Suruhanjaya Tenaga
Energy Commission

ANNUAL REPORT 2015

The Energy Commission's Annual Report 2015 is submitted to the Minister of Energy, Green Technology and Water in accordance with the provisions of Section 33(3) of the Energy Commission Act 2001, which states "The Energy Commission is to submit a copy of audited financial statement and a copy of auditor's report to the Minister of Energy, Green Technology and Water to be presented in the Parliament along with the Energy Commission's activities report of the prior financial year'.

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CHAIRMAN'S MESSAGE

CHAIRMAN'S MESSAGE

Assalamualaikum W.B.T.
Salam 1Malaysia.

Ever since its establishment fifteen years ago, the Commission has been steadfast in carrying out its responsibilities as regulator of the energy sector and in balancing the needs of consumers and industry to ensure a win-win situation for all parties concerned. On behalf of the Energy Commission, I am pleased to present its Annual Report 2015.

Before I continue, I would also like to welcome Dato' Dr. Rosli Mohamed, the new member to the Commission who was appointed in September 2015. I am confident that Dato' Dr Rosli's presence on the Board will contribute towards the Commission's future success.

One of the major challenges the Commission has to grapple with is to ensure the sustainability of the country's energy sector while at the same time safeguarding the interests of consumers. Accordingly, several initiatives were introduced in 2015 including open competitive bidding for new capacity, technical and financial benchmarking for power plant performance, improving governance in the electricity supply industry in Sabah, improving performance monitoring programmes and the continual development of the code of practice, regulations and guidelines for the industry.

In 2015, maximum demand on the Peninsula's grid system declined to 16,822 MW or by 0.5% year-to-year. The reserve margin at 22.5% was in line with the current planning criteria though this is expected to be a temporary situation as the reserve margin will probably rise the following year.

In Sabah, maximum demand on the grid system which grew to 914 MW was met by increased generation from the entry of new power stations with a total capacity of 483 GWh in 2014. The new power stations helped to boost the integrity of the system in 2015.

Meanwhile, efforts towards the development of more efficient and environmentally friendly power plants were intensified to ensure the continual supply of electricity in the country.

On the whole, the electricity supply performance in Peninsular Malaysia and Sabah based on the System Average Interruption Duration Index (SAIDI) has improved compared with 2014. The improvement in SAIDI year after year is an indication that the country's energy sector is developing well and that improvements made in 2015 are showing results.

In January 2015, the Commission implemented the Incentive-Based Regulations (IBR) framework as one of the methods to ensure that performance reporting on the functions and operations of licensed utility companies are based on key established indices. The IBR will be closely monitored and will be taken into account in determining basic tariffs when the current period ends.

The Commission has also been tasked to continue preparing the Imbalance Cost Pass-Through (ICPT) coordination recommendation for approval by the Government. The ICPT process is aimed at streamlining fuel cost components with the six-monthly tariff calculations in accordance with the Government's decision of the previous year. As for Sabah the IBR

method is still being prepared for implementation.

There has been improvement in the performance of the piped gas sector which registered a lower SAIDI for 2015 compared with 2014. To ensure continuous supply and that the integrity of the gas system remains at optimum level, licensees are urged to further improve efficiency in order to resolve supply disruption issues affecting premises being supplied.

The volume of natural gas supplied in the Peninsula has increased compared with 2014. The energy sector is the biggest consumer of natural gas followed by the industrial sector. The commercial sector is the third largest consumer while the residential sector remains the smallest.

To further enhance the legal framework for regulating the country's energy sector, the bill to amend the Electricity Supply Act 1990 was introduced and approved. The objective of the amendments to the Electricity Supply Act 1990 is to promote greater competitiveness in the country's electricity supply as well as enhancing safety, consumer protection and legal enforcement. These amendments indirectly expand the scope and authority of the Commission as the energy regulator.

Where safety is concerned, the Commission is of the opinion that this issue still requires serious consideration even though the accident rate has declined year-to-year by 24% in 2015. Among the measures the Commission took was to review the existing safety standards for electrical equipment.

In September 2015, the Commission launched the First Phase of the New Enhanced Dispatch Arrangement (NEDA). NEDA not only enables the energy sector to improve efficiency and to be more cost-effective but also offers the potential to reduce energy production costs that will ultimately benefit consumers in the long term.

The bill to amend the Gas Supply Act 1993 was also approved by the Cabinet on 16 December 2015 for tabling in Parliament in 2016. The amendments will enable the implementation of a third-party access system to ensure continuous supply of natural gas and which at the same time will help promote the development of the industry.

Amendments to the Gas Supply Regulations 1997 were also prepared. The amendments included the updating of third-party access codes for major gas facilities in the country such as regasification terminals and pipeline delivery and distribution.

As part of the Commission's on-going agenda, special attention is continuously given to the environmental impact of the energy industry. The Commission is committed to ensuring that fuels used in power generation are in compliance with Department of the Environment regulations and that the equipment used do not contribute to air and water pollution.

In line with the Government's call for the use of renewable energy, the Commission has issued licences for renewable energy generation totaling up to 229 MW in capacity in 2015. The Commission is also planning to implement a Large Scale Solar Photovoltaic programme with an estimated capacity of 300 MW in 2016.

The Commission has also invested RM500,000 in training programmes and initiatives to enhance the knowledge, efficiency and skills of its staff members to empower them to contribute towards the development of the industry.

Another measure taken for the Commission's human capital development programme is through cooperation and collaboration in training with various other agencies.

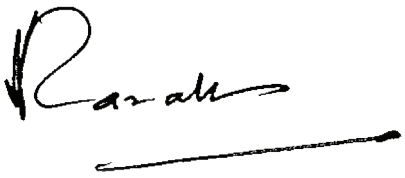
The foregoing are some of the developments and achievements of the industry in 2015. Full details of these matters are contained in this report.

In conclusion, on behalf of the Commission and the management, I would like to express my thanks to the Minister of Energy, Green Technology and Water YB Datuk Seri Panglima Dr. Maximus Johnity Ongkili Ongkili and the Deputy Minister for their encouragement, support and cooperation that had enabled the Commission to perform its tasks efficiently as the nation's energy industry regulator.

I would also like put on record my thanks to past and present members of the Commission whose service and contribution have helped tremendously in setting our direction and to enable us to be more effective in the performance of our responsibilities.

Rest assured that the Commission will continue its role as leader of the energy industry and as a catalyst for economic development by safeguarding the interests of all the industry's stakeholders.

Thank you.



DATO' ABDUL RAZAK BIN ABDUL MAJID

CHIEF EXECUTIVE OFFICER'S REPORT

CHIEF EXECUTIVE OFFICER'S REPORT

In 2015, the Commission intensified efforts to manage current issues confronting the industry while at the same time introduced industry transformation initiatives to ensure that electricity and piped gas supply and utilisation industries continue to operate and develop smoothly and in an orderly manner in line with the country's economic objectives and the vision of Malaysia attaining developed nation status by 2020.

Performance of Electricity Generation System

In 2015, maximum demand on the grid system for Peninsular Malaysia declined to 16,822 MW or 0.47% year-to-year. Electricity generation, however, increased by 2.1 %, from 114,856 GWh in 2014 to 117,219 GWh in 2015. Total installed capacity was down from 20,944 MW in 2014 to 20,710 MW subsequent to the shutdown of the YTL Paka Power Station in Pasir Gudang and the GT1, GT2 and GT3 turbine units at the Putrajaya Power Station. However, the Hulu Terengganu Hydro Power Station and Unit 4 of the Janamanjung Power Station commenced commercial operations respectively as scheduled in 2015.

In Sabah, maximum demand increased 0.7% to 914 MW compared to the previous year. Electricity generation also increased 8.9% to 5,903.7 GWh while total installed capacity increased from 1,496.7 MW in 2014 to 1,501.9 MW.

The average thermal efficiency of power stations in the Peninsula reduced by 0.3% to 0.5% when compared against the industry's performance in 2014. An increase in unscheduled shutdowns caused the Equivalent Availability Factor to decline by 2% to 4%. Among the causes of the shutdowns were several incidences of tube leakages in coal power plants.

The thermal efficiency of power stations owned by SESB continued to improve. In 2015, thermal efficiency improved 5.77%, attributed to, among others, the repair and rejuvenation programmes, which were implemented in the previous year. The Equivalent Availability Factor for SESB plants also increased 19.52% while that of the IPPs declined 18.50%.

Reliability Performance of Supply System

The SAIDI for electricity supply in the Peninsula and Sabah overall improved in 2015, with a 3.8% reduction to 51.49 minutes per customer in the Peninsula and a 51.2% reduction to 379.26 minutes per customer in Sabah.

With regard to delivery system reliability, the Delivery Point Unreliability Index (DePUI) for the Peninsula increased to 0.64 minute from 0.31 minute in 2014. In Sabah, the DePUI decreased by 32.42% in 2015 to 108.87 minutes compared with 161.09 minutes in 2014.

Development of Power Plants

To ensure continuous supply of electricity in Peninsular Malaysia and Sabah, the Commission gives priority to updating of generation capacity development plan as well as monitoring the implementation of major

generation and transmission projects.

By the end of 2015, the reserve margin for the Peninsula was slightly reduced to 22.5% from 24% in 2014. This was due to the delayed commissioning of several new power plants after the expiry of licences of first generation power plants in the third quarter of 2015. To address the reducing margin situation, the operating licence of retiring power stations were extended to provide sufficient capacity margin to the system.

A 2,000MW coal-fired power plant scheduled for operation in 2019 that was previously awarded to 1MDB-Mitsui through open tender was approved by the Government to be taken over by TNB-Mitsui, after 1MDB faced problems in project implementation. As of 2015, the project was progressing according to schedule. Meanwhile, in order to improve generation capacity from 2021 onwards, a conditional award was given to Edra Energy Sdn. Bhd. to develop a gas-based combined cycle power plant with a capacity of 1,800 - 2,400 MW.

Meanwhile, the generation capacity development plan for Sabah that incorporates the 180MW Upper Padas hydropower plant and two gas diesel-fired power plants with a total capacity of 360MW in Sandakan as well as a 30MW diesel-fired power plant in Lahad Datu was approved to enhance supply security, especially in the east coast. As the leading state in terms of renewable energy generation, Sabah is projected to increase the capacity of renewable power from the current 55.4MW to 155.1MW by end of 2017. A 3MW renewable energy power plant started operation in April 2015.

Electricity and Gas Safety Performance

The number of reported electrical accident cases has declined 23.8% year-to-year, from 63 in 2014 to 48 in 2015. Investigations revealed that failure to comply with safe work procedures was the primary cause (26%) of such accidents, with many cases occurring at installations owned by utility companies (52%) followed by residential premises (20.8%).

No accident reports related to piped gas distribution were received in 2015. However, on 4 October 2015, there was a disruption of gas supply for 132 hours (5.5 days) at the Pasir Gudang, Plentong and Tanjung Langsat city gate stations. The source of the disruption was traced to a leakage in the transmission pipeline system upstream of the city gate stations caused by unauthorised disposal of chemical wastes by a factory in Ulu Tiram, Johor. Subsequently, Petronas Gas intensified its monitoring activities along the whole length of the gas transmission pipeline to ensure that such incidents do not recur.

Amendment to Electricity Supply Act and Regulations

To enhance the effectiveness of the regulatory mechanism for the electricity supply industry, amendments to the Electricity Supply Act 1990 (Act 447) was tabled in Parliament. Among others, the amendments focused on raising the standard of safety management, economy, quality of consumer service and accountability in the electricity supply industry. Alhamdulillah, the Electricity Supply (Amendment) Act 2015 (Act A1501) was gazetted on 5 November 2015 and is scheduled to come into force on 1 January 2016.

In conjunction with the amendment of the Act, the Electricity Regulations 1994 and the Supply Licensees' Regulations 1990 were enacted while the codes of practice for safety management of electrical infrastructure and non-domestic electrical installations were also developed.

The Electricity Supply (Amendment) Act 2015 will strengthen the governance framework for regulating electricity supply activities that encompass processes for determining electricity supply tariff, testing and verification of meters as well as equipment and installation safety. The Commission is also tasked to review Power Purchase Agreement for the supply and purchase of electricity and to approve transmission and distribution projects.

Energy Efficiency Performance

In 2015, the country's electricity intensity decreased by 2.5% to 0.124 GWh/GDP. The decrease can be attributed to more efficient utilisation of electricity in our economy as well as the gradual structural transformation of our national economy from industry-based to the service-based sector, with the latter having a relatively lower electricity demand level.

In 2013, the Government had decided that cost reduction should be one of the Key Performance Indicators for all ministries and set the target of a 5% reduction in costs for 2014. In connection with this objective, the Commission monitored usage of electricity in 25 Government buildings with the results showing that in comparison to 2013, there was a 5.6% savings in energy usage in 2014 and cumulative savings of 6.8% in 2015.

Enhancing Economic Regulation

The Incentive-Based Regulation (IBR) framework was implemented smoothly, ensuring cost-effective supply of electricity.

In the Peninsula, two Imbalance Cost Pass-Through (ICPT) reviews were undertaken, for the period from 1 March to 30 June 2015, and from 1 July to 31 December 2015. As a result, rebates of 2.25 sen/KWh were given, with the second rebate partially absorbed by the first generation IPP PPA renegotiated savings funds.

In Sabah and Labuan, although the ICPT mechanism has not been implemented, the Government nevertheless

approved a 1.20 sen/kWh reduction from the average tariff of 34.52 sen/kWh for the same review periods as in the Peninsula.

The Commission also carried out a benchmark study on TNB's costs for generation, transmission and distribution. The savings achieved by TNB resulting from lower fuel payments to the IPPs were also channeled through the ICPT mechanism. On the whole, the gas billing mechanism brought about savings totalling RM182.58 million from March 2011 to December 2015. Apart from that, savings were also achieved as a result of the decline in the global coal price in 2015 to RM15.83 RM/Gj which is below that of world gas prices, due to oversupplying situation in the world market.

