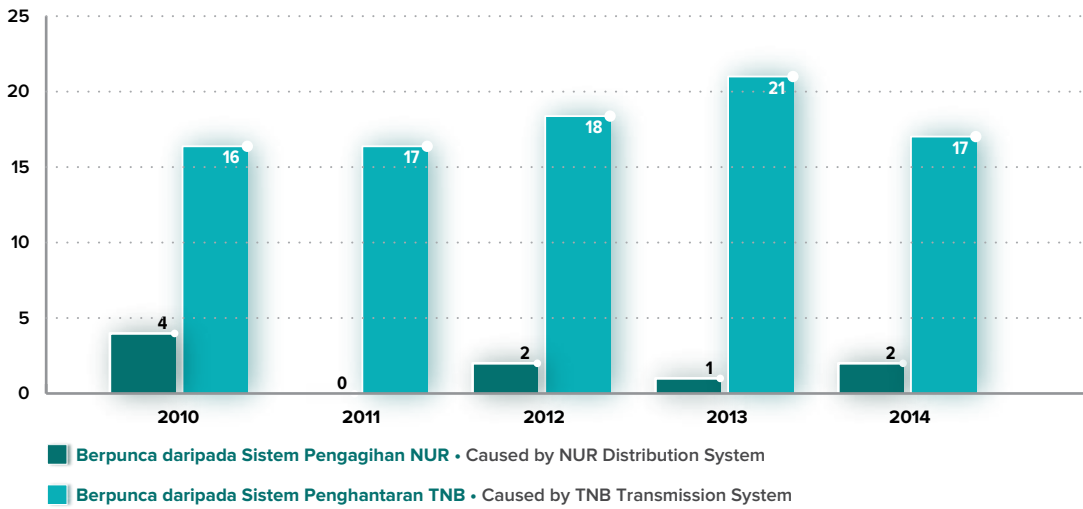


Bilangan Keseluruhan Gangguan Bekalan Elektrik Tidak Berjadual • Total Number of Unscheduled Interruptions = **52**

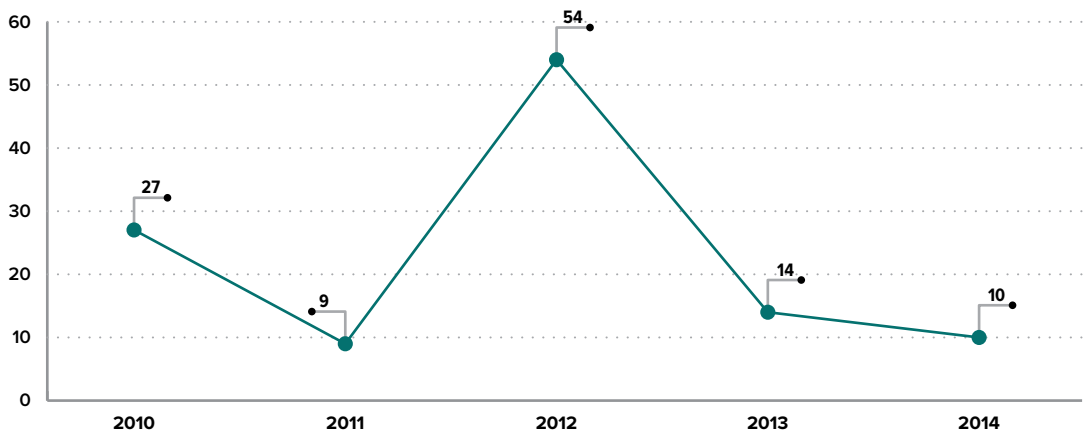
Carta 9: SAIDI (Minit/ Pelanggan/ Tahun)
Chart 9: SAIDI (Minutes/Customer/ Year)



Carta 10: Kejadian Junaman Voltan yang Dilaporkan di Kulim Hi-Tech Park (KHTP)
Chart 10: Reported Voltage Dips Incidents in KHTP



Carta 11: Bilangan Pengguna yang Terlibat dengan Insiden Junaman Voltan
Chart 11: Number of Consumers Involved in Voltage Dips Incidents



Jadual 55: SARFI (System Average RMS Frequency Index)
Table 55: SARFI (System Average RMS Frequency Index)

PUNCA • SOURCE	2010	2011	2012	2013	2014
Sistem Pengagihan Nur • Nur Distribution System	1	0	1	1	1
Sistem Penghantaran TNB • TNB Transmission System	1	0	2	5	1

KUALITI PERKHIDMATAN: LAPORAN PRESTASI TENAGA NASIONAL BERHAD (TNB) QUALITY OF SERVICES: PERFORMANCE REPORT OF TENAGA NASIONAL BERHAD (TNB)

**JADUAL 56: KUALITI PERKHIDMATAN: LAPORAN PRESTASI TENAGA NASIONAL BERHAD (TNB) – BERDASARKAN LAPORAN GUARANTEED SERVICE LEVEL (GSL)
TABLE 56: QUALITY OF SERVICES: PERFORMANCE REPORT OF TENAGA NASIONAL BERHAD (TNB) - BASED ON GUARANTEED SERVICE LEVEL (GSL)**

Item	Service Dimension	Service Indicator	Target	Penalty	Putrajaya/ Cyberjaya	Pertis	Kedah	Pulau Pinang	Perak	Selangor	Melaka	Pahang	Terengganu	Kuala Lumpur	Negeri Sembilan	Johor	Kelantan	Total			
GSL 1	Availability of Supply - Frequency of Interruptions	Number of unplanned interruptions	4 per year (Bandaraya Kuala Lumpur & Putrajaya) 5 per year (Other areas)	1. Domestic - 1% of avg bill or min RM10; 2. Commercial - 1% of avg bill or max RM300; 3. Industrial - 0.5% of avg bill or max RM1,000	3	160	808	551	950	1,791	452	617	413	550	507	1,470	391	8,663			
		Total interruptions			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
		Total incidents (not achieving target)			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Total penalty (RM)			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8,260
GSL 2	Availability of Supply - Restoration Time	Percentage Performance (%)	3 hrs (Minor fault); 4 hrs (Major fault-MV-with feedback); 12 hrs (Major fault-MV-without feedback); 8 hrs (grid/transmission-partial blackout); 18 hrs (grid/transmission-total blackout)	1. Domestic - 1% of avg bill or min RM10; 2. Commercial - 1% of avg bill or max RM300; 3. Industrial - 0.5% of avg bill or max RM1,000	100.00	100.00	100.00	100.00	100.00	99.94	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.99		
		Time taken to restore electricity supply following outage			3	160	808	551	950	1,791	452	617	413	550	507	1,470	391	8,663			
		Total incidents (not achieving target)			1	1	10	16	25	97	4	21	3	24	22	91	13	328			
		Total penalty (RM)			100.00	99.38	98.76	97.10	97.37	94.58	99.12	96.60	99.27	95.64	95.66	93.81	96.68	96.21			
GSL 3	Providing Supply	Time taken to implement service connection (overhead line) requiring low voltage cable installation work	7 w/days	RM50	0	1,704	7,538	2,567	9,195	6,855	3,067	6,204	8,255	2,746	2,921	7,605	10,471	69,128			
		Total service connection			0	1,704	7,538	2,567	9,195	6,855	3,067	6,204	8,255	2,746	2,921	7,605	10,471	69,128			

Item	Service Dimension	Service Indicator	Target	Penalty	Putrajaya/ Cyberjaya	Perlis	Kedah	Pulau Pinang	Perak	Selangor	Melaka	Pahang	Terengganu	Kuala Lumpur	Negeri Sembilan	Johor	Kelantan	Total
		Total service connection not completed in 7 working days			0	1	10	4	23	78	10	16	0	5	6	15	26	194
		Total Penalty (RM)			0	50	500	200	1150	3,900	500	800	0	250	300	750	1,300	9,700
		Time taken to implement service connection (underground cable) requiring low voltage cable installation work	21 w/days	RM50														
		Total service connection			109	63	241	153	353	1,874	235	236	350	1,084	468	920	381	6,467
		Total service connection not completed in 21 working days			0	0	11	4	12	66	13	1	1	1	10	16	12	147
		Total penalty (RM)			0	0	550	200	600	3,300	650	50	50	50	500	800	600	7,350
		Percentage Performance (%)			100.00	99.94	99.73	99.71	99.63	98.35	99.30	99.74	99.99	99.84	99.53	99.64	99.65	99.55
GSL 4	Providing Supply	Time taken to connect new electricity supply for individual domestic low voltage consumer	5 w/days	RM50														
		Total service connection			1,396	1,796	15,919	10,616	15,983	25,618	6,421	7,699	8,499	12,290	8,878	20,419	9,944	145,478
		Total supply connection not completed in 5 working days			5	2	169	5	145	453	11	53	4	219	16	93	46	1,221
		Total penalty (RM)			250	100	8,450	250	7,250	22,650	550	2,650	200	10,950	800	4,650	2,300	61,050
		Percentage Performance (%)			99.64	99.89	98.94	99.95	99.09	98.23	99.83	99.31	99.95	98.22	99.82	99.54	99.54	99.16

Item	Service Dimension	Service Indicator	Target	Penalty	Putrajaya/ Cyberjaya	Perlis	Kedah	Pulau Pinang	Perak	Selangor	Melaka	Pahang	Terengganu	Kuala Lumpur	Negeri Sembilan	Johor	Kalantan	Total			
GSL 5	Customer Contact	Disconnection of supply according to the applicable legislation or disconnection procedures	5 w/days	RM50	10,168	6,301	148,564	59,778	147,914	166,974	53,088	39,188	35,662	123,849	51,879	63,203	82,102	988,670			
					0	0	0	0	0	0	0	9	0	0	1	5	0	1	0	16	
					0	0	0	0	0	0	0	900	0	0	0	100	500	0	100	0	1,600
					100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.99	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Total Penalty in RM according to states (GSL1, 2, 3, 4, 5)					300	8,980	177,130	327,230	828,430	2,336,840	107,050	571,340	27,740	499,390	166,890	3,238,710	197,750	8,487,780			
Total Penalty in RM - Nationwide (GSL1, 2, 3, 4, 5)					8,487,780																
Overall Percentage Performance					98.98																

Sumber • Source: Tenaga Nasional Berhad

JADUAL 57: KUALITI PERKHIDMATAN: LAPORAN PRESTASI TENAGA NASIONAL BERHAD (TNB) – BERDASARKAN LAPORAN MINIMUM SERVICE LEVEL (MSL)
TABLE 57: QUALITY OF SERVICES: PERFORMANCE REPORT OF TENAGA NASIONAL BERHAD (TNB) - BASED ON MINIMUM SERVICE LEVEL (MSL)

Item	Service Indicator	Service Standard	Piperajaya/ Cyberjaya	Perlis	Kedah	Pulau Pinang	Perak	Selangor	Melaka	Pahang	Terengganu	Kuala Lumpur	Negeri Sembilan	Johor	Kelantan	Total/Avg %	
1.	Availability of Supply																
	1a. Minimum duration of notice for planned/schedule interruption of electricity supply																
	Total notices served	> 2 days	73	47	577	1,592	2,120	4,010	161	827	513	1,326	1,117	2,834	819	16,016	
	Total notices served more than 2 days before planned/schedule interruption		72	46	564	1,559	2,100	3,892	155	824	509	1,303	1,114	2,803	805	15,746	
	% Compliance		98.63%	97.87%	97.75%	97.93%	99.06%	97.06%	96.27%	99.64%	99.22%	98.27%	99.73%	98.91%	98.29%	98.31%	
1b. Upon request, time taken to provide initial information to consumer who report on electricity interruption																	
Total requests from consumers	< 1 hour															1,026	
Total requests replied less than 1 hour																1,020	
% Compliance																99.42%	
2.	Quality of Supply																
	2a. Time taken to rectify voltage complaint or limit violation																
	Total complaints received	< 2 days	0	0	1	1	3	99	0	2	1	4	5	10	0	126	
	Total complaints solved less than 2 days		0	0	0	1	3	98	0	0	1	4	3	4	0	114	
	% Compliance		None	None	0.00%	100.00%	100.00%	98.99%	None	0.00%	100.00%	100.00%	60.00%	40.00%	None	90.48%	

Item	Service Indicator	Service Standard	Pipraja/ Cyberjaya	Perlis	Kedah	Pulau Pinang	Perak	Selangor	Melaka	Pahang	Terengganu	Kuala Lumpur	Negeri Sembilan	Johor	Kelantan	Total/Avg %	
3.	Total no. of projects given supply	< 120 days	24	9	113	123	64	487	28	80	38	97	106	293	4	1,466	
	Total no. of projects given supply less than 120 days		22	8	108	118	61	463	26	80	34	88	100	278	4	1,390	
	% Compliance		91.67%	88.89%	95.58%	95.93%	95.31%	95.07%	92.86%	100.00%	89.47%	90.72%	94.34%	94.88%	100.00%	94.82%	
	3c. Waiting time at site for appointment to connect electricity supply. (Unavoidable occurrence must be followed up by returning call in not less than 1 hour before the appointment time)																
	Total appointments made		4,275	3,727	25,752	27,480	35,774	82,825	14,957	20,335	15,907	41,790	20,124	55,035	16,808	364,789	
	Total appointments met in not less than 1 hour of appointment date		4,275	3,727	25,752	27,480	35,774	82,825	14,957	20,335	15,907	41,790	20,124	55,035	16,808	364,789	
4.	% Compliance	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
	3d. Time taken to inform the developer of the connection charges to be paid upon receipt of complete application																
	No. of contribution charge letters issued	29	3	61	208	161	748	26	89	74	94	129	548	68	2,238		
	No. of contribution charge letters issued less than 60 days	29	3	48	205	156	723	26	87	63	92	122	522	62	2,138		
	% Compliance	100.00%	100.00%	78.69%	98.56%	96.89%	96.66%	100.00%	97.75%	85.14%	97.87%	94.57%	95.26%	91.18%	95.53%		
	Customer Contact																
4a. Time taken to reply to written enquiry or complaint																	
Total written enquiries/complaints received	2	1	39	77	83	261	49	35	32	32	234	57	147	34	1,051		
Total written enquiries/complaints replied less than 7 working days	2	1	39	76	83	260	49	34	32	32	232	57	146	34	1,045		

Item	Service Indicator	Service Standard	Pipraja/ Cyberjaya	Perlis	Kedah	Pulau Pinang	Perak	Selangor	Melaka	Pahang	Terengganu	Kuala Lumpur	Negeri Sembilan	Johor	Kelantan	Total/Avg %
5.	No. of meter replacement/relocation completed		5	67	92	290	2,745	519	169	119	169	121	957	4,135	721	10,109
	No. of meter replacement/relocation completed less than 3 working days	< 3 working days	5	67	89	290	2,583	483	164	119	169	119	932	4,090	703	9,813
	% Compliance		100.00%	100.00%	96.74%	100.00%	94.10%	93.06%	97.04%	100.00%	100.00%	98.35%	97.39%	98.91%	97.50%	97.07%
5c.	Time interval between successive rendering of bill(s)															
	Total no. of customers (OPC)	1 month	439,221	938,153	7,451,639	7,201,743	9,992,773	19876,033	3,633,210	5,527,119	3,864,932	12,920,837	4,851,116	14,148,232	5,131,253	95,976,261
	Total no. of billed customers		439,220	938,152	7,451,339	7,201,728	9,992,677	19,875,625	3,632,963	5,522,862	3,864,932	12,920,718	4,851,089	14,148,019	5,127,582	95,966,906
	% Compliance		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	99.99%	100.00%	100.00%	100.00%	100.00%	100.00%	99.93%	99.99%
Average % Compliance			97.57%	97.91%	89.63%	98.68%	98.31%	97.53%	97.84%	91.88%	97.23%	94.19%	96.03%	93.97%	97.71%	97.48%
Average % Compliance			97.48%													