The Enhanced Time-of-Use (EToU) scheme was approved as an option to be offered from 2016 onwards to commercial and industrial consumers in the Peninsula. To better manage the use of electricity by operating during off-peak and mid-peak periods and thus enjoying lower tariffs, low voltage industries (Tariff Category D) and special industries (Tariff Category Ds) can join the scheme effective from 1 January 2017. The EToU scheme will help consumers who are currently enjoying special industrial tariff discounts, that are being phased out gradually until 2020, to reduce operating costs.

With effect from 1 July 2015, the average tariff for Gas Malaysia Berhad's natural gas has been reviewed to RM21.80/mmBtu. However, the tariff review only involved the implementation of Gas Cost Pass-Through without involving adjustment of other cost components in the natural gas tariff structure. On 29 September 2015, the Commission received approval from the Government to implement the IBR framework for the review of Gas Malaysia Berhad's natural gas tariff effective 1 January 2016.

Supply of Piped Gas

Natural gas remains the main fuel for power generation in the country. In 2015, natural gas made up 48.5% of the fuel mix for power generation in the Peninsula. However, following the retirement of several gas power plants as mentioned previously, gas usage declined by 3.8% compared with that in 2014.

In the non-power sector, the volume of natural gas supplied in the Peninsula increased 7.76% to 422.32 mmscfd. The industrial sector remains the dominant consumer of gas as it accounted for 419.52 mmscfd or 99% of the total volume supplied. The commercial sector consumed 2.72 mmscfd while residential consumption totalled only 0.08 mmscfd.

In Sabah and Labuan, the supply of natural gas to the non-power sector is primarily to industries, particularly in the Kota Kinabalu Industrial Park. Total natural gas consumption in Sabah and Labuan increased 26% to 0.78 mmscfd compared with 0.62 mmscfd in 2014. The increase is attributed to the introduction of the Virtual Pipeline System whereby natural gas is supplied by road tankers instead of through pipelines which are costly to build.

Amendments to Legislation and Regulations on Gas Supply

Amendments to the Gas Supply Act 1993 were proposed to ensure continuous supply of natural gas as well as to promote the development of the industry. The regulatory framework for the implementation of a third-party access system was developed and the Gas Supply (Amendment) Bill 2016 was subsequently finalised and approved for reading in the 2016 sitting of Parliament.

In line with the regulatory scope expansion as defined in the Bill, draft amendments to the Gas Supply Regulations 1997 were also prepared. The amendments also involved the development of third-party access codes for major gas facilities in Malaysia. The third-party access system is intended to liberalise the market to promote healthy competition and competitive pricing for gas. The amendments will also include the licensing of the importation, regasification, transportation, distribution, retailing and use of gas by licensees, thus expanding the roles and duties of the Commission in monitoring the quality and the reliability in the supply of gas.

Enforcement of Legal Requirements

In 2015, enforcement activities taken by the Commission's Regional Offices focused on investigation, monitoring and audit of electricity and piped gas supply and utilisation activities so as to deal with issues of safety, service quality and energy efficiency. Follow-up actions in the form of prosecution, compounding and suspension of certificates of competency were taken in cases of serious legal infringements.

The Commission suspended the certification of two Competent Persons who were involved in serious misconducts that resulted in fatal electrical accidents. There were two prosecutions cases involving electricity theft which were registered and being heard in court, as well as 22 compounds totalling RM53,500.00 were issued.

Enhancing Awareness and Good Practice

Activities conducted to heighten public awareness included 630 public service message slots throughout the year in the electronic media, advertisements and advertorials in the printed media, conferences, seminars and dialogues as well as participation in exhibitions.

To increase compliance with the latest requirements for electrical safety, the Commission has updated the guidelines on electrical equipment standards, electrical wiring in residential buildings and tips on electrical safety during flood.

Enhancing Service Delivery

Moving forward, the Commission will undoubtedly encounter new challenges in its efforts to ensure that the energy supply industry remains resilient, reliable and competitive to support the country's development. As a preparation to face the challenges ahead, development programmes and training in line with the Commission's transformation plan have been implemented to nurture a high performance work culture.

In line with the expectations of consumers and latest technological developments, various initiatives have been introduced to enhance the Commission's service delivery. The Energy Commission Online System (ECOS) was launched to offer online applications for services. The customer-friendly system makes applications easier and faster compared with the previous manual method. The Commission has also developed its own mobile application to allow easier and faster sharing of information among its staff members.

Acknowledgement

I would like to take this opportunity to record my sincere thanks and appreciation to the Honourable Minister of Energy, Green Technology and Water and his deputy, the Secretary General of the Ministry, and the Commission Chairman and Members for their continuous commitment and support.

On behalf of the Commission's staff, allow me to welcome Dato' Dr. Rosli bin Mohamed as a member of the Commission with effect from 1 September 2015. I am confident that Dato' Dr. Rosli, with his vast experience as the country's economic and energy policy maker, will assist the Commission to scale greater heights as the country's energy regulator.

In conclusion, my sincere thanks and highest appreciation to all the Commission's staff for their commitment and support in our endeavour to achieve the targets set for 2015. I am sure that we will continue to improve in the years ahead. I pray that everyone will be blessed with good health and prosperity, and that we will continue to serve with distinction in realising the Commission's vision to be an effective and authoritative regulatory body in ensuring continuous improved performance of Malaysia's energy sector.

Thank you.

DATUK Ir. AHMAD FAUZI BIN HASAN
Chief Executive Officer

CORPORATE INFORMATION

CORPORATE INFORMATION

BACKGROUND

The Commission was established as the regulatory authority for the supply of electricity and piped gas for Peninsular Malaysia and Sabah under the Energy Commission Act 2001.

The Commission which was established on 1 May 2001 commenced full operations on 1 January 2002 with the takeover of the functions of the Electricity and Gas Supply Department which was abolished on the same date.

The Commission initially operated from the federal capital before moving to its own building, Diamond Building, in Putrajaya in 2010. The seven-storey sustainable energy building which was constructed on the energy-efficient concept has received platinum ranking recognition from Green Mark Singapore and Green Building Index Malaysia.

From its very beginning, the Commission has always been pro-active and had introduced various initiatives to raise the performance level of the country's electricity and piped gas sector. Among the initiatives were amendments to several legislations such as the Energy Commission Act 2001, the Electricity Supply Act 1990 and the Gas Supply Act 1993, all of which were implemented to allow for more effective regulation.

An innovative approach for regulation was introduced through the implementation of the Incentive-Based Regulation (IBR) framework which is used to determine electricity and piped gas tariffs and also to ensure that supply is safe, reliable and affordable.

The country's energy sector is currently undergoing a progressive phase with improving standards in safety, efficiency and utility service quality. Additionally, increasing private sector participation in infrastructure development has had a positive impact as well as acting as a catalyst for the progress of the industry.

The responsibilities of the Commission are stated in the Energy Commission Act 2001 and other legislations and regulations as stated below:

- Electricity Supply Act 1990 (Act 447) as amended in 2015.
- Gas Supply Act 1993 (Act 501).
- Electricity Regulations 1994 as amended in 2014.
- Licensees' Supply Regulations 1990.
- Supply of Electricity Regulations (Compounding of Offences) 2001.
- Efficient Electrical Energy Management Regulations 2008.
- Supply of Gas Regulations 1997.
- Supply of Gas Order (Compoundable Offences)2006 .

FUNCTIONS OF THE ENERGY COMMISSION

The Commission serves as the regulatory body for the country's energy sector and its function is basically to ensure a balance between the requirements of the energy sector with the interests of consumers.

The Commission's functions are:

- To advise the Minister on all matters concerning the country's energy supply policy as well as the supply of electricity and piped gas.
- To implement, enforce and review legislations related to energy supply.
- To promote efficiency, economy and safety in the supply of and usage of electricity and piped gas.
- To promote and protect competition, manage a market that is fair and efficient, and prevent monopolistic abuse.
- To encourage the use of renewable energy and to preserve non-renewable energy.
- To promote research, development and utilisation of new techniques in the supply and usage of electricity and piped gas.
- To promote the development of the electricity and piped gas supply industry.
- To promote self-regulation in the industry.

LICENSING AND CERTIFICATION

The Commission issues the following licences and certifications to the electricity and piped gas supply industry:

- Licensing of electricity or piped gas supply to third parties and/or for own consumption.
- Competency certification for Competent Persons.
- Registration of contractors.
- Accreditation of competency training institutions.
- Registration of energy efficiency managers.
- Approval for equipment.
- Registration of electrical installations.
- Approval for installing and handling of piped gas.
- Registration of energy services companies.

MONITORING AND ENFORCEMENT

The Commission ensures that the performance of the electricity and piped gas supply industry is secure through its monitoring and enforcement powers:

- Monitoring
  - Licensees' service performance and certification
  - Supply status of electricity, piped gas and power generation fuels
- Inspection and Audit
  - Installations of suppliers and consumers
  - Licensees and certification
  - Manufacturers, importers and vendors of equipment
  - Competency training institutions
- Competency Examinations (written, oral and practical)
- Review of tariff and charges for electricity, piped gas and power generation fuel prices
- Investigation of complains, accidents and non-compliance of laws
- Legal actions
- Arbitration
- Instilling awareness

PLANNING AND DEVELOPMENT

The Commission plans and develops the regulatory framework as well as the development plan of the energy industry through the following:

- Legal Requirements and Industry Code of Conduct
  - Legislations, regulations, licensing terms and performance standards
  - Codes, guidelines, circulars and directives
- Regulatory Framework
  - Incentive-based electricity and piped gas tariffs
  - Third-party access to gas infrastructure
- National Energy Database
  - Publication of the National Energy Balance Report
- Generation Capacity
  - Preparation of new generation capacity development plans
  - Selection of power generation developers through open bidding
- Initiatives on Resolution of Issues and Enhancement of Industry Performance
- Reformation Programme for Electricity Supply Industry

VISION

The Energy Commission is a highly effective energy regulator and the authority on energy matters.

MISSION

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

STRATEGIC OBJECTIVES

- To enhance energy reliability, security and efficiency.
- To enhance competition and economic efficiency.
- To enhance legal compliance and service quality.
- To improve regulatory and organisation capability.
- To enhance awareness, cooperation and good practices.

MEMBERS OF THE ENERGY COMMISSION

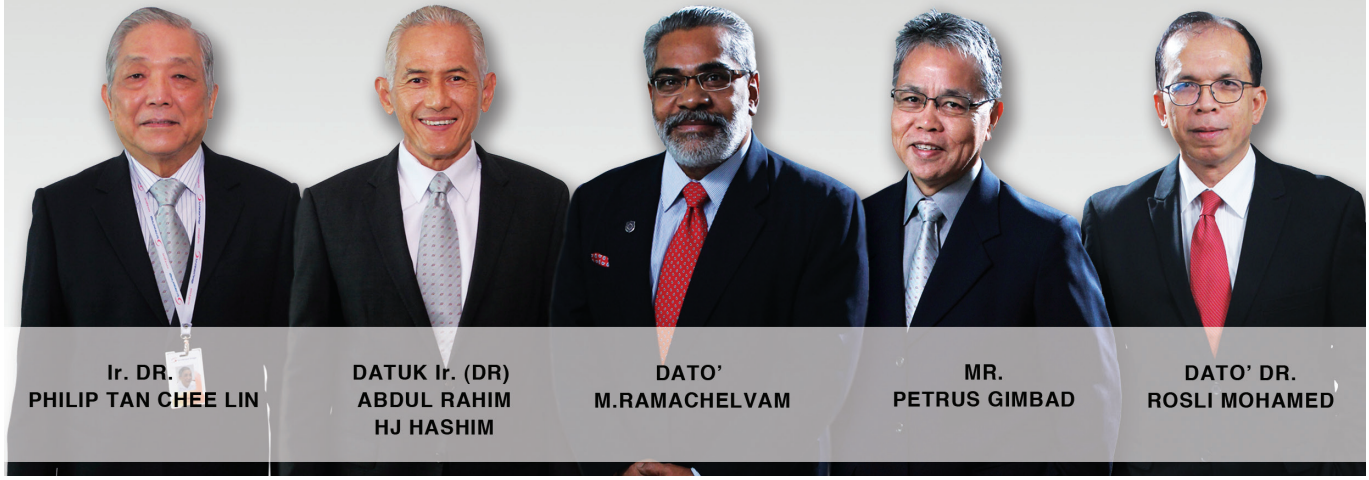
DATO' ABDUL RAZAK ABDUL MAJID
Chairman

DATUK Ir. AHMAD FAUZI HASAN
Chief Executive Officer

DATUK SERI RAHAMAT BIVI YUSOFF
Director General
Economic Planning Unit
Prime Minister's Department

DATO' DR. NADZRI YAHAYA
Deputy Secretary General
(Energy and Green Technology)
Ministry of Energy, Green
Technology and Water

DATUK FELIX SILVERIUS MADAN
Permanent Secretary
Ministry of Infrastructure
Development, Sabah



Ir. DR.
PHILIP TAN CHEE LIN

DATUK Ir. (DR)
ABDUL RAHIM
HJ HASHIM

DATO'
M.RAMACHELVAM

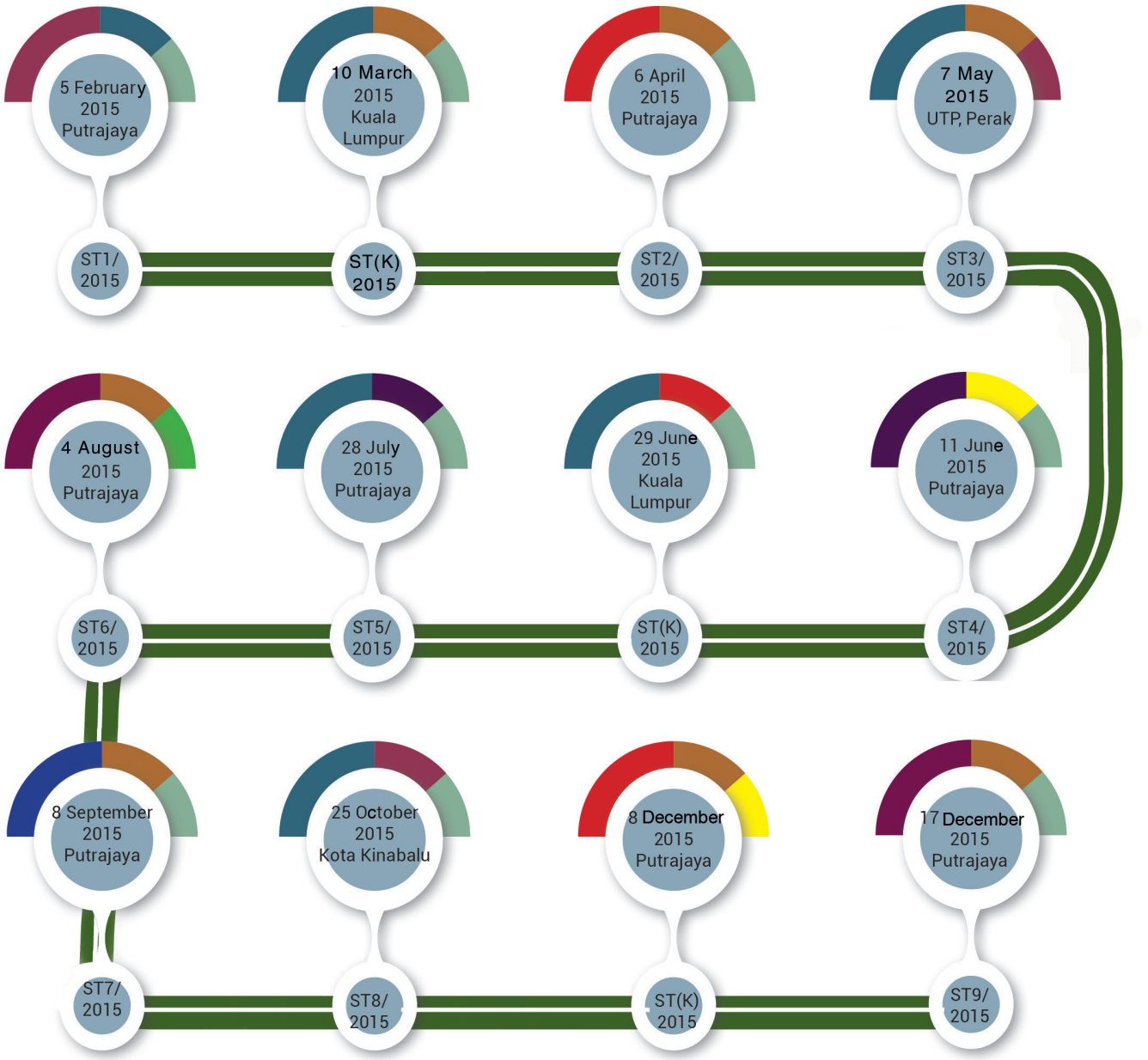
MR.
PETRUS GIMBAD

DATO' DR.
ROSLI MOHAMED

MEETINGS OF THE ENERGY COMMISSION 2015

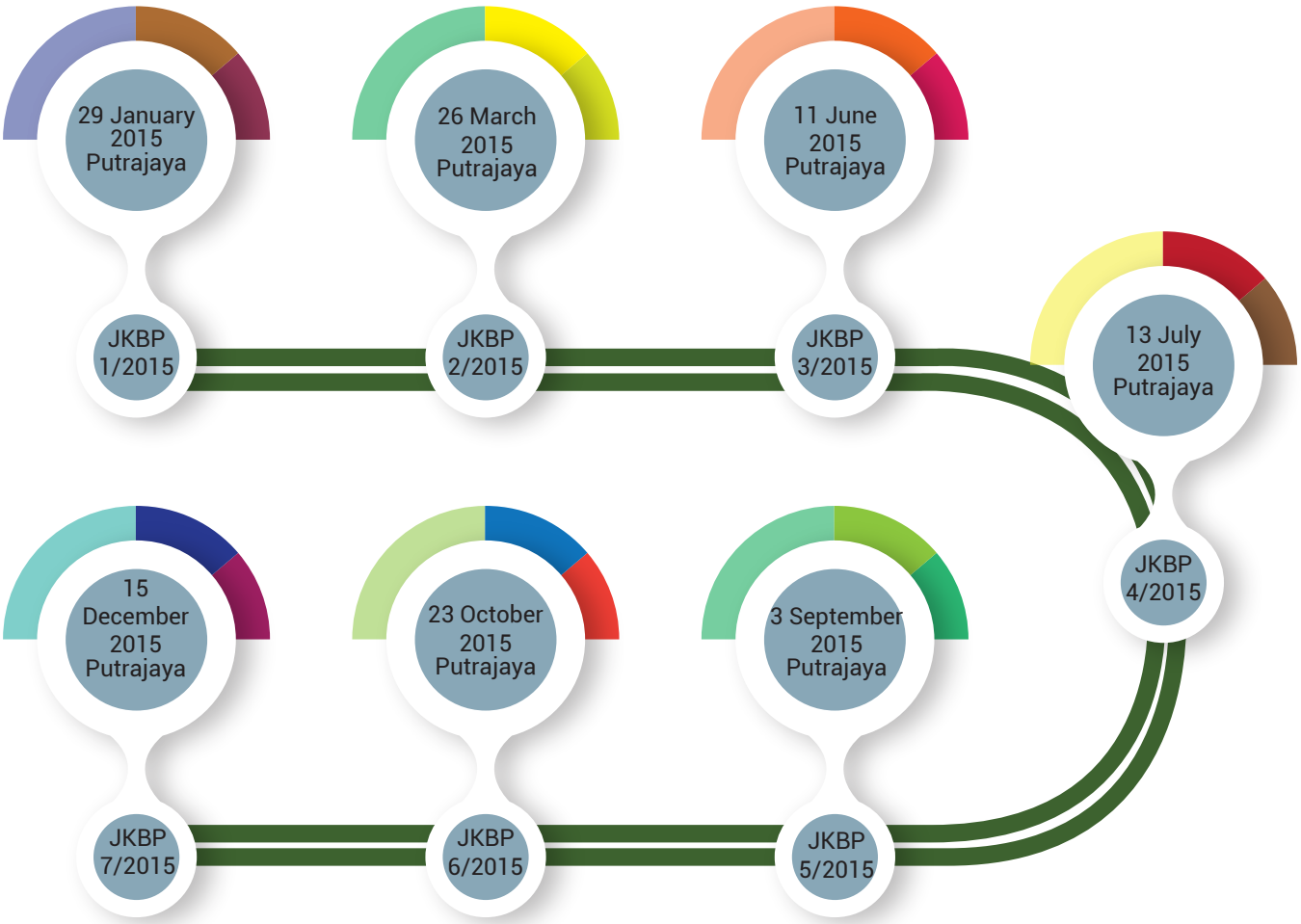
The members of the Commission held nine meetings in 2015. The meetings discussed matters pertaining to the policy framework for regulating the industry, policy at organisational level and operations of the Commission. Three special meetings to discuss matters arising were also held.

MEETINGS OF THE ENERGY COMMISSION AND SPECIAL MEETINGS

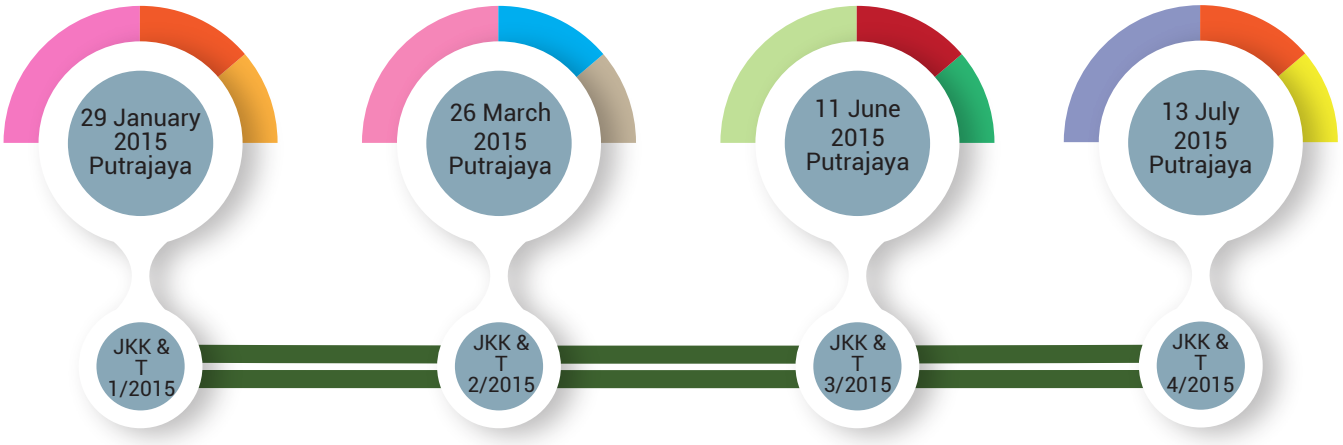


The Commission has three permanent committees comprising the Licensing Committee, Finance and Tender Committee and the Remuneration and Nomination Committee. The following meetings were held by the respective committees.

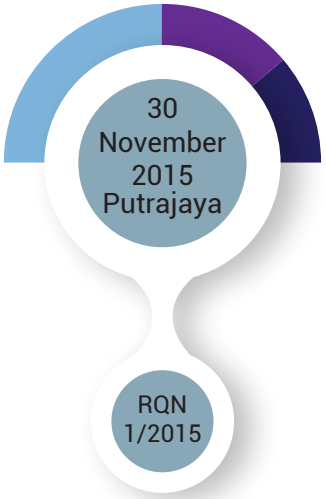
MEETINGS OF THE LICENSING COMMITTEE (MANAGEMENT AND ENERGY COMMISSION)



MEETINGS OF FINANCE AND TENDER COMMITTEE



REMUNERATION AND NOMINATION COMMITTEE



SENIOR MANAGEMENT

1. DATUK Ir. AHMAD FAUZI BIN HASAN
Chief Executive Officer

2. Ir. AZHAR BIN OMAR
Senior Director, Industry Development and Electricity Market Regulation

3. Ir. ABDUL RAHIM BIN IBRAHIM
Director, Energy Management and Service Quality

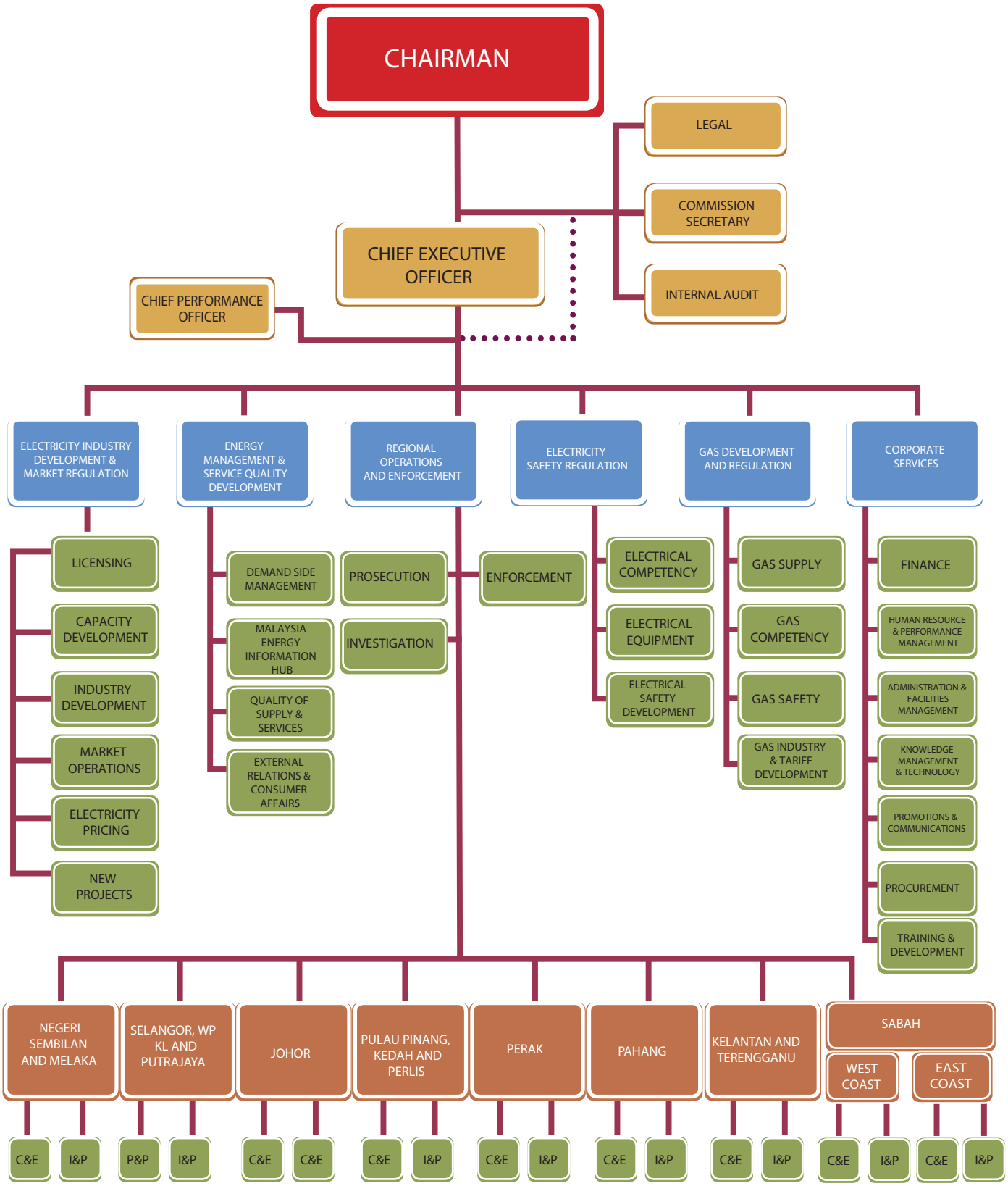
4. Ir. ROSLEE BIN ESMAN
Director, Gas Development and Regulation

5. ASMA AINI BINTI MOHD NADZRI
Director, Corporate Services

6. Ir. OTHMAN BIN OMAR
Director, Regional Operations and Enforcement

7. MOHD ELMI BIN ANAS
Director, Electricity Safety Regulation

ORGANISATION STRUCTURE



NOTE:

C&E : Certification & Enforcement
I&P : Investigation & Prevention

CALENDAR OF EVENTS

JANUARY - MARCH

15 January - 2nd meeting of Energy Consultative Panel 2014 was held with industry players to discuss the country's energy issues.