Sumber • Source: Tenaga Nasional Berhad

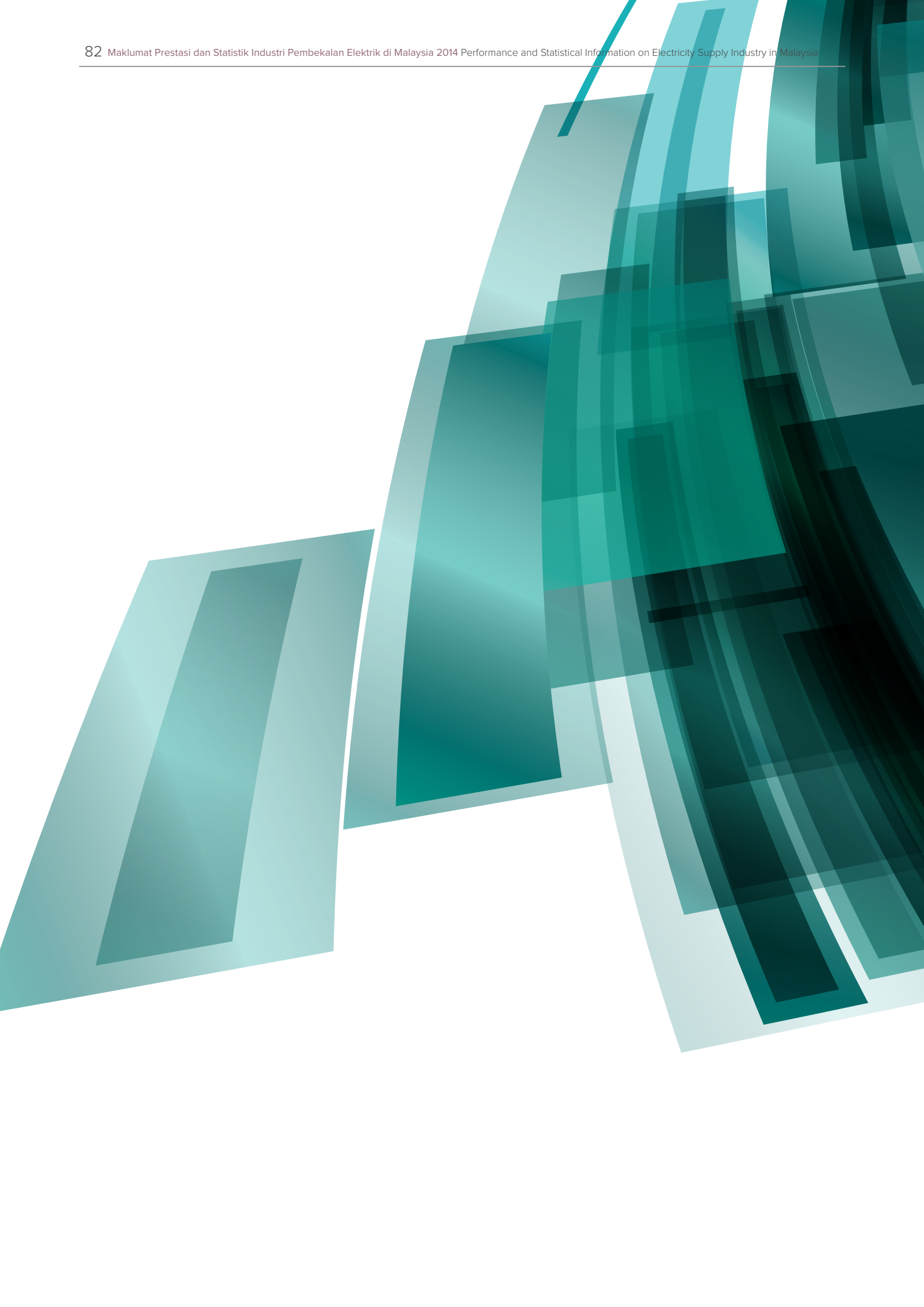
JADUAL 58: KUALITI PERKHIDMATAN: LAPORAN PRESTASI NUR DISTRIBUTION SDN. BHD.
TABLE 58: QUALITY OF SERVICES: PERFORMANCE REPORT OF NUR DISTRIBUTION SDN. BHD.

Keterangan	Prestasi Tahun 2010	Prestasi Tahun 2011	Prestasi Tahun 2012	Prestasi Tahun 2013	Prestasi Tahun 2014
1. Penyambungan Bekalan Elektrik					
A. Penukaran Pengguna					
Bilangan Permohonan	13	63	47	55	50
Peratus disambung dalam tempoh tidak melebihi 1 hari bekerja selepas temujanji untuk pengujian pemasangan	100%	100%	100%	100%	100%
B. Bekalan Baru (Voltan Rendah)					
i. Permohonan Individu Dalam Keadaan Biasa					
Bilangan Permohonan	594	207	162	756	207
Peratus penyambungan dalam tempoh tidak melebihi 1 hari bekerja selepas temujanji untuk pengujian pemasangan	100%	100%	100%	100%	100%
ii. Permohonan Pukal Dan Skim Perumahan					
Bilangan Permohonan	0	0	0	0	0
Peratus penyambungan dalam tempoh tidak melebihi 1 minggu selepas temujanji untuk pengujian pemasangan	N/A	N/A	N/A	N/A	N/A
2. Pemulihan Semula Bekalan Selepas Kerosakan					
i. Aduan					
Bilangan pengguna melapor	0	0	0	0	0
Peratus pengguna yang melapor diberi nombor aduan	N/A	N/A	N/A	N/A	N/A
ii. Kerosakan Kecil / Biasa					
Bilangan kerosakan kecil	33	44	11	14	20
Peratus membaikpulih kerosakan dalam tempoh 2 jam	93.9%	80.0%	72.7%	85.7%	55.0%
iii. Kerosakan Besar / Luarbiasa					
Bilangan kerosakan besar	20	41	42	33	32
Peratus penyambungan dalam tempoh 24 jam	85%	95.1%	97.6%	93.9%	90.6%
3. Penyambungan Bekalan Selepas Pematangan					
Bilangan pematangan bekalan	33	122	181	455	326
Bilangan pelanggan yang membayar bil sebelum 1:00 petang pada hari pematangan	33	122	181	455	326
Peratus penyambungan semula bekalan pada hari yang sama berbanding dengan mereka yang telah membayar bil sebelum 1:00 petang	100%	100%	100%	100%	100%
4. Gangguan Bekalan Yang Dirancang / Berjadual					
Bilangan gangguan berjadual	46	79	77	72	32
Peratus pengguna diberi notis 7 hari sebelum gangguan berjadual	91.3%	91.1%	98.7%	95.8%	90.6%
5. Bacaan Meter					
Bilangan pengguna domestik dimana bacaan anggaran melebihi 2 bulan berturut-turut	73	23	46	59	58
Peratus pengguna domestik dengan bacaan anggaran melebihi 2 bulan berturut-turut yang diberi notis	100%	100%	100%	100%	100%
6. Pertanyaan / Aduan Bertulis Daripada Pengguna					
i. Pertanyaan Bertulis Termasuklah Pertanyaan					

Keterangan	Prestasi Tahun 2010	Prestasi Tahun 2011	Prestasi Tahun 2012	Prestasi Tahun 2013	Prestasi Tahun 2014
Berkaitan Dengan Akaun/Bil					
Bilangan pertanyaan bertulis yang diterima	93	84	82	76	86
Peratus yang diberi jawapan dalam tempoh 5 hari bekerja	100%	100%	100%	100%	100%
7. Perkhidmatan Kaunter					
Peratus pengguna yang masa menunggu tidak melebihi 20 minit	N/A	N/A	N/A	N/A	N/A
8. Temujanji Untuk Penentuan Kejituan Meter					
Bilangan temujanji untuk penentuan kejituan meter	8	6	1	2	3
Peratus penentuan kejituan meter dilakukan dalam 1 hari bekerja	100%	100%	100%	100%	100%
9. Penukaran Meter					
Bilangan penukaran meter	3	9	12	12	15
Peratus penukaran meter dalam tempoh 2 hari bekerja	100%	100%	100%	100%	100%
10. Temujanji Dengan Pengguna					
i. Untuk Temujanji Di Luar Premis NUR					
Bilangan temujanji yang dibuat dengan pengguna dimana pegawai NUR tiba tidak lewat daripada 15 minit daripada masa yang dijanjikan	648	276	265	912	332
ii. Penangguhan Oleh Pihak NUR					
Peratus temujanji susulan yang dibuat di dalam tempoh tidak lebih daripada 1 hari bekerja	98.5%	100%	100%	100%	97.3%
11. Cagaran					
Bilangan pengguna yang mana selepas 6 bulan didapati cagarannya melebihi 2 bulan purata penggunaan	0	0	0	0	0
Peratus pengguna tersebut telah dikembalikan lebihan wang cagarannya	N/A	N/A	N/A	N/A	N/A
12. Pemulangan Wang Cagaran Pengguna					
Bilangan pengguna yang telah memajukan segala dokumen yang diperlukan bagi tujuan pemulangan wang cagaran	102	111	121	161	134
Peratus pengguna yang telah dipulangkan wang cagarannya di dalam tempoh masa yang ditetapkan iaitu 15 hari bekerja	100%	100%	100%	100%	100%
13. Pungutan					
Peratus pengguna yang membayar melalui pos yang telah dihantar pengesahan pembayaran tidak melebihi daripada tempoh masa yang ditetapkan iaitu 5 hari bekerja	100%	100%	100%	100%	N/A
14. Pemotongan Bekalan					
i. Dengan Notis 24 jam					
Bilangan pemotongan akibat pemasangan pengguna membahayakan	0	0	0	0	0
Bilangan pemotongan akibat disyaki berlaku kecurian elektrik	0	0	0	0	0
Bilangan pemotongan akibat meter elektrik dirosakkan	0	0	0	0	0

Keterangan	Prestasi Tahun 2010	Prestasi Tahun 2011	Prestasi Tahun 2012	Prestasi Tahun 2013	Prestasi Tahun 2014
ii. Tanpa Sebarang Notis					
Bilangan pemotongan akibat kegagalan membayar bil dalam masa 15 hari selepas penyerahan bil	0	0	0	0	0
Bilangan pemotongan akibat kegagalan membayar cagaran tambahan dalam 7 hari bekerja daripada tarikh tuntutan dibuat	45	142	145	358	110
Bilangan pemotongan akibat pemasangan yang amat membahayakan dan pemotongan tidak boleh dilengahkan	0	9	0	9	2
15. Pengguna Khas Yang Menghadapi Masalah Membayar Bil Elektrik					
Bilangan pengguna cacat atau lanjut usia yang menghadapi masalah membayar bil elektrik, NUR bersedia mengatur cara-cara khas untuk menjelaskan bayaran	0	0	0	0	0
16. Masalah Voltan Di Luar Tahap Diisytiharkan					
i. Tidak Memerlukan Pengukuhan Sistem					
Bilangan aduan	3	10	10	5	0
Peratus aduan yang diselesaikan dalam tempoh 2 hari daripada tarikh aduan dibuat	100%	100%	100%	100%	N/A
ii. Memerlukan Pengukuhan Sistem					
Bilangan aduan	0	0	0	0	0
Peratus aduan yang diselesaikan dalam tempoh 6 bulan daripada tarikh aduan dibuat	N/A	N/A	N/A	N/A	N/A
17. Jawapan Kepada Permohonan Bekalan Baru / Peningkatan Bekalan					
i. Tidak Memerlukan Pencawang Baru					
Bilangan permohonan	7	12	12	7	5
Peratus permohonan yang dijawab dalam masa 1 minggu daripada tarikh permohonan dibuat	100%	100%	100%	100%	100%
ii. Memerlukan Pencawang Baru					
Bilangan Permohonan	0	4	0	0	10
Peratus permohonan yang dijawab dalam masa 2 minggu daripada tarikh permohonan dibuat	N/A	100%	N/A	N/A	100%
18. Permohonan Memindahkan Lokasi Meter Oleh Pengguna					
Bilangan permohonan memindahkan lokasi meter oleh pengguna yang dirasakan perlu dan sesuai	7	8	14	28	11
Peratus permohonan yang perlu dan dirasakan sesuai yang diselesaikan dalam tempoh 7 hari bekerja	100%	100%	100%	100%	100%
19. Pendidikan Pengguna Mengenai Cara Penggunaan Elektrik Dengan Cepak Dan Selamat					
Bilangan program pendidikan pengguna mengenai cara penggunaan elektrik dengan cepak dan selamat dan cara untuk mengelakkan kemalangan elektrik, termasuk aktiviti berdekatan pemasangan dan talian elektrik yang dijalankan	4	4	4	4	4
20. Peningkatan Kualiti Bekalan					
Bilangan aktiviti-aktiviti berkaitan peningkatan kualiti bekalan elektrik	49	61	56	52	48

Nota: (N/A) Tidak Diperolehi
 Sumber: NUR Distribution Sdn. Bhd.
 Data Tahun Kalendar



PRESTASI INDUSTRI PEMBEKALAN ELEKTRIK MALAYSIA PERFORMANCE OF ELECTRICITY SUPPLY INDUSTRY IN MALAYSIA

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Jadual 58: Purata Kecekapan Thermal (%), Faktor Kesiediaan Setara (EAF) (%) dan Faktor Henti Tugas Tidak Berjadual Setara (EUOF)
Table 58: Average Thermal Efficiency (%), Equivalent Availability Factor (EAF) (%) and Equivalent Unplanned Outage Factor (EUOF)

Jenis Loji • Type Of Plant	2012		2013		2014	
	SESB	IPP	SESB	IPP	SESB	IPP
KITAR PADU • COMBINED CYCLE						
Purata Kecekapan Thermal (%) • Average Thermal Efficiency (%)	26.73	38.72	25.07	39.25	21.93	37.27
EAF (%)	73.43	93.92	76.96	91.95	73.50	91.17
EUOF	6.59	1.88	6.11	4.24	5.37	5.77
DIESEL						
Purata Kecekapan Thermal (%) • Average Thermal Efficiency (%)	27.72	38.20	20.72	35.06	27.53	37.14
EAF (%)	60.76	74.57	63.43	71.21	62.85	57.96
EUOF	20.77	28.81	27.91	23.66	32.75	50.72
HIDRO • HYDRO						
Purata Kecekapan Thermal (%) • Average Thermal Efficiency (%)	-	-	-	-	-	-
EAF (%)	86.23	-	89.24	-	87.30	-
EUOF	10.34	-	1.71	-	2.38	-