26-27 January	*Workshop on Introduction of IEEE Online Reporting System at Energy Commission.*

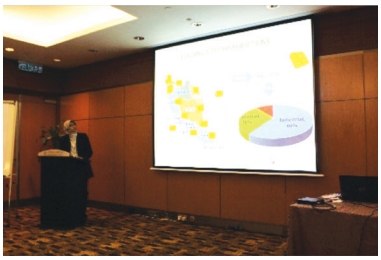
10 February - Farewell dinner ceremony in Putrajaya for former ST members Datuk Loo Took Gee, Dato' Zohari bin Haji Akob, Datuk Ir. Peter Lajumin and Datuk Mohd. Nasir bin Ahmad.

16-17 February	*Workshop on Solar PV Net Energy Metering (NEM), Self-Consumption (Selco) and Large Scale at Cyberjaya.*

10 March - Chairman of Energy Commission acted as moderator for a panel discussion on Enhancing Energy Self-Sufficiency during the 6th National Energy Forum: Sustainable Energy for Malaysia - Where Are We? in Kuala Lumpur. The panelists comprised Charanjit Singh from Tenaga Nasional Berhad, Bacho Pilong from PETRONAS, John Ng from Singapore LNG Corporation and Nobuo Tanaka from the Institute of Energy Economics, Japan.

MARCH - APRIL

25 March - Ruzaida Daud, Head of Quality Supply and Services Quality Unit, presented a working paper at the The Electrical and Electronic Association of Malaysia (TEEAM) Power Quality Workshop.



MARCH - APRIL

25 March - The Chief Executive Officer of the Energy Commission presented the keynote address entitled National Smart Grid Plan, Vision and Policy at the Smart Grids Talk 2015.

23 April - Energy Commission and the Malaysian Gas Association (MGA) jointly organised the Workshop on Liberalisation of the Malaysian Gas Market to discuss the efforts, status and future plans for the liberalisation of the gas market in Malaysia.

MAY - JUNE

3 May - The Chairman of the Energy Commission chaired a joint meeting of the Commission and the MGA to discuss current gas supply issues.

14 May - Briefing on Energy Efficiency Challenge 2015 competition for representatives of schools from Selangor, Federal Territory of Kuala Lumpur and Putrajaya, Negeri Sembilan and Melaka.

21 May - Meeting of the Economic Energy Chairholder Administrator Committee to discuss activities under the agreed funding.

MAY - JUNE

26-30 May - 33rd Meeting of Senior ASEAN Energy Officers (33rd SOME) in Kota Kinabalu, Sabah.

21 June - Joint meeting with Sustainable Development Authority (SEDA) and representatives of institutions to discuss solar PV in Malaysia.

JULY - SEPTEMBER

28 July - Hari Raya Aidilfitri celebrations at Energy Commission.

4 September - Knowledge sharing session by Prof. Bail Milson on New Zealand's Approach on Sustainable Electricity.

29 September - Briefing on and launching ceremony of the New Enhanced Dispatch Arrangement (NEDA). NEDA aims at improving the current co-generation situation in Malaysia and the need to have appropriate policies for the development of such systems.

OCTOBER

5-9 October - 33rd ASEAN Ministers of Energy Meeting (33rd AMEM) in Kuala Lumpur.

6 October - The ASEAN Energy Business Forum 2015 was held in conjunction with 33rd AMEM which was officiated by YB Dato' Sri Dr. James Dawos Mamit, Deputy Minister of Energy, Green Technology and Water.

28 October - Signing of Memorandum of Understanding between the Energy Commission and Electricity Supply Division, Sarawak Ministry of Public Utilities, to coordinate the labeling of electrical equipment in Malaysia.

OCTOBER - NOVEMBER

29 October - YB Datuk Seri Panglima Dr. Maximus Johnity Ongkili, Minister of Energy, Green Technology and Water chaired the Sabah Energy Consultative Panel (Meeting No. 1) 2015 in Kota Kinabalu.

2-6 November - The Chief Executive Officer of the Energy Commission made a presentation on the development of Malaysia's energy industry in conjunction with Power Week Singapore 2015.

OCTOBER - NOVEMBER

9 November - The National Conference on Electrical Safety 2015 focused on topics related to electrical equipment safety, safety management at installations and buildings, electrical safety laws, policies, codes and guidelines, competency control at installations and lightning protection systems in buildings.

NOVEMBER

14 November - EE Run 2015, an Energy Commission biennial event, attracted 1,500 participants this year.

19 November - The Power Quality Awareness Programme 2015 was held jointly with industry players from Selangor, Kuala Lumpur Federal Territory and Putrajaya as well as Negeri Sembilan for the purpose of giving exposure to issues, standards and power quality.

20 November - An appreciation ceremony was held for Energy Commission staff members who had completed their service.

27 November - Annual General Meeting of the Energy Council of Malaysia (ECOM).

DECEMBER

3 December - The Power Quality Awareness Programme 2015 was held again to give exposure to industry players in Melaka and Johor.

10 December - A workshop on the Electricity Supply (Amendment) Act 2015 was held.

15 December - SMK King George V, Seremban, Negeri Sembilan, was crowned champion of the Energy Efficiency Challenge 2015 at the award presentation ceremony.

APPROACH TO DELIVERY OF INFORMATION AND EDUCATION OF GENERAL PUBLIC AND INDUSTRY (OUTREACH PROGRAMME)

The Outreach Programme is an approach adopted to deliver information to the public and to educate on electrical and gas safety as well as efficient energy usage. The programme is conducted through seminars, dialogues and exhibitions which are organized by the Commission or by invitation from industry players or through roadshows held jointly with the Ministry of Energy, Green Technology and Water and its other agencies.

SEMINARS

8 March - Seminar in Melaka on electrical safety for importers and retailers of domestic electrical equipment.

29 April - Seminar on electrical and gas safety and efficient energy at SMK Sheikh Ahmad, Arau, Perlis.

14 May - Seminar on legislation and regulations compliance and competency requirements in the plantation and factory sector for technical staff of Sime Darby Plantations Sdn Bhd at Ara Damansara, Selangor.

20 May - Legislation on Efficient Usage of Electrical Energy Seminar in cooperation with ASEAN Energy Management Scheme (AEMAS), SIRIM, GreenTech Malaysia and TNB in Shah Alam, Selangor.

SEMINARS

10 June - Gas safety seminar at Petronas Karamunsing Depot, Sandakan, Sabah.

12-13 August - Seminar on Awareness of Using ECOS Online at the Social Security Organisation's rehabilitation centre in Melaka.

15 September - Seminar on Near Line Works Safety for MMC Gamuda KVMRT staff.

DIALOGUES

6 May - Dialogue with industries in Lahad Datu, Sabah.

17 June - Dialogue with engineers and competency supervisors at MITC, Melaka.

21 September - Annual dialogue between the Commission's Regional Office of Pulau Pinang, Kedah, and Perlis with TNB.

EXHIBITIONS

26 March - Safety Week exhibition at Petronas Fertilizer, Gurun , Kedah.

28 March - Shah Alam Green Showcase in conjunction with 60 Earth Hour campaign organized by Shah Alam City Hall in Shah Alam, Selangor.

30-31 May - Exhibition and green practice events in conjunction with the closing ceremony of the Sabah state level Kaamatan Festival in Penampang, Sabah.

27 August - Green Community programme (Corporate Social Responsibility) at the relocated Kampung Sungai Asap, Belaga, Sarawak.

9-12 September - International GreenTech and Eco Products Malaysia Exhibition 2015 (IGEM 2015).

EXHIBITIONS

17 -18 October - Exhibition in conjunction with Langkawi International Smart Green City Forum 2015.

7-8 November - Exhibition and green practice events in conjunction with Kota Marudu Festival, Sabah.

YAHIJAU ROADSHOW BY MINISTRY OF ENERGY, GREEN TECHNOLOGY AND WATER AND ITS AGENCIES

7 March - Opening ceremony of Yayasan Hijau Malaysia (YaHijau) Carnival by YAB Tan Sri Muhyiddin Yassin, Deputy Prime Minister Malaysia, in Pagoh, Johor.

INTERNATIONAL INTERACTION

The Commission regularly receives requests for official working visits from various overseas parties interested to learn about the country's energy industry as well as to compare notes with Malaysian counterparts on their respective energy regulation models.

26 January 2015 Nepal Investment Summit 2015		Nepal's Minister of Urban Development Dr. Narayanan Khadka was briefed on the system and technology used in the Energy Commission's Diamond Building. Dr. Narayanan led the Nepal Investment Summit's delegation in the visit to Diamond Building.
24 April 2015 Asian Institute of Technology		Ir. Abdul Rahim bin Ibrahim, Director of Energy Management and Service Quality, spoke on the functions and role of the Commission as a regulatory body at the Asian Institute of Technology.
29 April 2015 Saudi Electric Company		Dr. Saleh H. Alawaji, Chairman of the Saudi Electric Company Board of Directors, signing the visitors' book before commencement of the corporate briefing.
5 May 2015 ASEAN Architect		Ar. Nafisah Radin, architect of Diamond Building, hosted a green technology building briefing for a delegation from ASEAN Architect.
28 July 2015 China Southern Power Grid, Guangdong Electric Power, Siemens and Lantau Group		Dato' Abdul Razak Bin Abdul Majid chaired the presentation session for visitors from China Southern Power Grid, Guangdong Electric Power, Siemens and Lantau Group.

SPIRIT OF TEAMWORK AT THE ENERGY COMMISSION

Staff members are always encouraged to assist in the coordination of programmes organised by the Commission in order to inculcate creativity, event planning and coordination, leadership, partnership and team spirit.

Staff members of Headquarters and Regional Offices completing the decorations for the Lobby Decoration Competition in conjunction with Aidilfitri 2015.

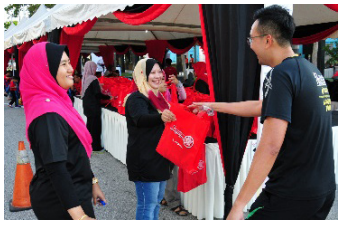



Celebration of Hari Raya Aidilfitri 2015 was held at every Department and Regional Offices.




Kelab Kristal and the Federal Territory Amateur Atheletic Association (FTAAA) jointly organised the EE Run 2015.





ENERGY COMMISSION IN

THE STAR ONLINE

Business News

Neda to encourage healthy competition

BY INTAN FARHANA ZAINUL

THE newly-launched New Enhanced Dispatch Arrangement (Neda) promises a change in the way power is supplied to the grid by independent power producers (IPPs).

The mechanism, which came into practice on Oct 1, promises **savings in production costs** that are supposed to **benefit consumers** in the long run.

BORNEO POST online

THE LARGEST ENGLISH NEWS SITE IN BORNEO

Blitz on squatter colonies to flush out illegals

August 8, 2015, Saturday Rebecca Chong

On Thursday, ESSCom assisted in an integrated operation **to stop power theft** activity in squatter houses settlement near Sandakan Municipal Council flat along Jalan Batu Sapi, here.

The operation was joined by the Energy Commission, Sabah Electricity Sdn Bhd, Sandakan Municipal Council, the Royal Malaysian Police, Immigration Department, Water Supply Department and the Malaysian Anti-Corruption Commission.

THE STAR ONLINE

Business News

Energy Commission raises service level for IPPs

BY CECILIA KOK

PUTRAJAYA: The Energy Commission has launched an improved mechanism called the New Enhanced Dispatch Arrangement (NEDA) to **ensure cost effective** power generation in Malaysia.

THE STAR ONLINE

Business News

EC extends close to 3000MW from expired, expiring IPPs

BY LEONG HUNG YEE

According to chief executive officer Datuk Ahmad Fauzi Hassan, these IPPs were given an extension between one year and 10 years.

EC chairman Datuk Abdul Razak Abdul Majid disclosed that another round of tender would be conducted for expiring IPPs to **maximize the use** of their **assets**.

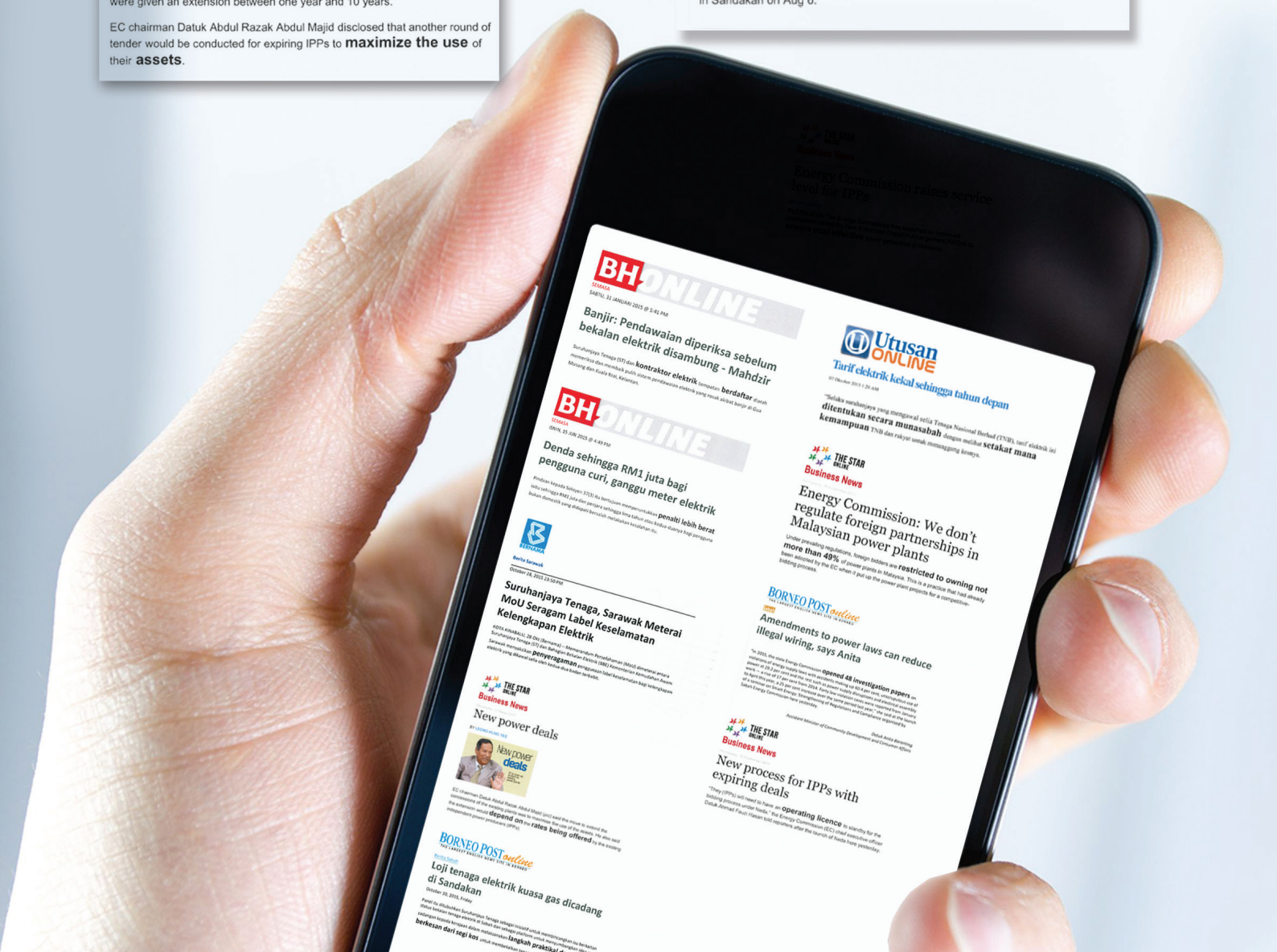
THE STAR ONLINE

Nation

Commission to file first case of power theft

KOTA KINABALU: The Energy Commission will **file its first case** of illegal power connection in court with the arrest of six people.

The west coast Energy Commission director Nazlin Alim Sadiki said the six were hauled up during an operation **against illegal power connection** in Sandakan on Aug 6.



THE MASS MEDIA

ENHANCING ENERGY RELIABILITY, SAFETY AND EFFICIENCY

RELIABILITY

DEMAND AND SUPPLY

In the Peninsula, electricity generation increased by 2.1% to 117,219 GWh compared to 2014. Maximum demand on the grid system recorded on 21 April 2015 however declined by 0.5% to 16,822 MW compared to 11 June 2014. The highest daily electricity generation of 353.7 GWh was recorded on 25 June 2015.

Electricity Generation in the Peninsula, 2014 - 2015

PENINSULAR	2014	2015
Electricity generation	114,856 GWh	117,219 GWh
Maximum demand on grid system	16,901 MW	16,822 MW
Highest daily energy generation	355.8 GWh	353.7 GWh

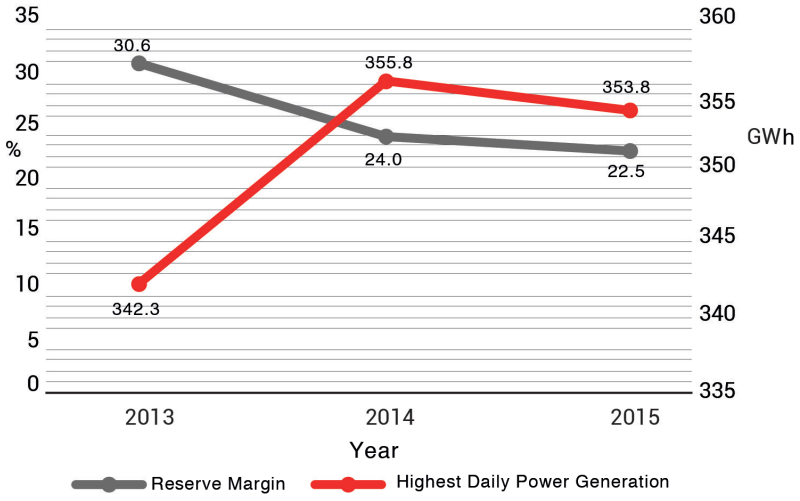
Total installed capacity in the Peninsula was 20,710 MW compared with 20,944 MW in 2014. The change in capacity was due to the cessation of operations in the third quarter of 2015 of the YTL Paka and YTL Pasir Gudang Power Stations (1,170 MW capacity) and the gas turbines GT1, GT2 and GT3 at the Putrajaya Power Station 324 MW capacity. Two new power stations, the Hulu Terengganu Hydro Power Station (250 MW) and Unit 4 of Janamanjung Power Station (1000 MW) commenced operations this year.

Installed Capacity in the Peninsula According to Type of Power Station

TYPE	PRIMARY FUEL	CAPACITY (MW)
Conventional Thermal	Coal	8,066
Conventional Thermal	Gas/Oil	564
Open Cycle Gas Turbine	Gas	1,785
Combined Cycle Gas Turbine	Gas	8,146
Hydroelectric	Hydro	2,149
TOTAL INSTALLED CAPACITY		**20,710**

The reserve margin in the Peninsula declined from 24% in 2014 to 22.5%. The declined was also attributed to the rate of unscheduled shutdown of several power stations which had exceeded the permissible levels in the Power Purchase Agreement or Service Level Agreements.

Highest Power Generation Reserve Margin in the Peninsula, 2013-2015



As at 31 December, total installed capacity in Sabah was at 1,501.9 MW while the dependable capacity was 1,323.9 MW. The Kimanis and SPR Energy Power Stations operations in 2014 had contributed to increasing the operating system's reserve in 2015 and this had enabled Sabah Electricity Sdn. Bhd. (SESB) to shut down the less efficient small-scale generation units.

Electricity Generation and Installed Capacity in Sabah, 2014 - 2015

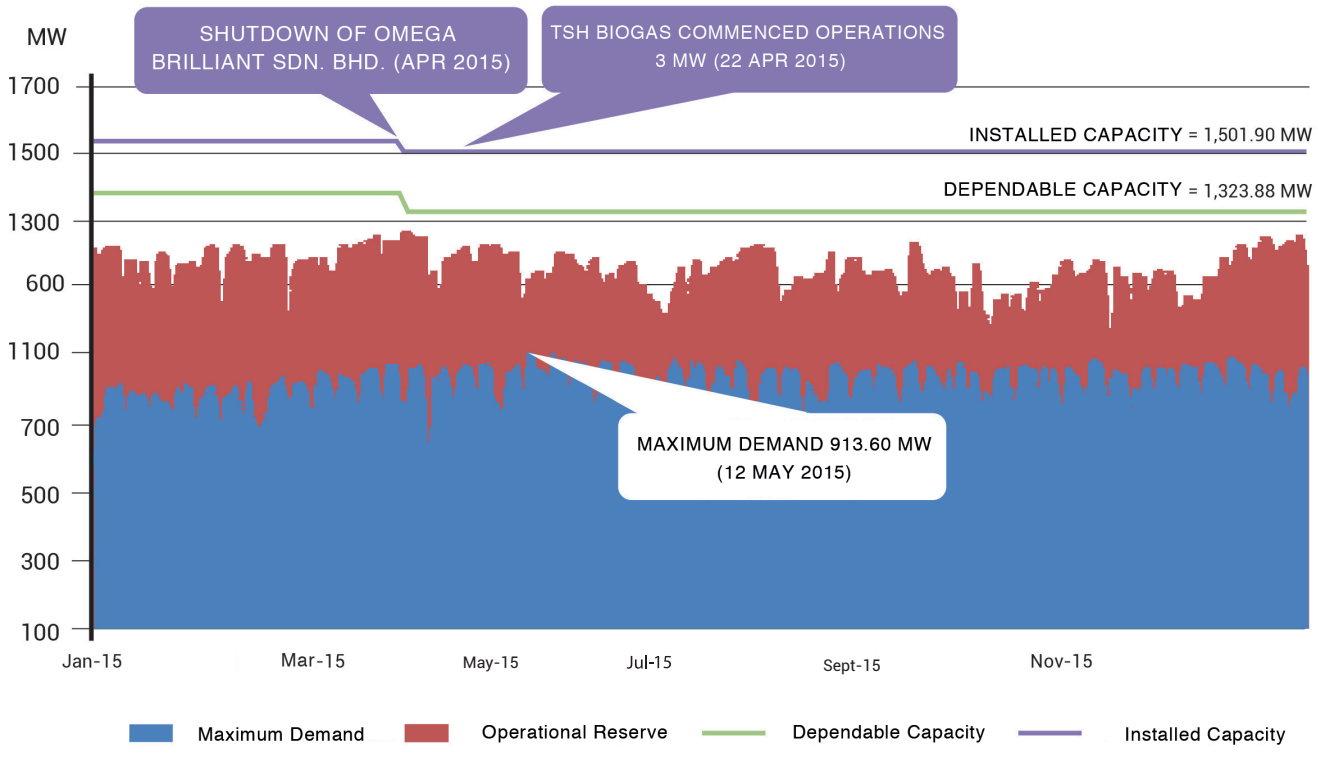
SABAH	2014	2015
Electricity Generation	5,420.9 GWh	5,903.7 GWh
Maximum Demand on Grid System	907.5 MW	914 MW
Total Installed Capacity	1,496.7 MW	1,501.9 MW

A maximum demand of 914 MW was recorded on 12 May 2015. Total electricity generation was at 5,903.7 GWh, with gas accounting for 82% of fuels used, followed by MFO/diesel (10%), hydro-electricity (5%) and RE(3%).

Installed Generation Capacity and Dependable Capacity by Fuel Type in Sabah

FUEL	INSTALLED CAPACITY (MW)	DEPENDABLE CAPACITY			
		WEST COAST (MW)	EAST COAST (MW)	TOTAL (MW)	PERCENTAGE (%)
Gas	1,034.2	974.9	-	974.9	73.6
Diesel/MFO	332.8	54.2	170.4	224.6	17.0
Hydroelectric	79.9	77.1	1.6	78.7	5.9
Biomass	55.0	-	45.7	45.7	3.5
TOTAL	**1,501.9**	**1,106.2**	**217.7**	**1,323.9**	**100.0**

Maximum Demand and Daily Operational Reserve in Sabah



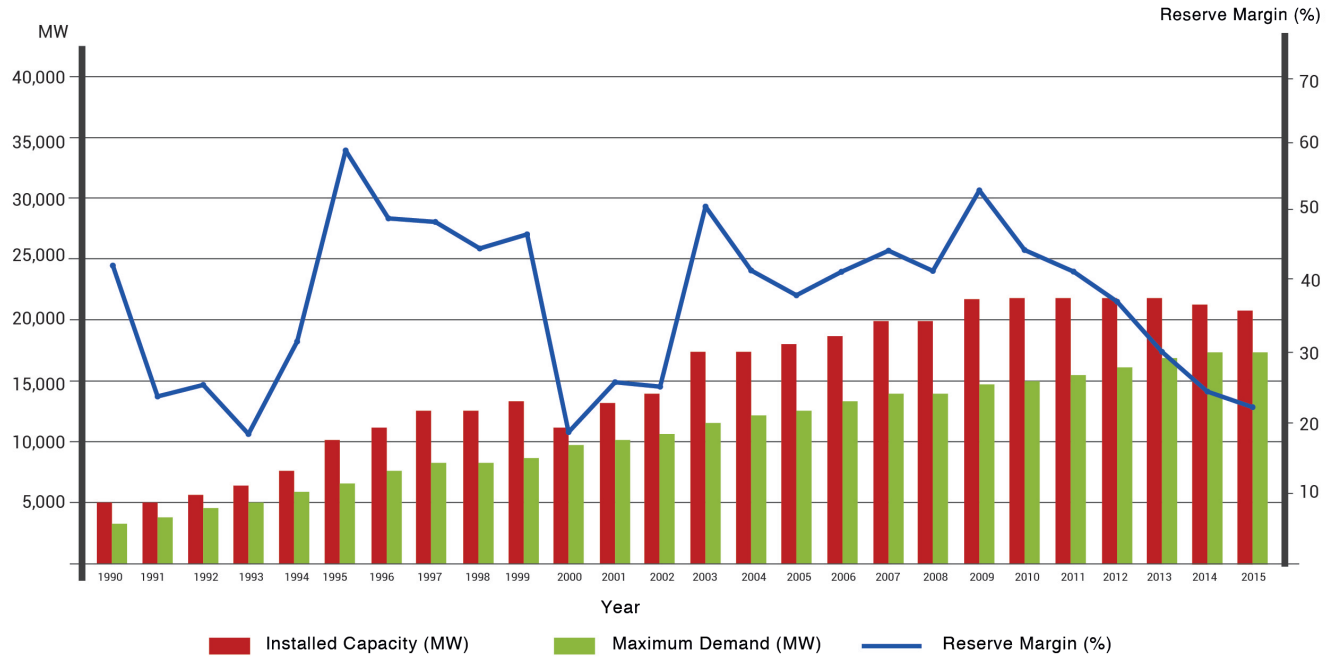
POWER PLANT DEVELOPMENT

POWER GENERATION DEVELOPMENT PLANS FOR PENINSULA AND SABAH

On 18 August 2015, plans for power generation development for the Peninsula and Sabah was to the Planning and Implementation of Electricity Supply and Tariff Committee meeting.

Based on the schedule for the cessation of operations of power plants, total installed capacity in the Peninsula was 21,954 MW but had subsequently declined to 20,710 MW at the end of 2015. With installed capacity at 20,710 MW and a record maximum demand of 16,901 MW, the average reserve margin level on 31 December 2015 was at 22.5%.

Electricity Supply Situation in the Peninsula, 1990-2015



Average Annual Growth Projections for Sales, Generation and Maximum Demand in the Peninsula

PERIOD	ELECTRICITY SALE (%)	ELECTRICITY GENERATION (%)	MAXIMUM DEMAND (%)
2015-2025	3.0	2.8	2.6
2025-2035	1.7	1.5	1.4

While the peak demand recorded in 2015 was lower than that of the previous year, factors such as delays in completion of new power plants and changes in weather conditions still needed to be taken into consideration when planning for additional generation.