SISTEM PENGHANTARAN SABAH ELECTRICITY SDN. BHD.(SESB) SABAH ELECTRICITY SDN. BHD. (SESB) TRANSMISSION SYSTEM

Jadual 59: Pelantikan Bulanan bagi Sistem Penghantaran dengan Kehilangan Beban sebanyak 50 MW dan ke Atas
Table 59: Monthly Trippings of Transmission System with Load Loss of 50 MW and Above

Petunjuk • Indicator	TAHUN 2014 • YEAR 2014											
	JAN JAN	FEB FEB	MAR MAR	APR APR	MAY MAY	JUNE JUNE	JULY JULY	AUG AUG	SEPT SEPT	OCT OCT	NOV NOV	DEC DEC
Bilangan Pelantikan Tanpa Lucutan Beban • Number of Trippings Without Load Shedding	-	-	-	-	3	-	1	1	-	-	-	-
Bilangan Pelantikan Dengan Lucutan Beban • Number of Trippings With Load Shedding	-	-	-	-	-	-	-	-	-	-	-	-
Kehilangan Beban Maksimum (MW) • Maximum Load Losses (MW)	-	-	-	-	559	-	57.86	179.06	-	-	-	-
Tenaga Yang Tidak Dibekalkan Semasa Pelantikan (MWj) • Unsupplied Energy During Trippings (MWh)	-	-	-	-	143327	-	150182	617,512	-	-	-	-

TAHUN 2014 • YEAR 2014												
Petunjuk • Indicator	JAN JAN	FEB FEB	MAR MAR	APR APR	MEI MAY	JUN JUNE	JUL JULY	OGOS AUG	SEPT SEPT	OKT OCT	NOV NOV	DIS DEC
Purata Tenaga Tidak Dibekalkan Setiap Pelantikan (MWj) • Average Unsupplied Energy During Trippings (MWh)	-	-	-	-	381.109	-	150.182	617.512	-	-	-	-
Purata Tempoh Setiap Pelantikan (Jam: Minit) • Average Duration Per Tripping (Hour: Minutes)	-	-	-	-	3:23	-	3:30	5:42	-	-	-	-
Tenaga Tidak Dibekalkan Semasa Lucutan Beban (MWj) • Unsupplied Energy During Load Shedding (MWh)	-	-	-	-	-	-	-	-	-	-	-	-

Jadual 60: Delivery Point Unreliability Index (DePUI) - System Minutes SESB
Table 60: Delivery Point Unreliability Index (DePUI) - System Minutes SESB

Tahun • Year	2010	2011	2012	2013	2014
Termasuk Bekalan Elektrik Terputus • Including Blackout	-	-	263.91*	-	161.09
Tidak Termasuk Bekalan Elektrik Terputus • Excluding Blackout	20.21	40.13	6712	26.53	-

* Termasuk 5 insiden besar • * Includes 5 major incidents

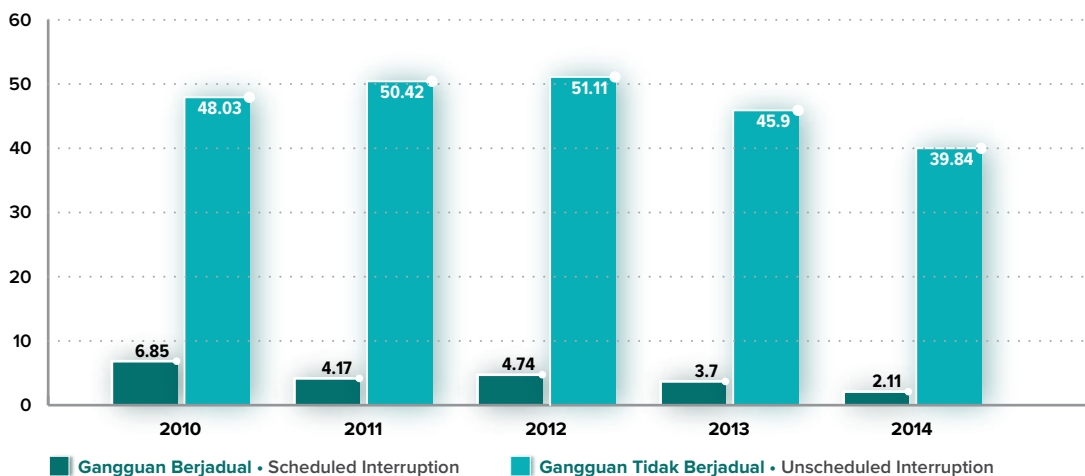
Tahun Kewangan 2013/2014 • Financial Year 2013/2014

Jadual 61: Insiden Pelantikan bagi Talian/Kabel per 100 cct-km mengikut Tahap Voltan (Dengan Kehilangan Beban)
Table 61: Lines/Cables Tripping Incidents per 100 cct-km by Voltage Level (with Load Loss)

Tahap Voltan • Voltage Level	2010	2011	2012	2013	2014
275 kV	0.20	0.20	0.00	0.00	0.00
132 kV	0.12	0.42	1.08	0.42	0.58
66 kV	16.34	6.68	5.56	4.46	0.00

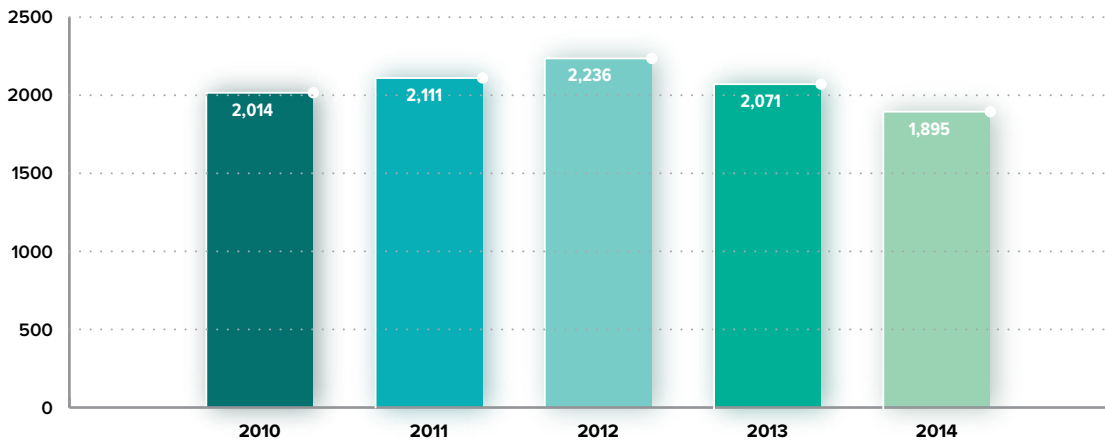
Tahun Kewangan 2013/2014 • Financial Year 2013/2014

Carta 12: Gangguan Bekalan Elektrik per 1,000 Pengguna
Chart 12: Electricity Supply Interruptions per 1,000 Consumers



Tidak termasuk gangguan pada sistem penjanaan dan penghantaran • Excluding the interruptions at generation and transmission system

Carta 13: Purata Bulanan Gangguan Bekalan Elektrik
Chart 13: Monthly Average Electricity Supply Interruptions



Tidak termasuk gangguan pada sistem penjanaan dan penghantaran • Excluding the interruptions at generation and transmission system

Jadual 62: Bilangan Gangguan Bekalan Elektrik
Table 62: Number of Electricity Supply Interruptions

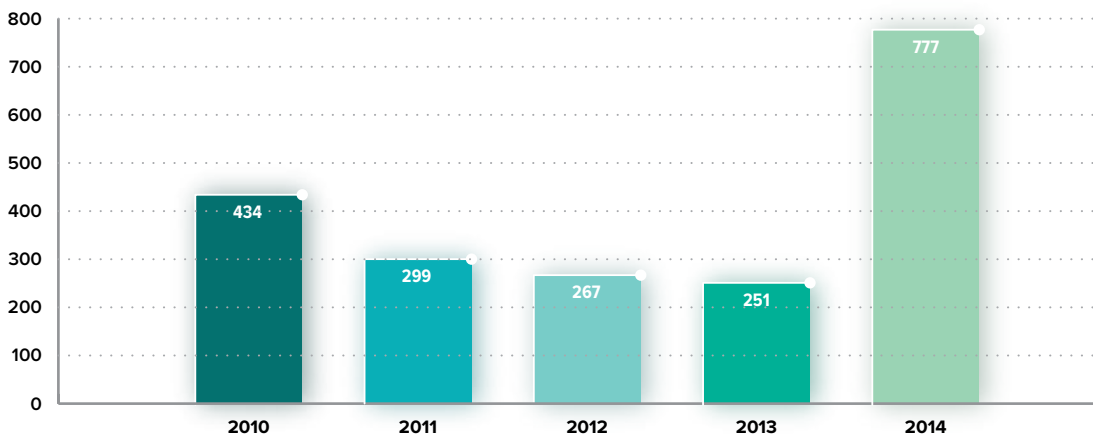
Bilangan • Number	2010	2011	2012	2013	2014
Gangguan Tidak Berjadual • Unscheduled Interruptions	3,016	1,937	2,280	1,864	21,594
Gangguan Berjadual • Scheduled Interruptions	21,157	23,397	24,561	22,985	1,145
Jumlah Gangguan • Total Interruptions	24,173	25,334	26,841	24,849	22,739

Jadual 63: Bilangan Gangguan Bekalan Elektrik
Table 63: Number of Electricity Supply Interruptions

Jenis Gangguan • Type of Interruptions	2010	2011	2012	2013	2014
Cuaca Buruk (Angin, Ribut, Petir) • Bad Weather (Wind, Storm, Lightning)	1,787	2,922	3,159	2,416	2,185
Beban Lampau • Overload	1,661	1,514	2,675	3,444	3,317
Disebabkan oleh Pihak Lain (Kena Langgar, Khianat, Kena Curi dan Penyambungan Haram) • Caused by Other Parties (Hit, Treachery, Theft and Illegal Connection)	1,564	1,566	1,962	1,521	2,071
Binatang • Animal	1,156	1,437	1,930	1,451	1,445
Pokok • Tree	2,923	4,233	4,561	4,542	4,126
Ubahtika • Transient	203	271	174	295	361
Kerosakan Peralatan • Faulty Equipment	97	100	250	380	255
Kena Guard Wire/ Kendur • Touched with Guard Wire/Sagging	774	1,086	1,203	1,253	1,283
Contact Tidak Baik • Poor Contact	2,141	2,432	3,326	3,224	2,977
Kualiti Barang • Quality of Material	1,288	381	585	224	176
Lanjut Usia / Reput • Old/Decayed	1,326	938	929	855	726
Pencawang • Substation	1,125	614	632	666	547
Kabel • Cable	810	545	566	586	604
Lain-lain (Tiada Data, Tiada Operasi, Tiada Bekalan) • Others (Unavailable Data, Shut Down, No Supply)	2,207	2,353	2,543	0	1,368
Banjir • Flood	7	16	5	16	16
Tanah Runtuh • Landslide	112	84	50	41	104
Kebakaran • Fire	101	24	11	16	33
Tidak Diketahui • Unknown	1,875	2,881	0	2,055	0
Jumlah • Total	21,157	23,397	24,561	22,985	21,594

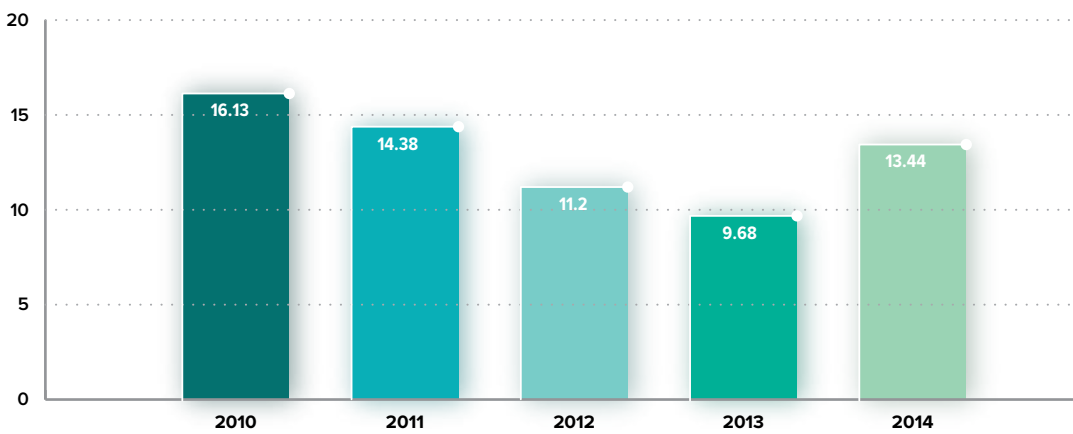
Carta 14: SAIDI (System Average Interruption Duration Index)
Chart 14: SAIDI (System Average Interruption Duration Index)

(Minit/Pelanggan/Tahun) • (Minutes/Customer/Year)

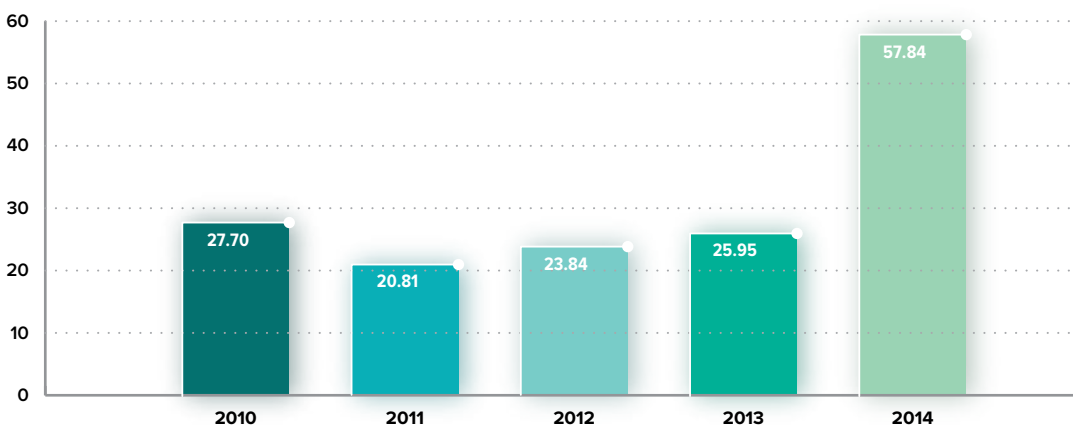


Carta 15: SAIFI (System Average Interruption Frequency Index)
Chart 15: SAIFI (System Average Interruption Frequency Index)

(Bilangan Gangguan/Pelanggan/Tahun) • (Number of Interruptions/Customer/Year)



Carta 16: CAIDI (Customer Average Interruption Duration Index)
Chart 16: CAIDI (Customer Average Interruption Duration Index)



JADUAL 64: KUALITI PERKHIDMATAN: LAPORAN PRESTASI SABAH ELECTRICITY SDN. BHD. (SESB)
TABLE 64: QUALITY OF SERVICES: PERFORMANCE REPORT OF SESB