Additional Generation Capacity in the Peninsula, 2015-2025

YEAR	PROJECT	CAPACITY (MW)
2015	TNB Janamanjung U4 Connaught Bridge Hulu Terengganu	1,000 375 250
2016	TNB Prai Ulu Jelai Tanjung Bin Energy Hulu Terengganu (Tembat)	1,071.43 372 1,000 15
2017	Manjung Five Pengerang Co-Generation	1,000 400
2020	Tekai	168
2022	Telom	132
2024	Nenggiri	300

The electricity supply system in Sabah is divided into two areas - the West and East Coast. Currently, the bulk of generation capacity is focused on the West Coast as demand in the latter area is higher with a percentage ratio of 68:32.

Electricity Supply Situation in Sabah

	OVERALL	WEST COAST	EAST COAST
Maximum Demand	914 MW (12 May)	617 MW (12 May)	320 MW (29 June)
Dependable Capacity	1,324 MW	1,106 MW	218 MW
Reserve Margin	45%	79%	-32%

Average Annual Growth Projections for Sales, Generation and Maximum Demand in Sabah

PERIOD	ELECTRICITY SALE (%)	ELECTRICITY GENERATION (%)	MAXIMUM DEMAND (%)
2015-2025	5.4	5.0	4.9
2025-2035	3.0	2.7	2.6

Considering the negative reserve margin for the East Coast, it is imperative that additional generation capacity be developed there. Most of the power plants in the East Coast are expected to be gas-powered by 2019 with the commencement of operations of the Trans-Sabah Gas Pipeline which starts from the West Coast and stretches across Sabah.

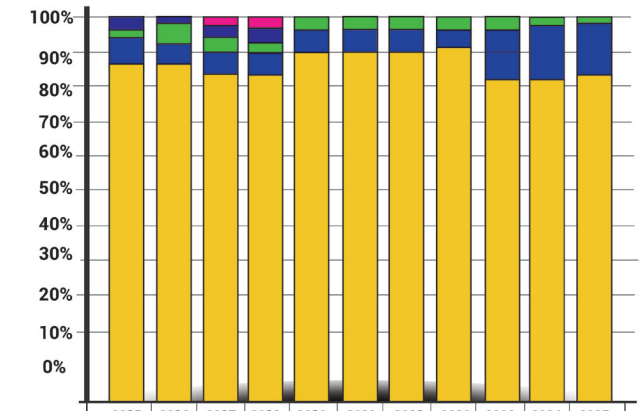
On the West Coast, with the entry of the Kimanis Power Sdn. Bhd. and SPR Energy Sdn. Bhd. power plants, most of the old diesel-powered generator sets had ceased operations. On the East Coast, the old generator sets will also cease operations in stages upon the entry of new power stations with a total capacity of 300 MW.

Additional Generation Capacity in Sabah, 2015 - 2025

YEAR	WEST COAST PROJECTS	CAPACITY (MW)	EAST COAST PROJECTS	CAPACITY (MW)
2015	Upgrading of Tenom Pangi	8	TSH Biogas QL	3 2
2016	Increasing capacity from RP2 up to July 2016	5	Melawa GTM relocation Cahaya Bumijasa IOI Bio Energy Our Energy Group	18 3.8 10 2
2017	-	-	New Lahad Datu power station New Sandakan power station	30 30
2018	-	-	New Sandakan power station	30
2019	-	-	CCGT	200
2020	-	-	CCGT	100
2021	CCGT	100	-	-
2023	Upper Padas	180	-	-
2025	Sabah Hidro	100	-	-

The fuel mix projections indicate that the generation sector in Sabah is still highly dependent on gas. However, the Government is supporting efforts in promoting the use of RE to diversify fuel sources to biomass, biogas, solar and geothermal energy. In accordance with the definition of RE as agreed upon at the AMEM meeting on 23 September 2014, large-scale hydro-power plants are classified under the RE category and this has raised projections for usage of RE from 10% to 16% by 2025. Apart from that, the Planning and Implementation Committee for Electricity Supply and Tariff meeting also agreed in principle to the implementation of the Utility Solar Scale (USS) with a targeted 50 MW annually for a period of four years. The implementation of USS will increase the RE generation mix in the future.

Generation Mix Projections for Sabah, 2015-2025



	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Diesel	1%	1%	2%	3%	1%	0%	0%	0%	0%	0%	0%
MFO	3%	3%	3%	3%	0%	0%	0%	0%	0%	0%	0%
RE	3%	5%	5%	5%	3%	3%	3%	3%	3%	2%	2%
Hydro	7%	7%	7%	6%	6%	6%	6%	5%	14%	115%	14%
Gas	86%	85%	83%	82%	89%	91%	92%	92%	83%	83%	84%

COMMENCEMENT OF NEW POWER PLANTS

At 22.5% , the reserve margin is at a critical level should there be any occurrence of damage. To overcome any such constraints on capacity which could occur between 2016 and 2019, a short-term extension of operations for power plants based on new commercial terms have been introduced for first-generation IPP as well as for TNB's power plants. Several companies participated in the restricted bidding process for the short term extension and Letters of Intent have been issued to selected companies subject to the fulfillment of several conditions prior to TNB's signing of the new PPA.

In 2015, negotiations to finalise the technical and commercial proposals of the projects had been conducted while some were ongoing.

Two power plant projects each of 1,000 MW capacity by Jimah East Power, which were originally awarded to 1MDB through open tender have been taken over by TNB. This is to ensure that there would be no further delays for the projects as such a situation could destabilise the generation system by 2020. Accordingly, in July 2015, the Limited Notice to Proceed was issued to TNB-Mitsui as the new developer of the project. As at the end of the year, the project, including the 500 kV transmission line to Olak Lempit, was on schedule.

Meanwhile, negotiations are ongoing to determine a competitive tariff rate that will not burden consumers for the 1,440 MW gas turbine power station in Pasir Gudang by SIPP.

The Government has also given approval to increase generation capacity from sources closer to the Klang Valley by allowing 1MDB to commence development works earlier than scheduled on a 1,800 - 2,400 MW gas turbine project in Alor Gajah, Melaka, without the involvement of TNB. The project involves the construction of a new 500 kV transmission line from Alor Gajah, Melaka, to Bahau, Negeri Sembilan, and will take at least six years to complete. To ensure a competitive tariff, the procurement terms were specified in the Engineering, Acquisition and Construction tender.

In Sabah, several power plant projects such as the Upper Padas hydro-electricity project and the new Sandakan and Lahad Datu power plants have been planned to increase capacity particularly in the East Coast. This included approval for the site of the 300 MW combined cycle gas turbine plant which will immediately fast-track the development of the 275 kV transmission line to the site. However, the implementation of the project is subject to the decision to build a 360 km gas pipeline from Tuaran to Sandakan.

The implementation of these new generation projects is not only focused on gas or diesel power plants but also involves several RE power generation projects with a capacity of 3 MW to 30 MW under the Feed-in-Tariff scheme. Sabah, the leader in RE projects, is expected to receive additional new RE power plants to boost its capacity from the current 55.4 MW to 155.1 MW.

New Generation Projects in the Peninsula 2015 - 2021

BIL.	PROJECT DESCRIPTION	FUEL	CAPACITY (MW)	STATUS
1	TNB Janamanjung (U4) by TNB Janamanjung Sdn. Bhd., Manjung, Perak	Coal	1,010	In operation
2	TNB Connaught Bridge by TNB Connaught Bridge Sdn. Bhd., Klang, Selangor	Gas	375	In operation
3	Hulu Trengganu by TNB Hulu Terengganu, Trengganu	Hydro	250	In operation
4	TNB Prai by TNB Prai Sdn. Bhd., Prai, Penang	Gas	1,071	In operation
5	Tanjung Bin Energy by Malakoff Corporation Berhad, Tanjung Bin, Johor	Coal	1,000	In operation
6	Ulu Jelai by TNB, Cameron Highlands, Pahang	Hydro	372	In final stage of construction
7	Hulu Terengganu (Tembat) by TNB, Hulu Terengganu, Terengganu	Hydro	15	Under construction
8	TNB Manjung Five by TNB Manjung Five Sdn. Bhd., Manjung, Perak	Coal	1,000	Under construction
9	Pengerang Co-Gen by PETRONAS, Pengerang, Johor	Gas	600	Under construction
10	Jimah East Power by Jimah East Power Sdn. Bhd., Mukim Jimah, Negeri Sembilan	Coal	2,000	Under construction
11	Tekai by TNB, Jerantut, Pahang	Hydro	168	Pre-construction
12	SIPP by SIPP Energy Sdn. Bhd., Pasir Gudang, Johor	Gas	1,400	Pre-construction
13	Edra Energy by Edra Energy Sdn. Bhd., Alor Gajah, Melaka	Gas	2,400	Pre-construction

Renewable Energy Projects in Sabah

NO.	PROJECT & DEVELOPER	PROJECT LOCATION	FUEL	CAPACITY (MW)
1	Tawau Green Energy Tawau Green Energy Sdn. Bhd.	Tawau	Geothermal	30
2	One River One River Power Sdn. Bhd.	Kota Marudu	Mini Hydro	27.5
3	IOI Bio Energy IOI Bio-Energy Sdn. Bhd.	Sandakan	Biomass	10
4	Bell Tech Bell Technics Sdn. Bhd.	Lahad Datu	Biomass	10
5	SD Resources SD Resources Sdn. Bhd.	Lahad Datu	Biomass	7.6
6	Cahaya Bumijasa Cahaya Bumijasa Sdn. Bhd.	Tawau	Biogas	3.8
7	Mistral Engineering Mistral Engineering Sdn. Bhd.	Sandakan	Biogas	3.8
8	TSH Biogas TSH Biogas Sdn. Bhd.	Tawau	Biogas	3
9	Our Energy Group Our Energy Group Sdn. Bhd.	Telupid	Biogas	2
10	QL QL Tawau Biogas	Tawau	Biogas	2

TSH Biogas commenced operations on April 2015. The other projects are in the process of being implemented.

POWER PLANT PROJECTS ON SABAH EAST COAST

To meet the medium term needs of Sabah's East Coast by 2017, two new power plants have been planned in Lahad Datu (30 MW capacity) and at the Palm Oil Industrial Cluster (POIC) in Sandakan with a 60 MW capacity. Both will commence operations in stages from 2017. The development of a 300 MW combined cycle power plant at the Sandakan POIC had also been planned, with commercial operations scheduled to commence in stages from 2019. However, as at the end of 2015, these projects have yet to take off as the Government has postponed its decision on its implementation.

PLANNING FOR ELECTRICITY SUPPLY SYSTEM IN LABUAN

The Commission and SESB jointly conducted a study on the electricity supply system in Labuan following the decision of The Planning and Implementation Committee for Electricity Supply and Tariff Meeting to request the Commission to present a plan to strengthen the electricity supply system for the area.

The high frequency of power outages in Labuan is caused by weaknesses in the transmission lines linking the districts of Beaufort-Lansat and Beaufort-Papar. Both the transmission lines trip easily as they are overly sensitive to lightning strikes. Such a situation makes it imperative to upgrade the electricity supply scheme in Sabah's Southern Region. Apart from that, the base transmission line of the Labuan-Beaufort Interconnection which has been in operation since 1990 requires new infrastructure to channel electricity supply.

Short-Term Mitigation Measures

SECTION	MITIGATION MEASURES
Transmission lines	• Improve the tower footing resistor part by using sand earth. • Install lightning arrestors at the transmission line tower. • Review the protection scheme for electricity supply in Labuan. • Improve transmission lines towers design.
Generation	• Installation and coordination of power system stabilizer equipment for the Patau-Patau and Tenom Pangi Power Stations.

Under the medium-term mitigation measures, Beaufort's existing 132/33/11 kV Main Intake Sub-Station needs upgrading to 275/132/33/11 kV. There is also a need to develop new transmission lines of 132 kV from the Menggalong Main Intake Sub-Station to Menumbok and then to Labuan.

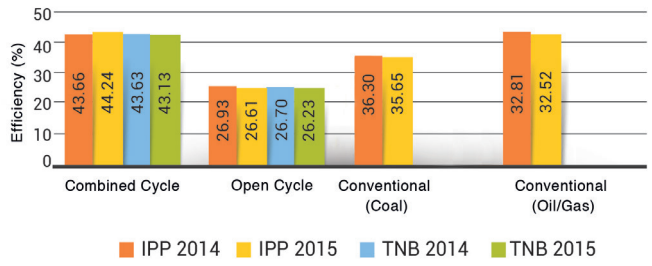
Implementation of these plans would cost RM495 million which is more than the RM240 million allocated under the 10th Malaysia Plan. Accordingly, a re-application for allocations for these projects will be made under the 11th Malaysia Plan.

Long-term plans are still at the discussion stage while the re-development plans for the Patau-Patau Power Station need to be carefully studied from the aspect of cost-effectiveness and load requirements. The development of the Upper Padas hydro project and import from Sarawak were also considered in the Sabah Generation Development Plan at the Planning and Implementation Committee for Electricity Supply and Tariff meeting.

PERFORMANCE OF GENERATION SYSTEM

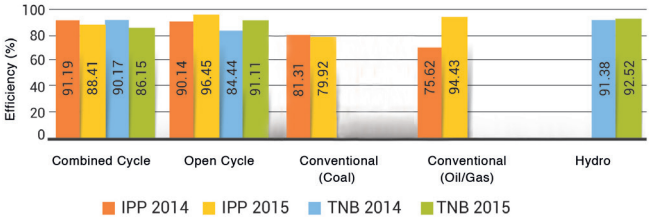
The average thermal efficiency of power stations in the Peninsula declined by about 0.3% to 0.5% compared with 2014. The decline was attributed to frequent unplanned outages, haze and hot weather and other factors such as the environment of the station's site, operating mode, age, level of utilisation and maintenance.