Details	2010	2011	2012	2013	2014
1. Connection of Electricity Supply					
A. Change of Consumers					
• No. of applications	7,600	12,209	8,725	10,687	4,104
• Percentage of connection within 1 working day after an appointment for connection	80.9%	92.0%	95.8%	97.2%	100.0%
B. New Supply (Low Voltage)					
i. Individual Applications Under Normal Conditions					
• No. of applications	15,742	17,000	19,385	18,058	13,353
• Percentage of connection within 2 working days after an appointment for connection	67.6%	70.0%	89.6%	96.1%	95.3%
ii. Bulk Supply Application And Housing Schemes					
• No. of applications	6,645	5,493	4,850	8,105	4,408
• Percentage of connection within 2 weeks after an appointment for connection	91.6%	94.6%	97.0%	95.1%	96.3%
2. Supply Restoration After Breakdowns					
i. Complaints					
• No. of complaints	209,508	55,638	76,664	71,983	138,555
• No. of consumers where the information not available at that time was contacted again within 15 minutes	5,897	52,856	66,455	66,034	137,173
• Percentage of consumers being given complaint numbers	95.5%	37.85%	98.0%	96.2%	100.0%
• Percentage of consumers where the information not available at that time was contacted again within 15 minutes	2.8%	95.0%	86.7%	91.7%	99.0%
ii. Minor Breakdowns					
• No. of minor breakdowns	19,513	19,547	22,415	18,437	12,639
• Percentage of breakdown rectified within 2 hours	99.0%	95.0%	91.3%	89.7%	89.8%
iii. Major/Extra Ordinary Breakdowns					
• No. of major breakdowns	452	2,743	3,406	3,472	2,705
• Percentage of restoration within 12 hours	97.1%	97.01%	85.5%	93.9%	98.5%
3. Supply Reconnection After Disconnection					
• No. of supply disconnections	89,166	127,786	124,745	139,238	78,334
• Bills paid before 1:00 p.m. on disconnection day	52,393	70,865	115,770	119,850	52,679
• Percentage of supply reconnection on the same day for bills paid before 1:00 p.m.	58.8%	55.46%	92.8%	100.0%	99.9%
4. Supply Interruptions Which Are Planned / Scheduled					
i. Scheduled Interruptions					
• No. of scheduled interruptions	5,020	504	601	970	536
• Percentage of consumers being given notice within 7 days before interruptions	81.8%	80.0%	92.3%	100.0%	95.7%
ii. Planning of Scheduled Interruptions					
• No. of yearly and monthly planning of scheduled interruptions	339	231	157	468	342
• No. of affected consumers	73,901	3,421	3,462	22,772	2,263
• Percentage of affected consumers informed about the planning of scheduled interruptions	99.9%	94.01%	97.0%	100.0%	100.0%
5. Meter Reading					
• No. of consumers with estimated readings exceeding 3 consecutive months	6,843	33,335	14,211	52,280	30,696
• Percentage of notice given to consumers with estimated readings exceeding 3 consecutive months	58.4%	55.0%	95.9%	99.7%	100.0%

Details	2010	2011	2012	2013	2014
6. Enquiries / Written Complaints From Consumers					
i. Written Enquiries					
• No. of written enquiries received	708	432	485	910	1,002
• Percentage of reply within 5 working days	83.3%	81.94%	96.9%	96.8%	98.5%
ii. Enquiries Through Telephone					
• No. of unresolved complaints made through telephone	19,936	24,488	26,522	39,034	32,348
• No. of consumers with unresolved complaints recontacted within 24 hours	2,744	3,791	25,545	38,959	30,875
• Percentage of consumers with unresolved complaints recontacted within 24 hours	13.8%	15.48%	96.3%	99.8%	95.4%
iii. Enquiries in Counter					
• No. of unresolved complaints made at counter	41,769	52,324	51,209	101,223	97,490
• No. of consumers with unresolved complaints recontacted within 24 hours	2,821	7,220	38,123	101,123	92,237
• Percentage of consumers with unresolved complaints recontacted within 24 hours	6.8%	13.80%	74.5%	99.9%	94.6%
7. Service Counter					
• No. of consumers who were getting services at the counter	200,888	278,940	313,942	498,484	334,007
• Percentage of consumers with waiting time not exceeding 15 minutes	53.5%	52.76%	95.9%	98.3%	93.7%
8. Appointment for Meter Accuracy Check					
• No. of appointments for meter accuracy check	1,726	1,502	1,344	1,283	510
• Percentage of meter accuracy check carried out within 2 working day	45.0%	78.03%	92.3%	94.8%	89.4%
9. Meter Replacement					
• No. of meter replacements	8,731	8,997	11,266	16,034	7,777
• Percentage of meter replacements within 2 working days from the date of application mad	56.1%	61.35%	93.6%	99.3%	97.8%
10. Appointment With Consumers					
i. For Appointments Outside SESB Premises					
• Appointments where SESB officers arrived not later than the agreed time	84.1%	89.73%	93.1%	98.4%	99.9%
ii. Postponement by SESB					
• Percentage of subsequent appointment made within 1 working day	78.3%	71.15%	93.2%	100.0%	100.0%
11. Deposits					
• No. of consumers found after 6 months that their deposits exceed average consumption of 2 months	20,206	12,269	2,790	41,620	461*
• Percentage of consumers who have the excess deposits returned	10.5%	10.9%	82.7%	99.4%	100.0%
* (Bilangan ini berkurangan berikutan penangguhan penambahan deposit oleh pengurusan bagi tujuan semakan semula tariff yang dimulakan pada 01.01.2014)					
12. Refund of Consumer Deposits					
• No. of consumers who have forwarded all required documents for refund of deposits	7,738	8,258	9,685	7,273	3,693
• Percentage of consumers who have their deposits refunded within 1 month	84.5%	85.0%	91.9%	94.1%	94.2%
13. Collection					
• Percentage of proof of payment sent via mail within 2 working days	93.9%	95.0%	99.2%	100.0%	100.0%

Details	2010	2011	2012	2013	2014
14. Supply Disconnection					
i. With 24 Hours Notice					
• No. of disconnections due to unsafe consumer installations	30	32	102	992	323
• No. of disconnections due to suspicion of electricity theft	22	102	138	796	88
• No. of disconnections due to electricity meter being tampered	15	1	16	1	2
ii. With More Than 24 Hours Notice					
• No. of disconnections due to failure to pay the bills within 30 days after issuance of bill and 7 days from the notice of disconnections	58,915	50,028	51,535	64,559	36,879
• Notice of disconnections due to failure to pay additional deposits within 7 days from notice date	134	86	0	795	258
iii. Without Any Notice					
• No. of disconnections due to unsafe installations	1,353	258	930	10,317	4,791
15. Special Group of Consumers Facing Difficulties In Order To Pay Electric Bills					
• No. of handicapped consumers who appealed to avoid disconnections	7	1	6	0	0
• No. of senior consumers who appealed to avoid disconnections	34	10	24	11	11
• No. of handicapped consumers who were assisted in the payment of bills	23	5	21	43	3
• No. of senior consumers who were assisted in the payment of bills	20	20	47	233	45
16. Voltage Incompliant With The Standards					
i. Not Requiring Enhancement Work on Network					
• No. of complaints	78	33	35	279	37
• Percentage of complaints settled within 2 days from the date of complaints	43.6%	100.0%	94.3%	98.2%	100.0%
ii. Requiring Enhancement Work on Network					
• No. of complaints	70	48	157	100	25
• Percentage of complaints settled within 3 months from the date of complaints	75.7%	97.92%	94.9%	97.0%	92.0%
17. Reply To New/Increase Of Supply Application					
i. No New Substation Required					
• No. of applications	2,274	13,248	3,084	2,988	1,738
• Percentage of applications replied within 1 week from the date of application	76.2%	79.99%	94.2%	92.4%	91.3%
ii. New Substation Required					
• No. of applications	237	242	465	372	56
• Percentage of applications replied within 2 weeks from the date of application	73.4%	96.69%	99.8%	100.0%	100.0%
18. Transferring of Meter Location Upon Consumer Request					
• No. of applications for meter relocation	16	33	61	87	44
• Percentage of applications settled within 3 working days	68.8%	72.73%	98.0%	80.5%	93.2%
19. Education on Energy Efficiency					
• No. of education programmes on energy efficiency and safety, including activities near installations and electricity lines	23	6	56	15	12
20. Power Quality Improvement					
• No. of activities to improve power quality	454	269	184	83	33

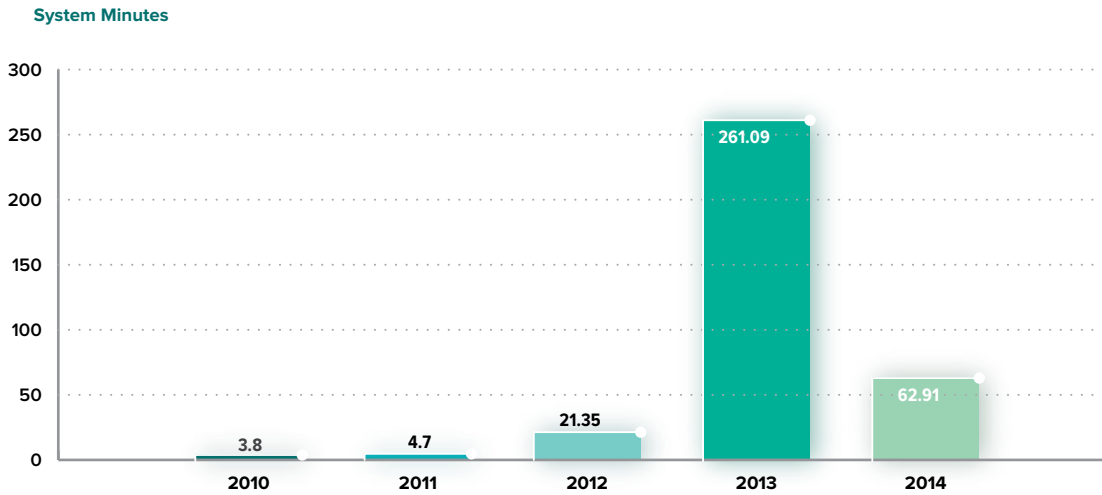


PRESTASI INDUSTRI PEMBEKALAN ELEKTRIK MALAYSIA
PERFORMANCE OF ELECTRICITY SUPPLY INDUSTRY IN MALAYSIA

Prestasi Industri Pembekalan Elektrik Di Sarawak
Performance of Electricity Supply Industry In Sarawak

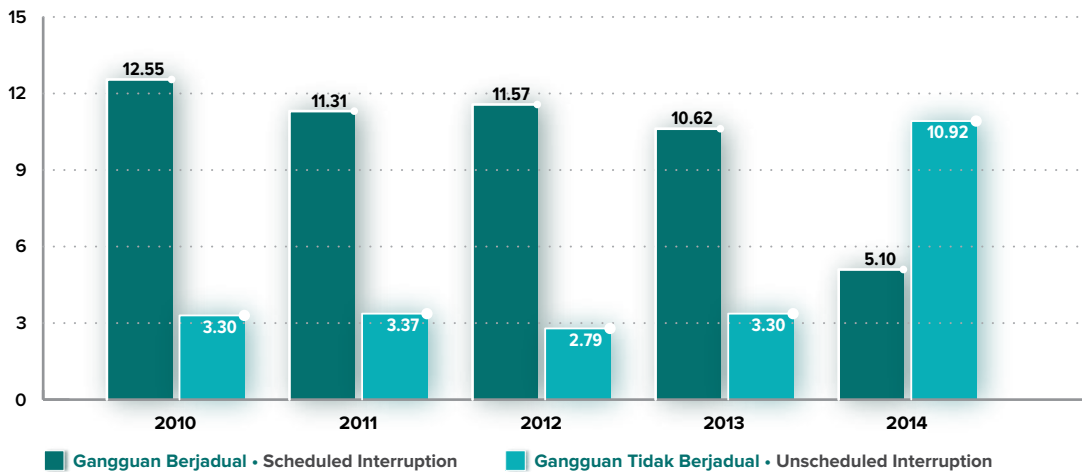
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Carta 17: Delivery Point Unreliability Index (DePUI) - System Minutes
Chart 17: Delivery Point Unreliability Index (DePUI) - System Minutes



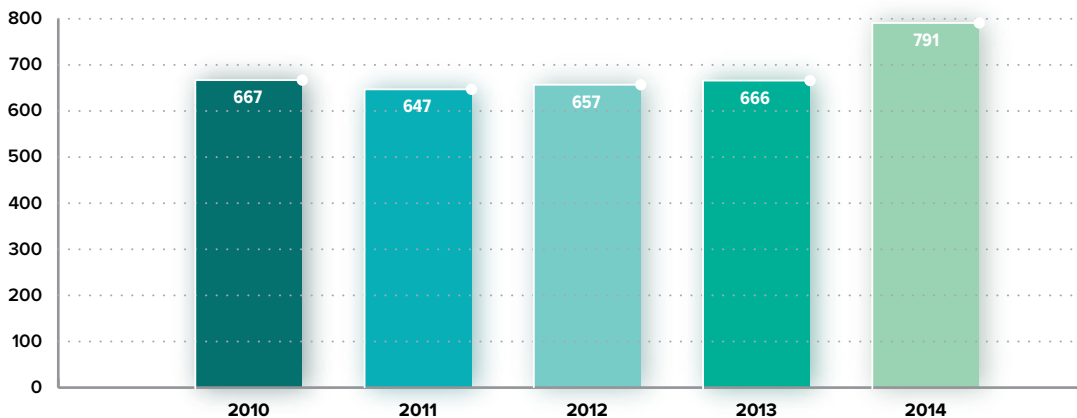
SISTEM PENGAGIHAN SEB
SEB DISTRIBUTION SYSTEM

Carta 18: Gangguan Bekalan Elektrik per 1,000 Pengguna
Chart 18: Electricity Supply Interruptions per 1,000 Consumers



Carta 19: Purata Gangguan Bekalan Elektrik Bulanan
Chart 19: Monthly Average Electricity Supply Interruptions

Purata Gangguan • Average of Interruption

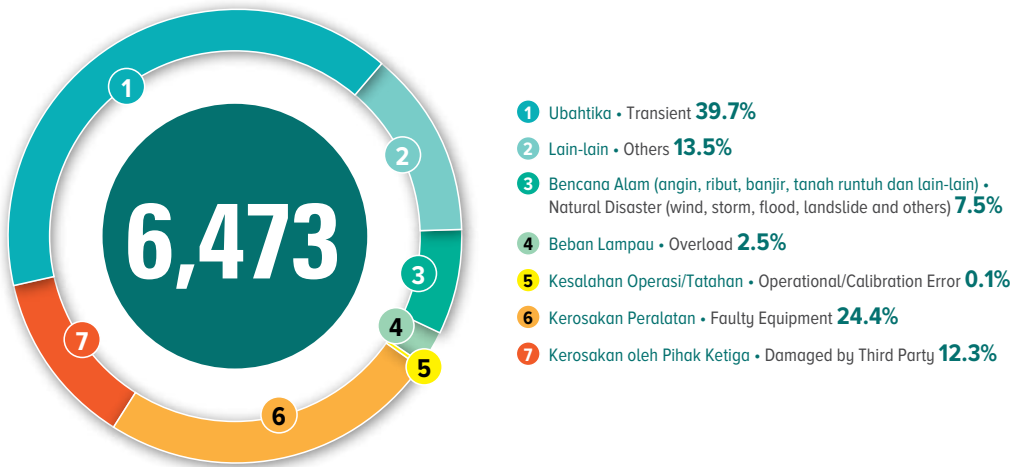


Jadual 67: Bilangan Gangguan Bekalan Elektrik
Table 67: Number of Electricity Supply Interruptions