Average Efficiency of Thermal Stations in the Peninsula



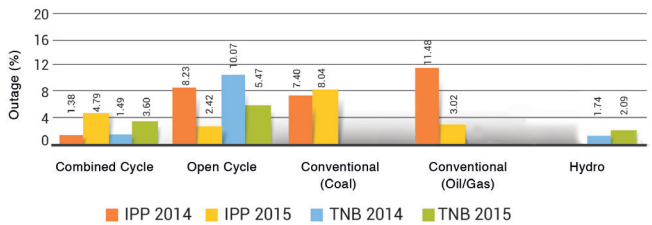
The Equivalent Availability Factor (EAF) declined by 2% to 4% for combined cycle and conventional coal-powered stations owing to an increase in planned and unplanned outages. However, hydro-stations recorded a consistent EAF exceeding 90%. The EAF for conventional oil/gas-powered stations also showed improvement, rising from 76% in 2014 to 94%.

Average EAF of Power Stations in the Peninsula



From the Equivalent Unplanned Outage Factor (EUOF) perspective, the performance for base load power stations declined compared with that of the previous year. Tube leak problems were the primary reason for the decline in dependability of conventional coal-powered plants while vibrations, turning gear overload and generator rotor winding open circuit were the problems encountered by gas-powered plants.

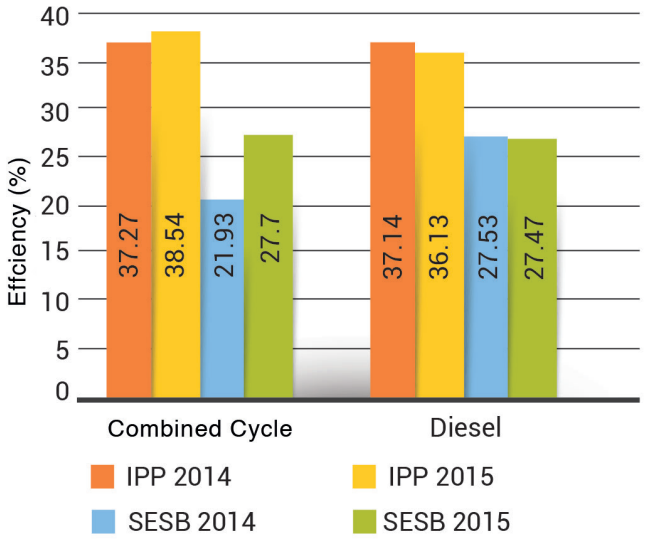
Average EUOF of Power Stations in the Peninsula



In Sabah, the average thermal efficiency for combined cycle power stations, particularly of those owned by SESB, improved by 5.77%. Among the factors that contributed to the improvement were repairs and rehabilitation works and replacement of parts in the previous year.

On the other hand, the thermal efficiency of diesel-powered generating stations owned by IPPs and SESB declined subsequently due to an increase in cyclic mode operations, that is, the start-stop requirement from the system's operator caused by changing electricity demand profiles.

Average Thermal Efficiency of Sabah Power Stations

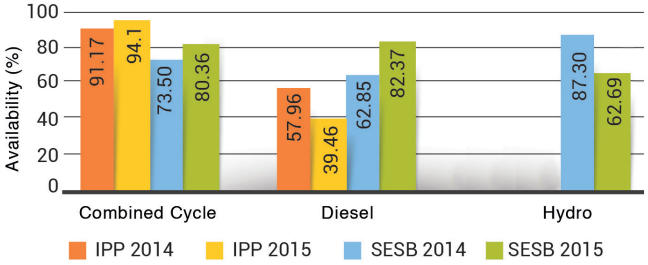


The EAF for combined cycle power stations improved by between 3% and 7% owing to a reduction in unscheduled outages.

The performance of diesel-powered stations owned by SESB such as Kubota, Tawau and Batu Sapi in Sandakan recorded a 19.52% improvement owing to a reduction in unscheduled outages. However, the performance of diesel-powered stations owned by IPPs declined 18.50%, the cause of which was attributed to operational problems at the Stratavest and ARL Power Stations.

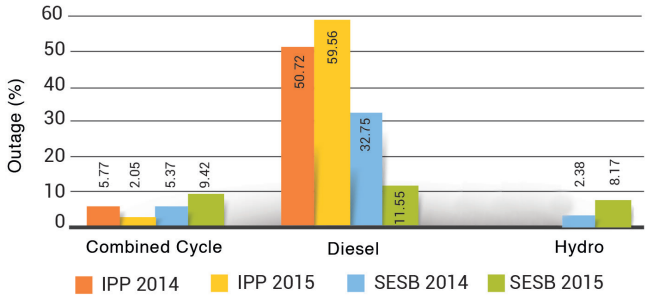
The average EAF for SESB-owned hydro-powered stations was affected by the scheduled outage to repair all the three turbine units at the Tenom Pangi Power Station.

Average EAF for Sabah Power Stations



The EUOF of diesel-powered stations was high owing to age and frequent technical problems. Diesel-powered stations such as ARL's have already reached their operating life span while the Stratavest Power Station was damaged and had to cease operations owing to financial constraints.

Average EOUF of Sabah Power Stations



PERFORMANCE OF TRANSMISSION SYSTEM

System Reliability

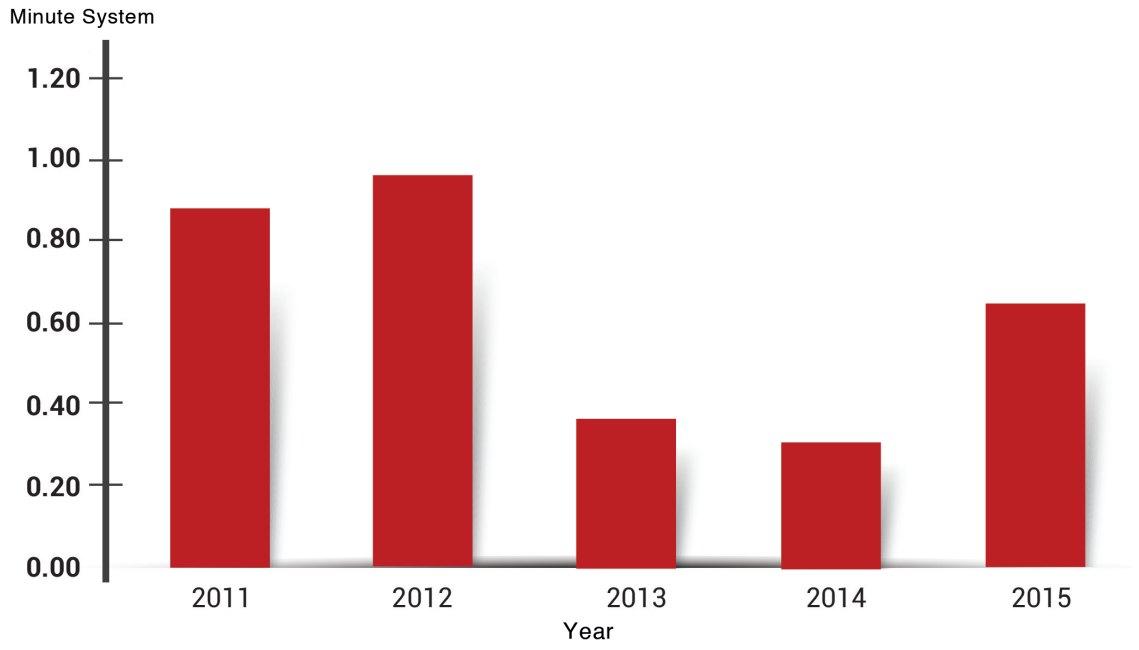
TNB's transmission system in the Peninsula has shown improvement over the last five years, with the decrease in the Delivery Point Unreliability Index (DePUI) by 26% from 0.86 minute in 2011 to 0.64 minute in 2015. However, the DePUI of 0.64 minute in the Peninsula represents a 106% improvement compared with 0.31 minute in 2014.

On the whole, the performance of the minute system for the national grid in 2015 was still at a good level and did not exceed the one minute target.

The number of tripping occurrences in 2015 remained the same as in 2014, with one incident reported in the transmission system which caused a load loss of 380 MW.

The transmission system performance in 2015 remained at the same level, with one reported incident of load shedding on 21 May which affected several states.

DePUI - Minute System in the Peninsula



Status of Grid System

With the planned entry of a new 1,400 MW power station in Pasir Gudang, Johor, by 2019 and another with a 2,400 MW capacity in Alor Gajah, Melaka, by 2021, the transmission network needs to be strengthened from the initial stage to channel electricity to the grid system. Three new 500/275 kV sub-stations along a 85 km stretch will be built together with overhead lines of 500 kV.The 500 kV transmission lines will be the backbone of the Peninsula's electricity transmission system in the long term.

Currently, the grid system experiences congestion from the North to the Central Region, and this will be particularly so when the 1,071 MW TNB Prai and TNB Janamanjung 5 commence commercial operations in February 2016 and October 2017 respectively.

In connection with this, the Enhanced-ATTEND (E-ATTEND) protection scheme was launched to allow mitigation measures to be taken to meet constraints in the system.

E-ATTEND was introduced as a preventive measure to avoid major interruptions as the 500 kV transmission line from Ayer Tawar to South Bentong which was originally scheduled for completion before October 2017, is expected to be delayed owing to land acquisition problems along the line's route. However, the construction of the 500 kV transmission line from East Yong Peng to Lenggeng is proceeding smoothly and on schedule for completion by the end of 2018.

Projects for transmission lines of 500 kV and 275 kV are being implemented to channel electricity from power stations in the Northern and Southern Regions to load centres in the Central Region.

500 kV and 275 kV Transmission Line Projects

PROJECTS
• Tanjung Bin - Bukit Batu 500 kV overhead lines (extension).
• East Yong Peng-Lenggeng 500 kV overhead lines.
• Ayer Tawar - South Bentong 500 kV overhead lines.
• South Bentong - Lenggeng 500 kV overhead lines.
• Bentong South - Kampung Pandan 275 kV overhead lines.
• Bukit Tarek - Chubadak 275 kV overhead lines.
• Lenggeng - Mahkota Cheras 275 kV overhead lines.
• 275/132 kV overhead lines to Mahkota Cheras main intake sub-station.

Projects to Strengthen 275 kV Lines System

PROJECTS
• 275 kV overhead lines between the Ayer Tawar and Seri Iskandar (new) sub-stations and from Seri Iskandar sub-station to Kampung Gajah sub-station (new).
• 275 kV overhead lines from Mahkota Cheras sub-station to Salak Selatan sub-station.
• 275 kV overhead lines from Ulu Jelai sub-station to La'loh sub-station for a third west-east 275 kV link.

Two transmission line tripping incidents were recorded in 2015 which resulted in a load loss of more than 50 MW. However, with the strong defence system mechanism in place, there was no reported incidents of widespread power interruptions.

Transmission Line Tripping Incidents with Load Loss of Over 50 MW

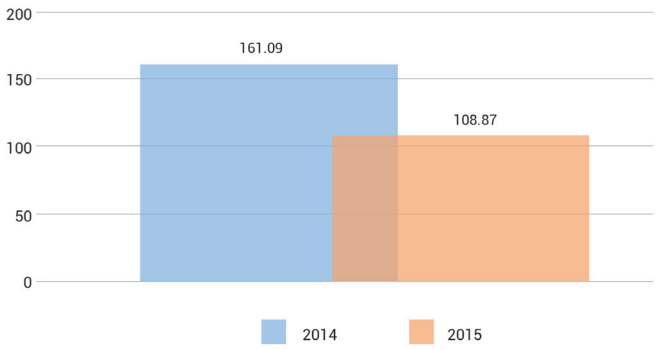
DATE	PERIOD STARTS/ENDS	COMPONENT	LOAD LOSS (MW)	ENERGY LOSS (MWJ)	SOURCE
9 April	21:30/22:44	132 kV main intake sub-stations: a. Connaught Bridge Power Station b. East Shah Alam c. South Shah Alam d. Nippon Electric Glass, Shah Alam	321	119.05	The primary busbar and 132 kV reserve of the Connaught Bridge Power Station Main Intake Sub-Station was tripped by the busbar protection relay which caused a load loss at the Main Intake Sub-Station concerned.
21 May	14:11/14:51	1,010 MW power plant (U4) at Janamanjung Power Station	380	67.60	Tripping at the power plant caused a frequency dip which automatically activated the first phase of the low frequency load shedding scheme.

Challenges were still being encountered in system reliability performance in Sabah owing to insufficient generation capacity. Accordingly, initiatives were taken to lower the DePUI in Sabah.

In 2015, the DePUI for Sabah's grid system showed a significant decline of 32.42% to 108.87 minutes compared with 161.09 minutes in 2014.

There were nine occurrences of tripping on the Sabah grid system that caused a load loss of over 50 MW.Six of these involved the collapse of transmission towers which in turn caused tripping on the 132 kV Segaliud-Dam Road No. 1 line. The incident in April 2015 contributed 51.46 minutes or 47.27% to Sabah's total DePUI for the year.