Bilangan • Number	2010	2011	2012	2013	2014
Gangguan Tidak Berjadual • Unscheduled Interruptions	6,338	5,976	6,351	6,098	6,473
Gangguan Berjadual • Scheduled Interruptions	1,665	1,783	1,530	1,896	3,023
Jumlah Gangguan • Total Interruptions	8,003	7,759	7,881	7,994	9,496

Carta 20: Peratus Gangguan Bekalan Elektrik Tidak Berjadual mengikut Jenis Gangguan
Chart 20: Percentage of Unscheduled Supply Interruption by Type of Interruptions

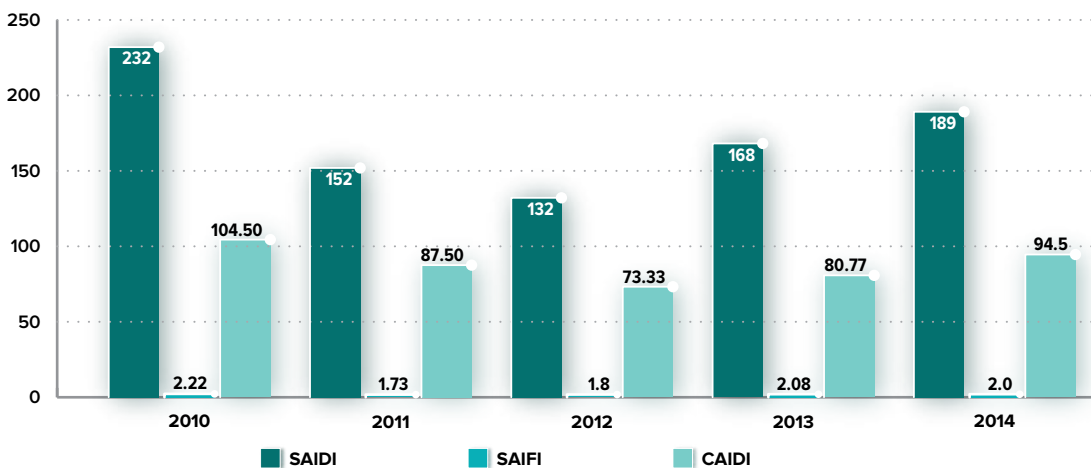
Punca-punca Gangguan Bekalan Elektrik Tidak Berjadual • Type of Unscheduled Supply Interruption



Jumlah Gangguan Bekalan Elektrik Tidak Berjadual • Total Unscheduled Supply Interruptions = **6,473**

SAIDI, SAIFI & CAIDI

Jadual 21: SAIDI, SAIFI dan CAIDI
Chart 21: SAIDI, SAIFI and CAIDI



SAIDI (Minit/Pelanggan/Tahun) • SAIDI (Minutes/Customer/Year)

SAIFI (Bilangan Gangguan/Pelanggan/Tahun) • SAIFI (Number of Interruptions/Customer/Year)

CAIDI (Minit /Pelanggan Terlibat/Tahun) • CAIDI (Minutes/Customer Involved/Year)

HARGA TENAGA ELEKTRIK ELEKTRIK PRICES

Tarif-Tarif Elektrik di Malaysia
Electricity Tariffs in Malaysia

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Purata Harga Jualan dan Kos Penjanaan
Average Selling Prices and Generation Cost

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JADUAL 68: KADAR-KADAR TARIF ELEKTRIK TENAGA NASIONAL BERHAD (BERKUATKUASA 1 JANUARI 2014)
TABLE 68: ELECTRICITY TARIFFS FOR TENAGA NASIONAL BERHAD (EFFECTIVE FROM JANUARY 1, 2014)

Bil. No.	Kategori Tarif • Tariff Category	Unit	Kadar • Rate
1.	Tarif A – Tarif Kediaman • Tariff A – Domestic Tariff		
	200 kWj pertama (1-200 kWj) sebulan • For the first 200 kWh (1-200 kWh) per month	sen/kWj • sen/kWh	21.80
	100 kWj berikutnya (201-300 kWj) sebulan • For the next 100 kWh (201-300 kWh) per month	sen/kWj • sen/kWh	33.40
	300 kWj berikutnya (301-600 kWj) sebulan • For the next 300 kWh (301-600 kWh) per month	sen/kWj • sen/kWh	51.60
	300 kWj berikutnya (601-900 kWj) sebulan • For the next 300 kWh (601-900 kWh) per month	sen/kWj • sen/kWh	54.60
	Setiap kWj berikutnya (901 kWj ke atas) sebulan • For the next kWh (901 kWh and above) per month	sen/kWj • sen/kWh	57.10
	Caj minimum bulanan • Minimum monthly charge:	RM	3.00
2.	Tarif B – Tarif Perdagangan Voltan Rendah • Tariff B – Low Voltage Commercial Tariff		
	200 kWj pertama (1-200 kWj) sebulan • For the first 200 kWh (1-200 kWh) per month	sen/kWj • sen/kWh	43.50
	Setiap kWj berikutnya (201 kWj ke atas) sebulan • For the next kWh (201 kWh and above) per month	sen/kWj • sen/kWh	50.90
	Caj minimum bulanan • Minimum monthly charge:	RM	7.20
3.	Tarif C1 – Tarif Perdagangan Am Voltan Sederhana • Tariff C1 – Medium Voltage General Commercial Tariff		
	Bagi setiap kilowatt kehendak maksimum sebulan • For each kilowatt of maximum demand per month	RM/kW	30.30
	Bagi semua kWj • For all kWh	sen/kWj • sen/kWh	36.50
	Caj minimum bulanan • Minimum monthly charge:	RM	600.00
4.	Tarif C2 – Tarif Perdagangan Puncak/Luar Puncak Voltan Sederhana • Tariff C2 – Medium Voltage Peak/Off-Peak Commercial Tariff		
	Bagi setiap kilowatt kehendak maksimum sebulan dalam tempoh puncak • For each kilowatt of maximum demand per month during the peak period	RM/kW	45.10
	Bagi semua kWj dalam tempoh puncak • For all kWh during the peak period	sen/kWj • sen/kWh	36.50
	Bagi semua kWj dalam tempoh luar puncak • For all kWh during the off-peak period	sen/kWj • sen/kWh	22.40
	Caj minimum bulanan • Minimum monthly charge:	RM	600.00
5.	Tarif D – Tarif Perindustrian Voltan Rendah • Tariff D – Low Voltage Industrial Tariff		
	200 kWj pertama (1-200 kWj) sebulan • For the first 200 kWh (1-200 kWh) per month	sen/kWj • sen/kWh	38.00
	Setiap kWj berikutnya (201 kWj ke atas) sebulan • For the next kWh (201 kWh and above) per month	sen/kWj • sen/kWh	44.10
	Caj minimum bulanan • Minimum monthly charge:	RM	7.20
	Tarif Ds – Tarif Perindustrian Khas (untuk pengguna yang layak sahaja) • Tariff Ds – Special Industrial Tariff (only for qualified consumers)		
	Bagi semua kWj • For all kWh	sen/kWj • sen/kWh	42.70
	Caj minimum bulanan • Minimum monthly charge:	RM	7.20
6.	Tarif E1 – Tarif Perindustrian Am Voltan Sederhana • Tariff E1 – Medium Voltage General Industrial Tariff		
	Bagi setiap kilowatt kehendak maksimum sebulan • For each kilowatt of maximum demand per month	RM/kW	29.60
	Bagi semua kWj • For all kWh	sen/kWj • sen/kWh	33.70
	Caj minimum bulanan • Minimum monthly charge:	RM	600.00
	Tarif E1s – Tarif Perindustrian Khas (untuk pengguna yang layak sahaja) • Tariff E1s – Special Industrial Tariff (only for qualified consumers)		
	Bagi setiap kilowatt kehendak maksimum sebulan • For each kilowatt of maximum demand per month	sen/kWj • sen/kWh	23.70
Bagi semua kWj • For all kWh	sen/kWj • sen/kWh	33.60	
	Caj minimum bulanan • Minimum monthly charge:	RM	600.00

Bil. No.	Kategori Tariff • Tariff Category	Unit	Kadar • Rate
7.	Tariff E2 – Tariff Perindustrian Puncak/Luar Puncak Voltan Sederhana • Tariff E2 – Medium Voltage Peak/Off-Peak Industrial Tariff		
	Bagi setiap kilowatt kehendak maksimum sebulan dalam tempoh puncak • For each kilowatt of maximum demand per month during the peak period	RM/kW	37.00
	Bagi semua kWj dalam tempoh puncak • For all kWh during the peak period	sen/kWj • sen/kWh	35.50
	Bagi semua kWj dalam tempoh luar puncak • For all kWh during the off- peak period	sen/kWj • sen/kWh	21.90
	Caj minimum bulanan • Minimum monthly charge:	RM	600.00
	Tariff E2s – Tariff Perindustrian Khas (untuk pengguna yang layak sahaja) • Tariff E2s – Special Industrial Tariff (only for qualified consumers)		
	Bagi setiap kilowatt kehendak maksimum sebulan dalam tempoh puncak • For each kilowatt of maximum demand per month during the peak period	RM/kW	32.90
Bagi semua kWj dalam tempoh puncak • For all kWh during the peak period	sen/kWj • sen/kWh	33.60	
Bagi semua kWj dalam tempoh luar puncak • For all kWh during the off- peak period	sen/kWj • sen/kWh	19.10	
Caj minimum bulanan • Minimum monthly charge:	RM	600.00	
8.	Tariff E3 – Tariff Perindustrian Puncak/Luar Puncak Voltan Tinggi • Tariff E3 – High Voltage Peak/Off-Peak Industrial Tariff		
	Bagi setiap kilowatt kehendak maksimum sebulan dalam tempoh puncak • For each kilowatt of maximum demand per month during the peak period	RM/kW	35.50
	Bagi semua kWj dalam tempoh puncak • For all kWh during the peak period	sen/kWj • sen/kWh	33.70
	Bagi semua kWj dalam tempoh luar puncak • For all kWh during the off- peak period	sen/kWj • sen/kWh	20.20
	Caj minimum bulanan • Minimum monthly charge:	RM	600.00
	Tariff E3s – Tariff Perindustrian Khas (untuk pengguna yang layak sahaja) • Tariff E3s – Special Industrial Tariff (only for qualified consumers)		
	Bagi setiap kilowatt kehendak maksimum sebulan dalam tempoh puncak • For each kilowatt of maximum demand per month during the peak period	RM/kW	29.00
Bagi semua kWj dalam tempoh puncak • For all kWh during the peak period	sen/kWj • sen/kWh	31.70	
Bagi semua kWj dalam tempoh luar puncak • For all kWh during the off- peak period	sen/kWj • sen/kWh	17.50	
Caj minimum bulanan • Minimum monthly charge:	RM	600.00	
9.	Tariff F – Tariff Perlombongan Voltan Rendah • Tariff F – Low Voltage Mining Tariff		
	Bagi semua kWj • For all kWh	sen/kWj • sen/kWh	38.10
	Caj minimum bulanan • Minimum monthly charge:	RM	120.00
10.	Tariff F1 – Tariff Perlombongan Am Voltan Sederhana • Tariff F1 – Medium Voltage General Mining Tariff		
	Bagi setiap kilowatt kehendak maksimum sebulan dalam tempoh puncak • For each kilowatt of maximum demand per month during the peak period	RM/kW	21.10
	Bagi semua kWj • For all kWh	sen/kWj • sen/kWh	31.30
	Caj minimum bulanan • Minimum monthly charge:	RM	120.00
11.	Tariff F2 – Tariff Perlombongan Puncak/Luar Puncak Voltan Sederhana • Tariff F2 – High Voltage Peak/Off-Peak Mining Tariff		
	Bagi setiap kilowatt kehendak maksimum sebulan dalam tempoh puncak • For each kilowatt of maximum demand per month during the peak period	RM/kW	29.80
	Bagi semua kWj dalam tempoh puncak • For all kWh during the peak period	sen/kWj • sen/kWh	31.30
	Bagi semua kWj dalam tempoh luar puncak • For all kWh during the off- peak period	sen/kWj • sen/kWh	17.20
	Caj minimum bulanan • Minimum monthly charge:	RM	120.00

Bil. No.	Kategori Tarif • Tariff Category	Unit	Kadar • Rate
12.	Tarif G – Tarif Lampu Jalanraya • Tariff G – Street Lighting Tariff		
	Bagi semua kWj (termasuk senggaraan) • For all kWh (including maintenance)	sen/kWj • sen/kWh	30.50
	Bagi semua kWj (tidak termasuk senggaraan) • For all kWh (excluding maintenance)	sen/kWj • sen/kWh	19.20
	Caj minimum bulanan • Minimum monthly charge:	RM	7.20
13.	Tarif G1 – Tarif Lampu Neon & Lampu Limpah • Tariff G1 – Neon & Floodlight Tariff		
	Bagi semua kWj • For all kWh	sen/kWj • sen/kWh	20.80
	Caj minimum bulanan • Minimum monthly charge:	RM	7.20
14.	Tarif H - Tarif Pertanian Spesifik Voltan Rendah • Tariff H – Low Voltage Specific Agriculture Tariff		
	200 kWj pertama (1-200 kWj) sebulan • For the first 200 kWh (1-200 kWh) per month	sen/kWj • sen/kWh	39.00
	Setiap kWj berikutnya (201 kWj ke atas) sebulan • For the next kWh (201 kWh and above) per month	sen/kWj • sen/kWh	47.20
	Caj minimum bulanan • Minimum monthly charge:	RM	7.20
15.	Tarif H1 – Tarif Pertanian Spesifik Am Voltan Sederhana • Tariff H1 – Medium Voltage General Specific Agriculture Tariff		
	Bagi setiap kilowatt kehendak maksimum sebulan • For each kilowatt of maximum demand per month	RM/kW	30.30
	Bagi semua kWj • For all kWh	sen/kWj • sen/kWh	35.10
	Caj minimum bulanan • Minimum monthly charge:	RM	600.00
16.	Tarif H2 – Tarif Pertanian Spesifik Puncak/Luar Puncak Voltan Sederhana • Tariff H2 - Medium Voltage Peak/Off-peak Specific Agriculture Tariff		
	Bagi setiap kilowatt kehendak maksimum sebulan dalam tempoh puncak • For each kilowatt of maximum demand per month during the peak period	RM/kW	40.80
	Bagi semua kWj dalam tempoh puncak • For all kWh during the peak period	sen/kWj • sen/kWh	36.50
	Bagi semua kWj dalam tempoh luar puncak • For all kWh during the off-peak period	sen/kWj • sen/kWh	22.40
	Caj minimum bulanan • Minimum monthly charge:	RM	600.00

Nota • Note:

Berkuatkuasa mulai 1 Januari 2014, kutipan 1% Feed-in Tariff (FiT) untuk Dana Sumber Tenaga Boleh Baharu (RE) akan dikenakan ke atas bil elektrik bulanan pengguna (kecuali pengguna Domestik yang menggunakan sehingga 300 kWj sebulan) • Effective starting from January 1, 2014, 1% Feed-in Tariff (FIT) for Renewable Energy Resources Fund (RE) is imposed on consumers' monthly electric bill (except for domestic consumers with consumption not exceeding 300 kWh per month)

JADUAL 69: KADAR-KADAR 'TOP-UP' DAN 'STANDBY'(UNTUK 'CO-GENERATORS' SAHAJA)
TABLE 69: 'TOP-UP' AND 'STANDBY' RATES (FOR CO-GENERATORS ONLY)

Bil. No.	Kategori Tarif • Tariff Category	Unit	Top-up	Standby**
1.	Tarif C1 – Perdagangan Am Voltan Sederhana • Tariff C1 – Medium Voltage General Commercial Tariff			
	<p>Bagi setiap kilowatt kehendak maksimum sebulan • For each kilowatt of maximum demand per month</p> <p>Bagi semua kWj • For all kWh</p>	<p>RM/kW</p> <p>sen/kWj • sen/kWh</p>	<p>30.30</p> <p>36.50</p>	14.00
2.	Tarif C2 – Perdagangan Puncak/Luar Puncak Voltan Sederhana • Tariff C2 – Medium Voltage Peak/Off-Peak Commercial Tariff			
	<p>Bagi setiap kilowatt kehendak maksimum sebulan dalam tempoh puncak • For each kilowatt of maximum demand per month during the peak period</p> <p>Bagi semua kWj dalam tempoh puncak • For all kWh during the peak period</p> <p>Bagi semua kWj dalam tempoh luar puncak • For all kWh during the off- peak period</p>	<p>RM/kW</p> <p>sen/kWj • sen/kWh</p> <p>sen/kWj • sen/kWh</p>	<p>45.10</p> <p>36.50</p> <p>22.40</p>	14.00
3.	Tarif E1 – Perindustrian Am Voltan Sederhana • Tariff E1 – Medium Voltage General Industrial Tariff			
	<p>Bagi setiap kilowatt kehendak maksimum sebulan • For each kilowatt of maximum demand per month</p> <p>Bagi semua kWj • For all kWh</p>	<p>RM/kW</p> <p>sen/kWj • sen/kWh</p>	<p>29.60</p> <p>33.70</p>	14.00
4.	Tarif E2 – Perindustrian Puncak/Luar Puncak Voltan Sederhana • Tariff E2 – Medium Voltage Peak/Off-Peak Industrial Tariff			
	<p>Bagi setiap kilowatt kehendak maksimum sebulan dalam tempoh puncak • For each kilowatt of maximum demand per month during the peak period</p> <p>Bagi semua kWj dalam tempoh puncak • For all kWh during the peak period</p> <p>Bagi semua kWj dalam tempoh luar puncak • For all kWh during the off- peak period</p>	<p>RM/kW</p> <p>sen/kWj • sen/kWh</p> <p>sen/kWj • sen/kWh</p>	<p>37.00</p> <p>35.50</p> <p>21.90</p>	14.00
5.	Tarif E3 – Perindustrian Puncak/Luar Puncak Voltan Tinggi • Tariff E3 – High Voltage Peak/Off-Peak Industrial Tariff			
	<p>Bagi setiap kilowatt kehendak maksimum sebulan dalam tempoh puncak • For each kilowatt of maximum demand per month during the peak period</p> <p>Bagi semua kWj dalam tempoh puncak • For all kWh during the peak period</p> <p>Bagi semua kWj dalam tempoh luar puncak • For all kWh during the off-peak period</p>	<p>RM/kW</p> <p>sen/kWj • sen/kWh</p> <p>sen/kWj • sen/kWh</p>	<p>35.50</p> <p>33.70</p> <p>20.20</p>	12.00
6.	Tarif F1 – Perlombongan Am Voltan Sederhana • Tariff F1 - Medium Voltage General Mining Tariff			
	<p>Bagi setiap kilowatt kehendak maksimum sebulan • For each kilowatt of maximum demand per month</p> <p>Bagi semua kWj • For all kWh</p>	<p>RM/kW</p> <p>sen/kWj • sen/kWh</p>	<p>21.10</p> <p>31.30</p>	14.00
7.	Tarif F2 – Perlombongan Puncak/Luar Puncak Voltan Sederhana • Tariff F2 – Medium Voltage Peak/Off-Peak Mining Tariff			
	<p>Bagi setiap kilowatt kehendak maksimum sebulan dalam tempoh puncak • For each kilowatt of maximum demand per month during the peak period</p> <p>Bagi semua kWj dalam tempoh puncak • For all kWh during the peak period</p> <p>Bagi semua kWj dalam tempoh luar puncak • For all kWh during the off-peak period</p>	<p>RM/kW</p> <p>sen/kWj • sen/kWh</p> <p>sen/kWj • sen/kWh</p>	<p>29.80</p> <p>31.30</p> <p>17.20</p>	14.00
8.	Tarif H1 – Tarif Pertanian Spesifik Am Voltan Sederhana • Tariff H1 – Medium Voltage Specific General Agriculture Tariff			
	<p>Bagi setiap kilowatt kehendak maksimum sebulan • For each kilowatt of maximum demand per month</p> <p>Bagi semua kWj • For all kWh</p>	<p>RM/kW</p> <p>sen/kWj • sen/kWh</p>	<p>30.30</p> <p>35.10</p>	14.00

Bil. No.	Kategori Tarif • Tariff Category	Unit	Top-up	Standby**
9.	Tarif H2 – Tarif Pertanian Spesifik Am Puncak/Luar Puncak • Tariff H2 – Medium Voltage Specific General Agriculture Tariff			
	Bagi setiap kilowatt kehendak maksimum sebulan dalam tempoh puncak • For each kilowatt of maximum demand per month during the peak period	RM/kW	40.80	14.00
	Bagi semua kWj dalam tempoh puncak • For all kWh during the peak period	sen/kWj • sen/kWh	36.50	
	Bagi semua kWj dalam tempoh luar puncak • For all kWh during the off-peak period	sen/kWj • sen/kWh	22.40	

**Nota • Note:

- Kadar 'Standby' yang baru (bermula 1 Januari 2014) adalah terpakai kepada pengguna-pengguna berikut • This new Standby rate (as of 1st January 2014) is applicable to the following customers:-
 - Semua pengguna 'Co-generation' baru; dan • All new co-generation customers; and
 - Pengguna 'Co-generation' sedia ada yang berhasrat untuk menukar kepada kadar 'Standby' yang baru ini • Existing co-generation customers who wish to migrate to this new Standby rate.
- Bagi pengguna 'Co-generation' sedia ada yang berhasrat untuk mengekalkan kadar 'Standby' ('Firm' dan 'Non-Firm') yang lama, kadar 'Standby' ('Firm' dan 'Non-Firm') yang lama bersama-sama kadar 'Top-up' yang baru (bermula 1 Januari 2014) akan diguna pakai • For existing co-generation customer who wishes to maintain previous Standby (Firm and Non-Firm) rates, the rate is applicable together with the new Top-Up rate (as of 1st January 2014)
- Kutipan 1.6% Feed-in Tariff (FIT) akan dikenakan ke atas bil elektrik bulanan pengguna (kecuali pengguna Domestik yang menggunakan sehingga 300kWj sebulan) berkuatkuasa mulai 1 Januari 2014 • Effective starting from 1st of January 2014, 1% Feed-in Tariff (FiT) for Renewable Energy Resources Fund (RE) is imposed on consumers' monthly electric bill (except for domestic consumers with consumption not exceeding 300 kWh per month)

JADUAL 70: KADAR-KADAR TARIF ELEKTRIK YANG BARU BAGI SABAH ELECTRICITY SENDIRIAN BERHAD (SESB) & WILAYAH PERSEKUTUAN LABUAN (BERKUATKUASA 1 JANUARI 2014)

TABLE 70: TARIFFS FOR SABAH ELECTRICITY SENDIRIAN BERHAD (SESB) & FEDERAL TERRITORY OF LABUAN (EFFECTIVE FROM JANUARY 1, 2014)

Bil. No.	Kategori Tarif • Tariff Category	Unit	Kadar Semasa • Current Rate
1.	Tarif DM – Tarif Kediaman • Tariff DM – Domestic Tariff		
	100 kWj pertama (1-100 kWj) sebulan • For the first 100 kWh (1-100 kWh) per month	sen/kWj • sen/kWh	17.5
	100 kWj berikutnya (101-200 kWj) sebulan • For the next 100 kWh (101-200 kWh) per month	sen/kWj • sen/kWh	18.5
	300 kWj berikutnya (201-300 kWj) sebulan • For the next 300 kWh (201-300 kWh) per month	sen/kWj • sen/kWh	33.0
	200 kWj berikutnya (301-500 kWj) sebulan • For the next 200 kWh (301-500 kWh) per month	sen/kWj • sen/kWh	44.5
	500 kWj berikutnya (501-1000 kWj) sebulan • For the next 500 kWh (501-1000 kWh) per month	sen/kWj • sen/kWh	45.0
	Setiap kWj berikutnya (1001 kWj ke atas) sebulan • For the next kWh (1001 kWh and above) per month	sen/kWj • sen/kWh	47.0
	Caj minimum bulanan • Minimum monthly charge:	RM	5.00
2.	Tarif CM1 – Tarif Perdagangan Voltan Rendah • Tariff CM1 – Low Voltage Commercial Tariff		
	200 kWj pertama (1-200 kWj) sebulan • For the first 200 kWh (1-200 kWh) per month	sen/kWj • sen/kWh	38.5
	Setiap kWj berikutnya (201 kWj ke atas) sebulan • For the next kWh (201 kWh and above) per month	sen/kWj • sen/kWh	39.5
	Caj minimum bulanan • Minimum monthly charge:	RM	15.00
3.	Tarif CM2 – Tarif Perdagangan Am Voltan Sederhana • Tariff CM2 – Medium Voltage General Commercial Tariff		
	Bagi setiap kilowatt kehendak maksimum sebulan • For each kilowatt of maximum demand per month	RM/kW	23.20
	Bagi semua kWj • for all kWh	sen/kWj • sen/kWh	32.40
	Caj minimum bulanan • Minimum monthly charge:	RM	1,000.00
4.	Tarif CM3 – Tarif Perdagangan Puncak/Luar Puncak Voltan Sederhana • Tariff CM3 – Medium Voltage Peak/Off Peak Commercial		
	Bagi setiap kilowatt kehendak maksimum sebulan dalam tempoh puncak • For each kilowatt of maximum demand per month during the peak period	RM/kW	32.60
	Bagi semua kWj dalam tempoh puncak • For all kWh during the peak period	sen/kWj • sen/kWh	32.4
	Bagi semua kWj dalam tempoh luar puncak • For all kWh during the off-peak period	sen/kWj • sen/kWh	19.5
	Caj minimum bulanan • Minimum monthly charge:	RM	1,000.00

Bil. No.	Kategori Tarif • Tariff Category	Unit	Kadar Semasa • Current Rate
1.	Tarif DM – Tarif Kediaman • Tariff DM – Domestic Tariff		
	100 kWj pertama (1-100 kWj) sebulan • For the first 100 kWh (1-100 kWh) per month	sen/kWj • sen/kWh	17.5
	100 kWj berikutnya (101-200 kWj) sebulan • For the next 100 kWh (101-200 kWh) per month	sen/kWj • sen/kWh	18.5
	300 kWj berikutnya (201-300 kWj) sebulan • For the next 300 kWh (201-300 kWh) per month	sen/kWj • sen/kWh	33.0
	200 kWj berikutnya (301-500 kWj) sebulan • For the next 200 kWh (301-500 kWh) per month	sen/kWj • sen/kWh	44.5
	500 kWj berikutnya (501-1000 kWj) sebulan • For the next 500 kWh (501-1000 kWh) per month	sen/kWj • sen/kWh	45.0
	Setiap kWj berikutnya (1001 kWj ke atas) sebulan • For the next kWh (1001 kWh and above) per month	sen/kWj • sen/kWh	47.0
Caj minimum bulanan • Minimum monthly charge:	RM	5.00	
2.	Tarif CM1 – Tarif Perdagangan Voltan Rendah • Tariff CM1 – Low Voltage Commercial Tariff		
	200 kWj pertama (1-200 kWj) sebulan • For the first 200 kWh (1-200 kWh) per month	sen/kWj • sen/kWh	38.5
	Setiap kWj berikutnya (201 kWj ke atas) sebulan • For the next kWh (201 kWh and above) per month	sen/kWj • sen/kWh	39.5
Caj minimum bulanan • Minimum monthly charge:	RM	15.00	
3.	Tarif CM2 – Tarif Perdagangan Am Voltan Sederhana • Tariff CM2 – Medium Voltage General Commercial Tariff		
	Bagi setiap kilowatt kehendak maksimum sebulan • For each kilowatt of maximum demand per month	RM/kW	23.20
	Bagi semua kWj • for all kWh	sen/kWj • sen/kWh	32.40
Caj minimum bulanan • Minimum monthly charge:	RM	1,000.00	
4.	Tarif CM3 – Tarif Perdagangan Puncak/Luar Puncak Voltan Sederhana • Tariff CM3 – Medium Voltage Peak/Off Peak Commercial		
	Bagi setiap kilowatt kehendak maksimum sebulan dalam tempoh puncak • For each kilowatt of maximum demand per month during the peak period	RM/kW	32.60
	Bagi semua kWj dalam tempoh puncak • For all kWh during the peak period	sen/kWj • sen/kWh	32.4
	Bagi semua kWj dalam tempoh luar puncak • For all kWh during the off-peak period	sen/kWj • sen/kWh	19.5
Caj minimum bulanan • Minimum monthly charge:	RM	1,000.00	
5.	Tarif ID1 – Tarif Perindustrian Voltan Rendah • Tariff ID1 – Low Voltage Industrial Tariff		
	Bagi semua kWj • For all kWh	sen/kWj • sen/kWh	37.6
Caj minimum bulanan • Minimum monthly charge:	RM	15.00	
6.	Tarif ID2 – Tarif Perindustrian Am Voltan Sederhana • Tariff ID2 – Medium Voltage General Industrial Tariff		
	Bagi setiap kilowatt kehendak maksimum sebulan dalam tempoh Puncak • For each kilowatt of maximum demand per month during the peak period	RM/kW	21.75
	Bagi semua kWj • For all kWh	sen/kWj • sen/kWh	26.8
Caj minimum bulanan • Minimum monthly charge:	RM	1,000.00	
7.	Tarif ID3 – Tarif Perindustrian Puncak/Luar Puncak Voltan Sederhana • Tariff ID3 – Medium Voltage Peak/Off Peak Industrial		
	Bagi setiap kilowatt kehendak maksimum sebulan dalam tempoh puncak • For each kilowatt of maximum demand per month during the peak period	RM/kW	28.00
	Bagi semua kWj dalam tempoh puncak • For all kWh during the peak period	sen/kWj • sen/kWh	28.6
	Bagi semua kWj dalam tempoh luar puncak • For all kWh during the off-peak period	sen/kWj • sen/kWh	18.0
Caj minimum bulanan • Minimum monthly charge:	RM	1,000.00	
8.	Tarif PL – Tarif Lampu Jalanraya • Tariff PL – Public Lighting		
	Bagi semua kWj (Tidak termasuk senggaraan) • For all kWh (excluding maintenance)	sen/kWj • sen/kWh	20.3
	Bagi semua kWj (termasuk senggaraan) • For all kWh (including maintenance)	sen/kWj • sen/kWh	36.3
Caj minimum bulanan • Minimum monthly charge:	RM	15.00	

JADUAL 71: TARIF-TARIF ELEKTRIK UNTUK SARAWAK ELECTRICITY BERHAD (SEB) – (BERKUATKUASA 1 APRIL 2007)**TABLE 71: ELECTRICITY TARIFF FOR SARAWAK ELECTRICITY BERHAD (SEB) (EFFECTIVE APRIL 1, 2007)**

Kategori Tarif • Tariff Category	Unit	Kadar Semasa • Current Rate
Tarif C1 – Perdagangan • Tariff C1 - Commercial		
Bagi 100 unit pertama sebulan • For the first 100 units per month	sen/kWj • sen/kWh	40
Bagi 490 unit berikutnya sebulan • For the next 490 units per month	sen/kWj • sen/kWh	34
Bagi setiap unit tambahan sebulan • For each additional unit per month	sen/kWj • sen/kWh	30
Caj minimum bulanan • Minimum monthly charge:	RM	10.00
Tarif C2 – Kehendak Perdagangan • Tariff C2 – Commercial Demand		
Bagi setiap kilowatt kehendak maksimum bulanan • For each kilowatt of maximum demand per month	RM/kW	16.00
Bagi setiap unit • All each unit	sen/kWj • sen/kWh	25
Caj minimum bulanan • Minimum monthly charge: (per kW X Kehendak Bayaran Dikenakan • Billing Demand)	RM	16.00
Tarif C3 – Kehendak Waktu Puncak/Waktu Bukan Puncak • Tariff C3 – Commercial Peak/Off Peak Demand		
Bagi setiap kilowatt kehendak maksimum sebulan dalam waktu puncak • For each kilowatt of maximum demand per month during the peak period	RM/kW	20.00
Bagi setiap unit waktu puncak • For each unit during the peak period	sen/kWj • sen/kWh	25
Bagi setiap unit waktu bukan puncak • For each unit during the off-peak period	sen/kWj • sen/kWh	14.4
Caj minimum bulanan • Minimum monthly charge: (per kW X Kehendak Bayaran Dikenakan • Billing Demand)	RM	20.00
Tarif D – Domestik • Tariff D – Domestic		
Bagi 100 unit pertama sebulan • For the first 100 units per month	RM/kW	34
Bagi 300 unit berikutnya sebulan • For the next 300 units per month	sen/kWj • sen/kWh	29
Bagi setiap unit tambahan sebulan • For each additional unit per month	sen/kWj • sen/kWh	33
Caj minimum bulanan • Minimum monthly charge: (per kW X Kehendak Bayaran Dikenakan • Billing Demand)	RM	5.00
Tarif I1 – Perindustrian • Tariff I1 – Industrial		
Bagi 100 unit pertama sebulan • For the first 100 units per month	sen/kWj • sen/kWh	40
Bagi 2900 unit berikutnya sebulan • For the next 2900 units per month	sen/kWj • sen/kWh	30
Bagi setiap unit tambahan sebulan • For each additional unit per month	sen/kWj • sen/kWh	27
Caj minimum bulanan • Minimum monthly charge: (per kW X Kehendak Bayaran Dikenakan • Billing Demand)	RM	10.00
Tarif I2 – Kehendak Perindustrian • Tariff I2 – Industrial Demand		
Bagi setiap kilowatt kehendak maksimum sebulan • For each kilowatt of maximum demand per month	sen/kWj • sen/kWh	16.00
Bagi setiap unit • For each unit	sen/kWj • sen/kWh	22.2
Caj minimum bulanan • Minimum monthly charge: (per kW X Kehendak Bayaran Dikenakan • Billing Demand)	RM	16.00
Tarif I3 – Kehendak Waktu Puncak/Waktu Bukan Puncak Perindustrian • Tariff I3 – Industrial Peak/Off Peak Demand		
Bagi setiap kilowatt kehendak maksimum sebulan dalam waktu puncak • For each kilowatt of maximum demand per month during the peak period		
Bagi setiap unit waktu puncak • For each unit during the peak period	sen/kWj • sen/kWh	16.00
Bagi setiap unit waktu bukan puncak • For each unit during the off-peak period	sen/kWj • sen/kWh	22.2
Caj minimum bulanan • Minimum monthly charge: (per kW X Kehendak Bayaran Dikenakan • Billing Demand)	RM	16.00
Tarif PL – Lampu Awam • Tariff PL – Public Lighting		
Bagi setiap unit • For each unit	sen/kWj • sen/kWh	47
Caj minimum bulanan • Minimum monthly charge:	RM	10.00

PURATA HARGA JUALAN DAN KOS PENJANAAN AVERAGE SELLING PRICE AND GENERATION COST

Jadual 72: Perbandingan Purata Harga Jualan (sen/kWj) antara Syarikat Utiliti Kuasa yang Terpilih

Table 72: Comparison of Electricity Average Selling Price (sen/kWh) among Selected Power Utility Companies

Syarikat Utiliti Kuasa • Power Utility Companies	Domestik • Domestic	Komersil • Commercial	Perindustrian • Industrial	Lampu Awam • Public Lighting	Pertanian • Agriculture	JUMLAH • TOTAL
TNB	31.23	44.93	34.17	23.32	43.15	37.13
SESB	27.91	37.19	31.19	21.61	-	32.56
SEB	31.25	31.95	25.07	47.09	-	29.81
PLN, Indonesia	21.06	32.41	23.70	26.97	24.30	25.73
Taipower, Taiwan	29.86	35.93	28.22	13.59	n/a	30.19
EGAT, Thailand	44.51	41.29	n/a	n/a	37.35	43.19
CLP, Hong Kong	n/a	n/a	n/a	n/a	n/a	53.00
Meralco, Philippines	81.43	72.01	57.26	8.54	n/a	70.40
TEPCO, Japan	80.99	86.88	n/a	n/a	n/a	88.00
KEPCO, Korea	34.60	31.75	26.31	27.76	12.71	28.05
Singapore Power	57.50	52.62	49.75	n/a	n/a	56.89

Jadual 73: Purata Harga Jualan Syarikat Utiliti Kuasa Utama

Table 73: Average Selling Prices of Major Power Utility Companies

Tahun • Year	Domestik (sen/kWj) • Domestic (sen/kWh)	Komersil (sen/kWj) • Commercial (sen/kWh)	Industri (sen/kWj) • Industry (sen/kWh)	Lampu Awam (sen/kWj) • Lighting (sen/kWh)	Pertanian (sen/kWj) • Agriculture (sen/kWh)	PURATA (SEN/kWj) • AVERAGE (SEN/kWh)
TNB						
2010	27.7	37.7	28.4	20.6	37.0	31.3
2011	27.6	38.2	28.9	20.5	37.2	31.7
2012	28.8	40.7	30.9	21.5	39.8	33.7
2013	29.2	40.9	31.0	21.5	39.4	33.9
2014	31.2	44.9	34.2	23.3	43.2	37.1
SESB						
2010	22.9	28.8	23.3	n/a	-	25.5
2011	24.7	29.1	23.8	28.4	-	26.2
2012	25.1	33.0	28.1	18.5	-	29.1
2013	25.1	33.0	28.1	18.5	-	29.1
2014	27.9	37.2	31.2	21.6	-	32.56
SEB						
2010	31.2	32.1	24.6	47.1	-	29.4
2011	31.2	31.2	24.7	47.1	-	29.4
2012	31.2	32.0	24.9	47.0	-	29.7
2013	31.3	32.0	25.1	47.1	-	29.9
2014	31.3	32.0	25.1	47.1	-	29.8

Jadual 74: Kos Penjanaan Tenaga Nasional Berhad (TNB) (sen/kWj)**Table 74: Generation Cost of Tenaga Nasional Berhad (sen/kWh)**

Kos Penjanaan • Generation Cost	2010	2011	2012	2013	2014
(a) Penjanaan Sendiri • (a) Own Generation	16.16	18.22	20.28	20.13	18.60
(b) Tenaga Dibeli • (b) Energy Purchased	21.99	24.68	25.05	22.80	20.93
(c) Kos Keseluruhan- (a) & (b) • (c) Overall Cost - (a) & (b)	20.42	23.08	23.95	23.03	23.94

Kos (kapasiti, tenaga) / Jumlah Penjanaan Tenaga (bagi IPP, menggunakan syarat yang termaktub dalam PPA/SLA) • Cost (capacity, energy) / Total Units Generated (for IPP, based on condition stipulated in PPA/SLA)

Jadual 75: Kos Penjanaan Sabah Electricity Sdn. Bhd (SESB) (sen/kWj)**Table 75: Generation Cost of Sabah Electricity Sdn. Bhd (SESB) (sen/kWh)**

Kos Penjanaan • Generation Cost	2010	2011	2012	2013	2014
(a) Penjanaan Sendiri • (a) Own Generation	17.42	24.30	16.16	17.84	25.34
(b) Tenaga Dibeli • (b) Energy Purchased	22.33	25.80	17.90	20.04	22.75
(c) Kos Keseluruhan- (a) & (b) • (c) Overall Cost - (a) & (b)	21.21	25.20	17.40	19.38	20.47

Jadual 76: Kos Penjanaan Sarawak Energy Berhad (SEB) (sen/kWj)**Table 76: Generation Cost of Sarawak Energy Berhad (SEB) (sen/kWh)**

Kos Penjanaan • Generation Cost	2010	2011	2012	2013	2014
(a) Penjanaan Sendiri • (a) Own Generation	14.60	21.80	25.89	11.58	15.62 ¹
(b) Tenaga Dibeli • (b) Energy Purchased	14.20	13.20	11.72	10.75	9.96 ²
(c) Kos Keseluruhan- (a) & (b) • (c) Overall Cost - (a) & (b)	14.30	15.40	14.15	10.85	10.57³

¹ SESCO fuel cost

² Power purchase cost

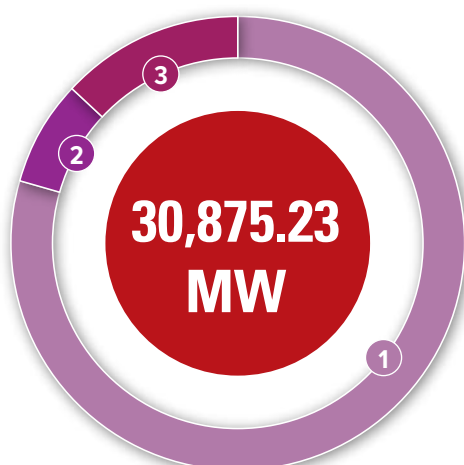
³ Average fuel cost

Berikutan penstrukturan semula SEB pada tahun 2011, kos penjanaan SEB turut mengambil-kira kos penjanaan Sejingkat Power Corporation, Sarawak Power Corporation, PPLS Power Generation, dan Mukah Power Generation • Due to restructuring of SEB in 2011, SEB's generation cost takes into account the generation cost of Sejingkat Power Corporation, Sarawak Power Corporation, PPLS Power Generation, and Mukah Power Generation

RINGKASAN SUMMARY

RUMUSAN
SUMMARY**Jadual 77: Penjana-penjana Elektrik Utama di Malaysia (MW)**
Table 77: Main Electricity Generators in Malaysia (MW)

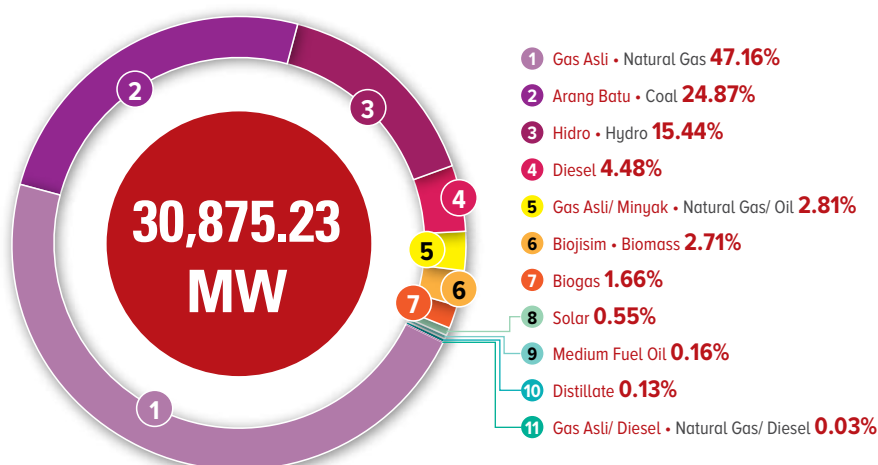
Bil. • No.	Penjana-penjana Elektrik Utama • Main Power Generators	Kapasiti Penjanaan Terpasang Yang Dilisenkan (MW) • Licensed Installed Generation Capacity (MW)	Jumlah Penjanaan (GWj) • Total Generation (GWh)
SEMENANJUNG MALAYSIA • PENINSULAR MALAYSIA			
1.	Tenaga Nasional Berhad (TNB)	6,616.00	28,409.19
2.	Penjana-Penjana Bebas • Independent Power Producers (IPP)	15,289.00	91,314.64
3.	Projek Jana Kuasa Tenaga Boleh Baharu (TBB) • Renewable Energy (RE) Power Projects	271.27	190.36
4.	Co-generation Lesen Persendirian • Private License Co-generation	362.12	603.10
5.	Co-generation Lesen Awam • Public License Co-generation	1,225.84	2,214.69
6.	Penjanaan Persendirian Bawah 5 MW • Less Than 5 MW Self-Generation	803.38	130.08
JUMLAH • TOTAL		24,567.61	122,862.06
SABAH			
7.	Sabah Electricity Sdn Berhad (SESB)	463.40	1,208.78
8.	Penjana-Penjana Bebas • Independent Power Producers (IPP)	1,074.10	3,988.43
9.	Projek Jana Kuasa Tenaga Boleh Baharu (TBB) • Renewable Energy (RE) Power Projects	60.19	246.57
10.	Co-generation Lesen Persendirian • Private License Co-generation	93.50	63.45
11.	Co-generation Lesen Awam • Public License Co-generation	122.60	92.40
12.	Penjanaan Persendirian Bawah 5 MW • Less Than 5 MW Self-Generation	542.83	294.17
JUMLAH • TOTAL		2,356.62	5893.80
SARAWAK			
13.	Sarawak Energy Berhad (SEB)	1,551.00	6,494.00
14.	Penjana-Penjana Bebas • Independent Power Producers (IPP)	2,400.00	8,576.72
JUMLAH • TOTAL		3,951.00	15,070.72
Jumlah Keseluruhan • Overall Total		30,875.23	143,826.58



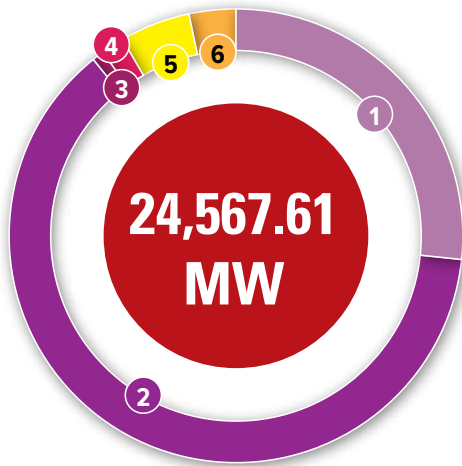
- ① SEMENANJUNG MALAYSIA • PENINSULAR MALAYSIA **79.57%**
- ② SABAH **7.63%**
- ③ SARAWAK **12.80%**

Jadual 78: Bahan Api Utama Untuk Penjanaan Elektrik di Malaysia**Table 78: Main Fuels for Electricity Generation in Malaysia**

Bil. No.	Bahan Api • Fuel	Kapasiti Penjanaan Terpasang Yang Dilesenkan (MW) • Licensed Installed Generation Capacity (MW)	Jumlah Penjanaan (GWj) • Total Generation (GWh)
SEMENANJUNG MALAYSIA • PENINSULAR MALAYSIA			
1.	Gas Asli • Natural Gas	12,907.74	63,586.56
2.	Arang Batu • Coal	7,200.00	50,536.20
3.	Hidro • Hydro	1,954.33	4,217.78
4.	Gas Asli/Minyak • Natural Gas/Oil	869.00	4,056.52
5.	Biojisim • Biomass	532.97	168.28
6.	Biogas	508.32	185.75
7.	Diesel	419.25	19.94
8.	Solar	167.77	77.51
9.	Gas Asli/Diesel • Natural Gas/Diesel	8.23	13.52
JUMLAH • TOTAL		24,567.61	122,862.06
SABAH			
10.	Gas Asli • Natural Gas	1,076.00	4,103.69
11.	Diesel	805.24	548.75
12.	Biojisim • Biomass	303.24	559.77
13.	Hidro • Hydro	76.50	301.35
14.	Medium Fuel Oil	50.00	336.24
15.	Distillate	40.53	40.00
16.	Biogas	3.20	4.00
17.	Solar	2.81	0.00
JUMLAH • TOTAL		2,356.62	5,893.80
SARAWAK			
18.	Hidro • Hydro	2,737.00	9,020.72
19.	Gas Asli • Natural Gas	576.00	2,706.00
20.	Arang Batu • Coal	480.00	3,157.00
21.	Diesel	158.00	187.00
JUMLAH • TOTAL		3,951.00	15,070.72
Jumlah Keseluruhan • Overall Total		30,875.23	143,826.58



Jadual 79: Kapasiti Penjanaan Terpasang Yang Dilesenkan (MW) Mengikut Penjana-Penjana Kuasa Utama
Table 79: Licensed Installed Generation Capacity (MW) by Main Power Producers

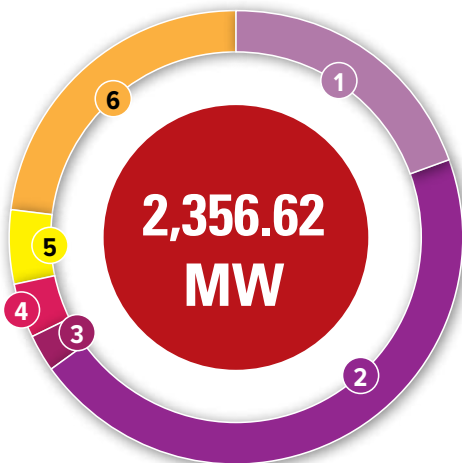


SEMENANJUNG MALAYSIA • PENINSULAR MALAYSIA

- 26.93% 1 Tenaga Nasional Berhad (TNB)
- 62.23% 2 IPP
- 1.10% 3 RE
- 1.47% 4 Co-gen Persendirian • Private Co-gen
- 4.99% 5 Co-gen Awam • Public Co-gen
- 3.27% 6 Bawah 5 MW • Less Than 5 MW

MW
6,616.00
15,289.00
271.27
362.12
1,225.84
803.38
24,567.61

JUMLAH • TOTAL

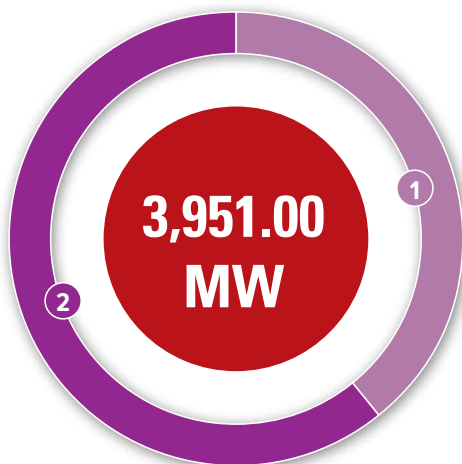


SABAH

- 19.66% 1 Sabah Electricity Sdn Berhad (SESB)
- 45.58% 2 IPP
- 2.55% 3 RE
- 3.97% 4 Co-gen Persendirian • Private Co-gen
- 5.20% 5 Co-gen Awam • Public Co-gen
- 23.02% 6 Bawah 5 MW • Less Than 5 MW

MW
463.40
1,074.10
60.19
93.50
122.60
542.83
2,356.62

JUMLAH • TOTAL



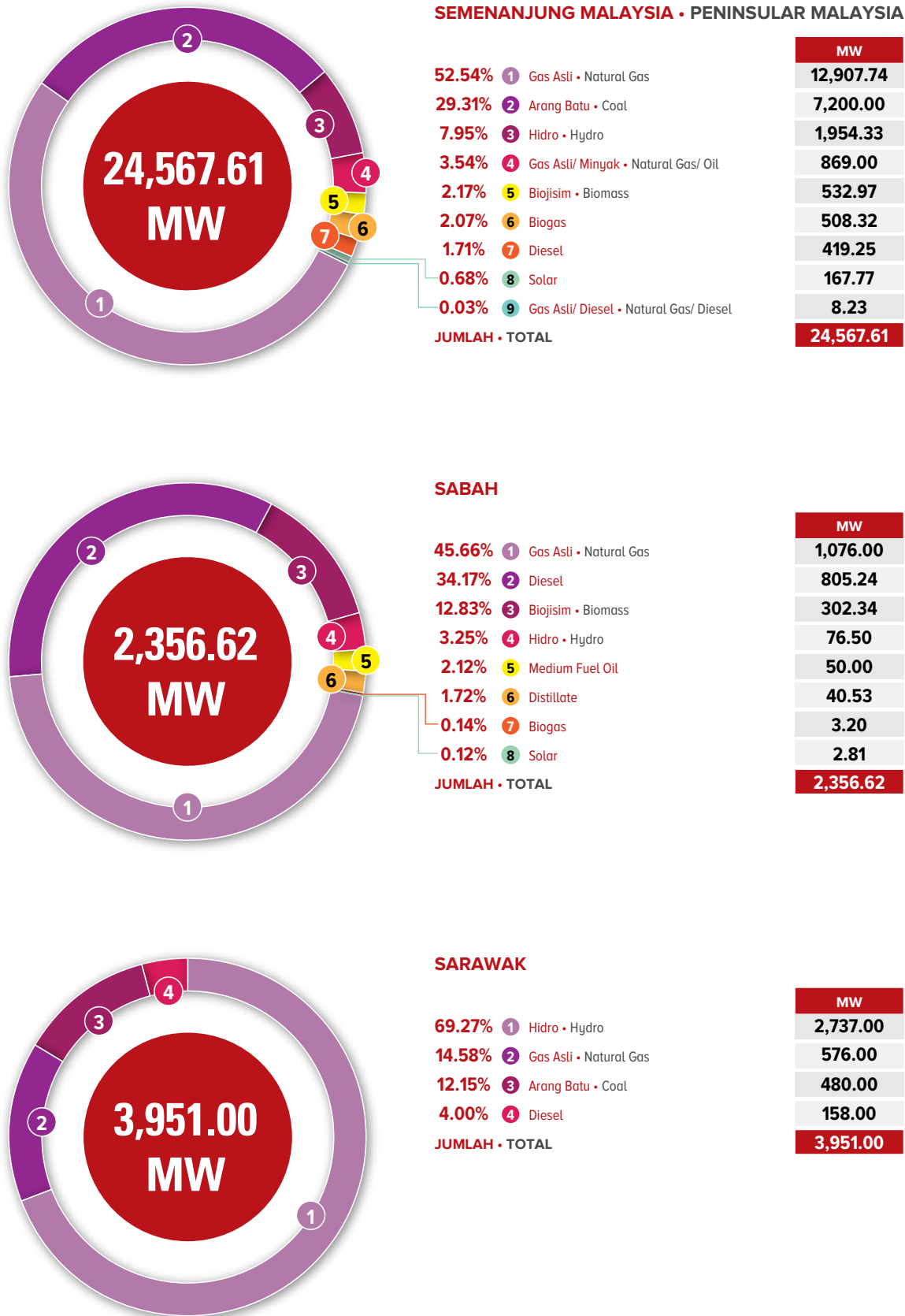
SARAWAK

- 39.26% 1 Sabah Electricity Sdn Berhad (SESB)
- 60.74% 2 IPP

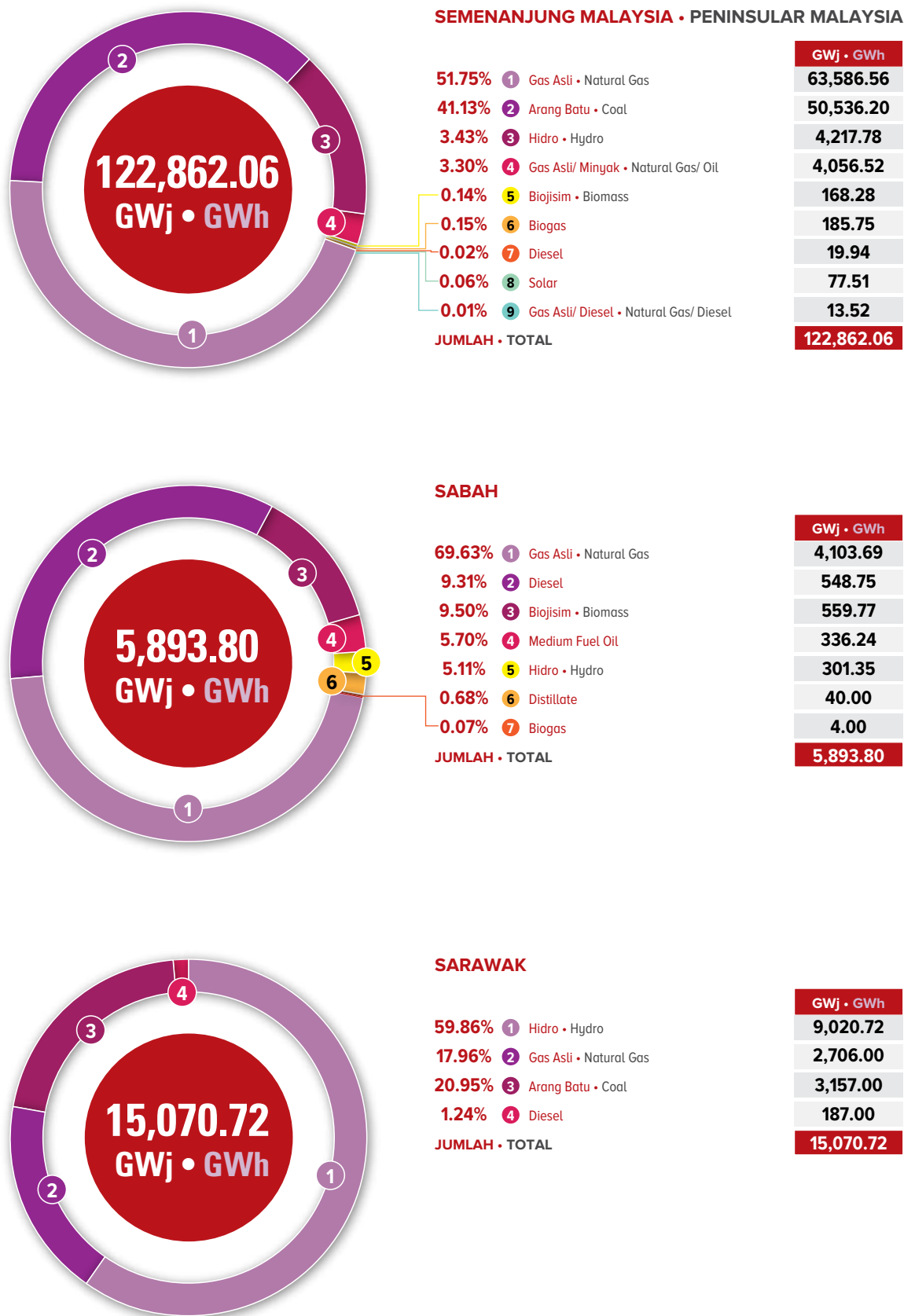
MW
1,551.00
2,400.00
3,951.00

JUMLAH • TOTAL

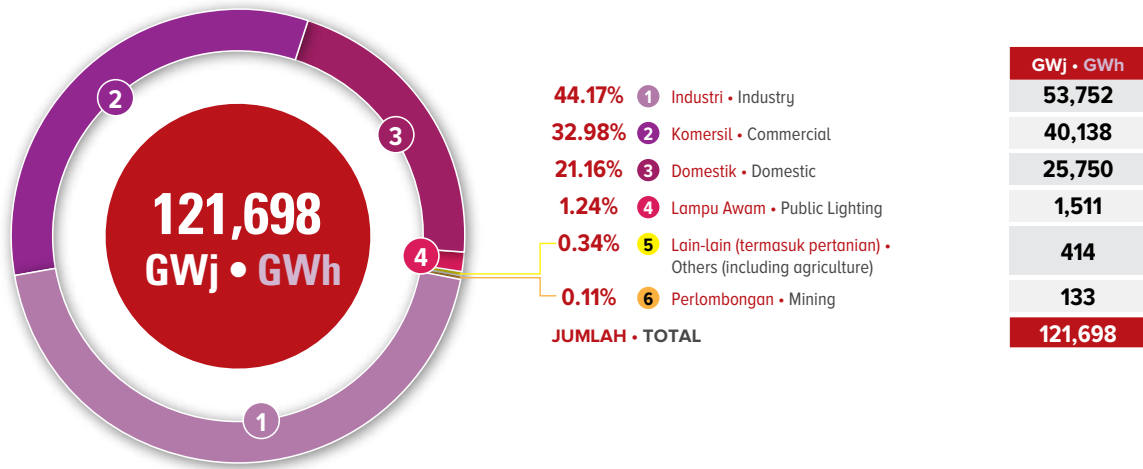
Jadual 80: Kapasiti Penjanaan Terpasang Yang Dilesenkan (MW) Mengikut Bahan Api
Table 80: Licensed Installed Generation Capacity (MW) by Fuel



Jadual 81: Jumlah Penjanaaan Elektrik (GWj) Mengikut Bahan Api
Table 81: Total Electricity Generation (GWj) by Fuel



Jadual 82: Penggunaan Tenaga Elektrik Mengikut Sektor
Table 82: Electricity Consumption by Sector



Jadual 83: Pengguna-pengguna Tenaga Elektrik Mengikut Sektor
Table 83: Electricity Consumers by Sector