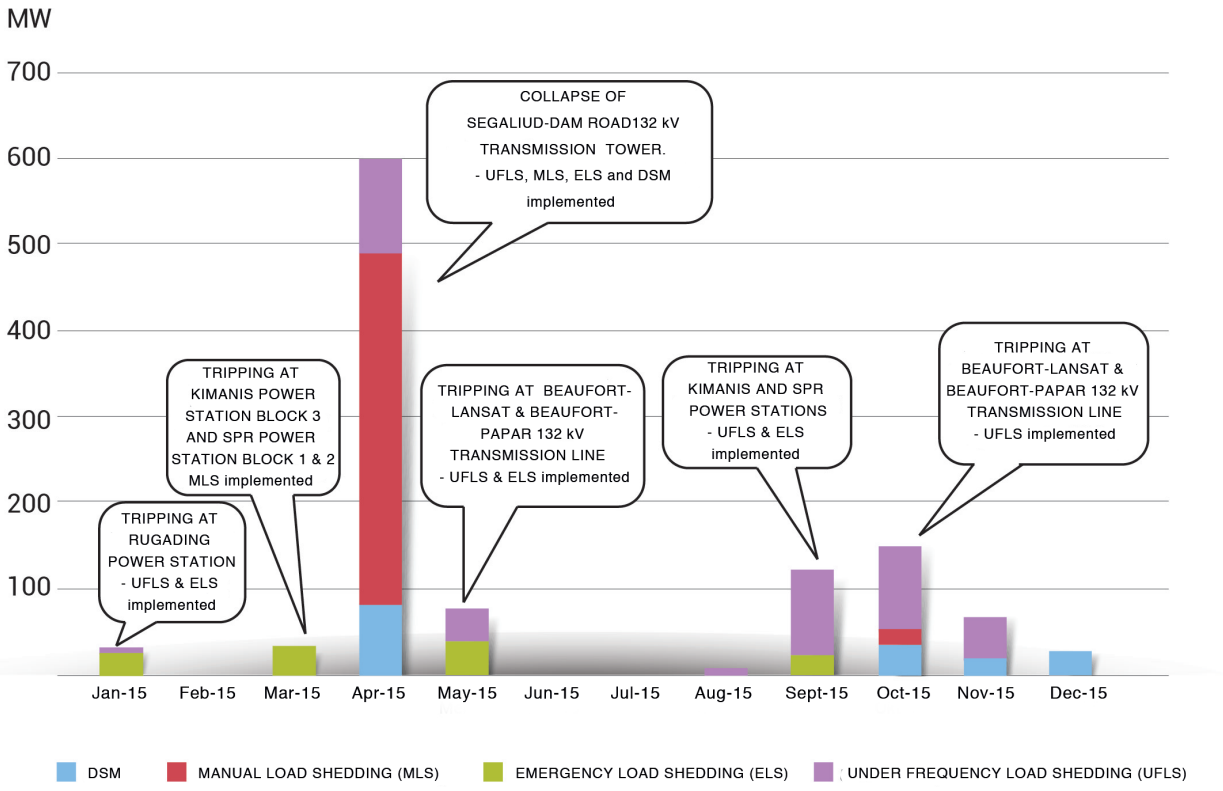
DePUI- Minute System for Sabah Grid, 2014-2015



Demand Side Management and Load Shedding

Total load shedding and Demand Side Management (DSM) in 2015 registered a downtrend compared with that of 2014, with respective total capacities at 935 MW and 152 MW. The improvement was driven by the effectiveness of SESB's mitigation measures and also by the entry of new power stations in 2014 which had boosted the grid system with additional installed capacity in the state.

Incidents of Load Shedding in Sabah



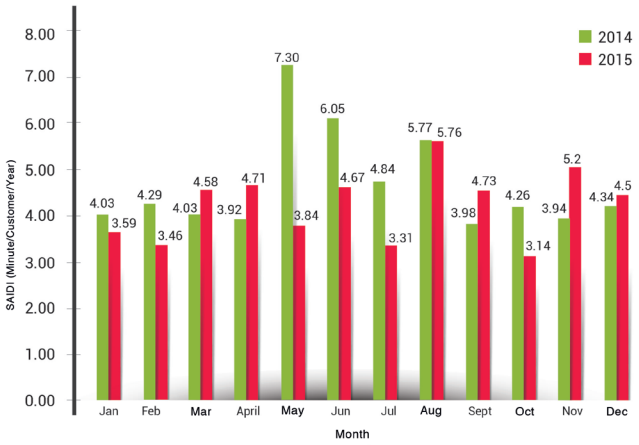
PERFORMANCE OF DISTRIBUTION SYSTEM

SAIDI ACHIEVEMENT IN THE PENINSULA AND SABAH

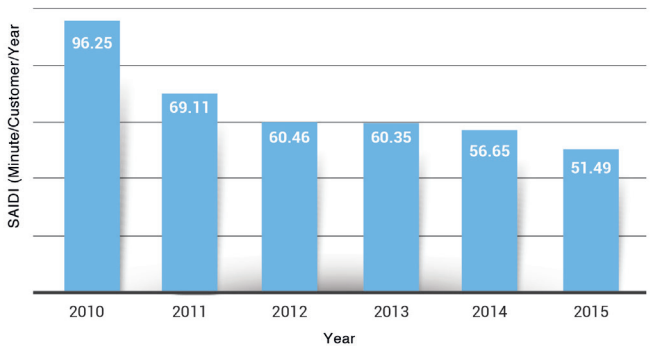
The monthly SAIDI in 2015 has, on the whole, improved with a downward trend compared with that of 2014 except for March, April, September, November and December.

In 2015, the SAIDI target in the Peninsula was reduced to 55 minutes/customer/year compared with 60 minutes/customer/year in 2014. On the whole, TNB's electricity supply SAIDI performed well and indicated a downward trend compared with that of 2014. The 2015 SAIDI aggregate was 51.49 minutes/customer/year compared with 56.65 minutes/customer/year in 2014.

Monthly SAIDI in the Peninsula, 2014 - 2015



SAIDI in the Peninsula, 2010-2015



In the five-year period from 2010 to 2015, TNB's SAIDI has on the whole shown a downward trend, from 96.25 to 51.49 minutes/customer/year or a 46.5% improvement. The improvement has been attributed to TNB's SAIDI reduction action plan for its medium voltage system, the highest contributor at 90% to the Peninsula's total SAIDI.

SAIDI According to Systems in the Peninsula

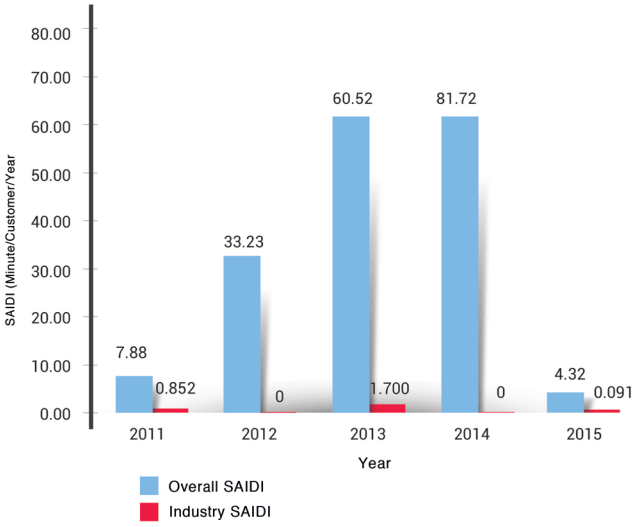
SYSTEM	SAIDI Minute/customer/year
Low Voltage	2.66
Medium Voltage	47.78
High Voltage	1.05

By using the Short Term and Long Term Action Plan of each state as a platform, initiatives introduced to reduce SAIDI were implemented in a more organised manner. The plans included preventive maintenance, replacement of equipment and apparatus that were problematic as well as implementing condition-based monitoring to ensure that the supply system is always in dependable condition and that recurrence of such interruptions are avoided.

At KHTP, the overall SAIDI in 2015 was 4.32 minutes/customer/year. This is a significant drop of 94.91%, and an indication of a much improved performance in energy supply compared with that of 2014 when SAIDI was at 81.72 minutes/customer/year.

On the whole, the KHTP SAIDI showed a significant drop of 94.71% or 77.4 minutes/customer/year. Industry SAIDI on the other hand recorded a marginal improvement, from zero to 0.091 minute/customer/year.

Overall SAIDI and Industry SAIDI (High Voltage) at KHTP, 2011-2015



In order to achieve the targets set for SAIDI in Sabah, the performance of the electricity supply system was continuously monitored.

SAIDI Achievement and Target in Sabah

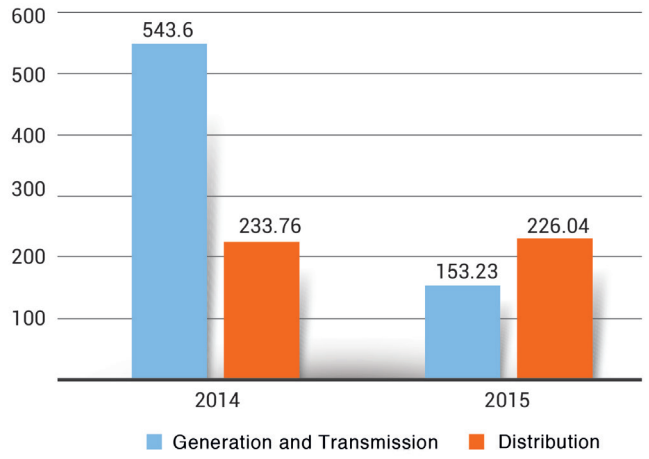
SECTOR	TARGET 2015	ACHIEVEMENT 2015 (Minute/Customer/Year)	ACHIEVEMENT 2014 (Minute/Customer/year)
1	180	306.35	627.75
2	440	469.55	925.06
3	250	418.74	996.86
OVERALL	**280**	**379.26**	**777.26**

The overall SAIDI performance in Sabah at 379.26 minutes/customer/year is a reduction of 51.2% from that of 2014 which was at 777.26 minutes/customer/year. However, the figures showed that the target set for 2015 has yet to be achieved because of:

- Power outages caused by load shedding activities owing to insufficient generation capacity;
- High impact power outages caused by damage or interruptions to the transmission system; and
- High impact power outages caused by damage or interruptions to the distribution system.

As at 31 December 2015, the SAIDI for distribution contributed 226.04 minutes/customer/year or 59.6% of the overall SAIDI of Sabah. The balance of 153.23 minutes/customer/year came from the generation and transmission systems. Compared with 2014, the SAIDI for distribution has declined by 7.72 minutes/customer/year or 3.3% while the generation and transmission SAIDI fell by 390.37 minutes/customer/year or 71.8%.

Annual SAIDI in Sabah, 2014-2015



POWER OUTAGES

Number of Power Outage per 1000 Consumers, 2014 - 2015

UTILITY	SCHEDULED OUTAGE		UNSCHEDULED OUTAGE		OVERALL	
	2014	2015	2014	2015	2014	2015
TNB	0.17	**0.17**	8.47	**7.25**	8.63	**7.43**
KHTP	15.48	**14.41**	12.01	**10.44**	27.49	**24.85**
SESB	2.11	**1.81**	39.84	**33.32**	41.95	**35.12**

On the whole, the number of power outages in the Peninsula recorded a dip of 13.9% to 7.43 per 1000 customers compared with 8.63 in 2014.

Unscheduled outages fell 14.4% to 7.25 per 1000 consumers compared with 8.47 in 2014 while scheduled outages also dropped compared to 2014 though the figures are constant at 0.17 per 1000 consumers for 2014 and 2015.

In 2015, the number of power outages per 1000 consumers at KHTP, as reported by NUR Distribution Sdn. Bhd., dropped by 9.6%, that is, 24.85 outages per 1000 consumers compared with 27.49 in 2014.

Of the total, there was an improvement of 6.9% (14.41 per 1000 consumers) for scheduled outages and 13.1% (10.44 per 1000 consumers) for unscheduled in 2015 compared to 2014.

In Sabah, the number of outages per 1000 consumers for SESB's supply system dropped from 41.95 per 1000 consumers in 2014 to 35.12 in 2015. The number of scheduled outages also dropped 14.2% to 1.81 per 1000 consumers compared with 2.11 in 2014.

Unscheduled outages fell 16.4% to 33.32 per 1000 consumers compared with 39.84 in 2014. In percentage terms, unscheduled outages which accounted for 94.9% of the year's total are the biggest contributor to the outage profile.

POWER QUALITY PERFORMANCE

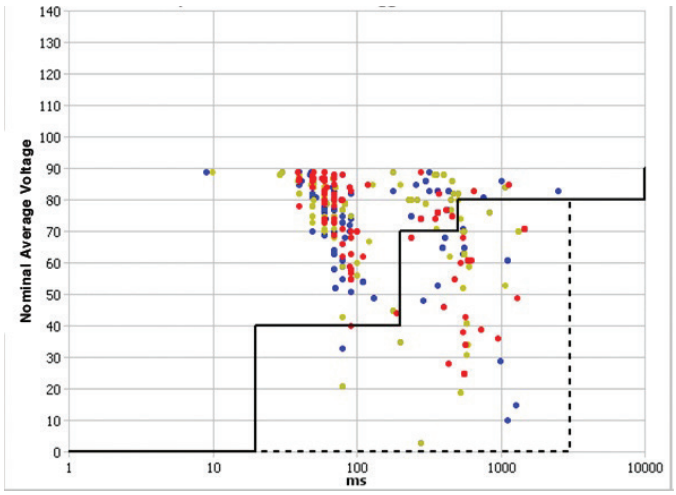
There were 901 occurrences of voltage dips in the Peninsula. Selangor recorded the highest number with 165 which caused power outages that affected 36 consumers.

The $SARFI_{90}$ for the system overall in the Peninsula was 5.70, with Kelantan recording the highest $SARFI_{90}$ at 25.50, followed by Perlis (17.00) and Pahang (12.67).

SARFIx According to 11kV, 22kV, 3kV Voltage Level and Overall System for States in the Peninsula

State	$SARFI_x$ System 11kV						$SARFI_x$ System 22kV						$SARFI_x$ System 22kV						$SARFI_x$ Overall System					
	90	80	70	50	40	10	90	80	70	50	40	10	90	80	70	50	40	10	90	80	70	50	40	10
Kuala Lumpur	1.33	1.00	0.67	0.33	0.33	-	-	-	-	-	-	-	4.67	1.83	0.67	0.25	0.25	-	3.87	1.60	0.67	0.27	0.27	-
Putrajaya	5.67	1.67	0.67	0.33	0.33	-	-	-	-	-	-	-	12.00	3.50	1.00	0.50	-	-	5.80	2.40	0.80	0.40	0.20	-
Selangor	7.50	2.50	1.50	0.50	-	-	-	-	-	-	-	-	6.67	2.58	0.96	0.29	0.17	0.04	6.35	2.54	0.96	0.27	0.15	0.04
Johor	5.00	2.82	1.73	0.45	0.27	0.09	6.86	4.36	3.14	1.43	0.93	0.07	15.00	4.00	2.00	-	-	-	5.23	3.35	2.38	0.96	0.62	0.08
Melaka	4.50	3.10	2.00	0.90	0.80	0.20	-	-	-	-	-	-	-	-	-	-	-	-	4.50	3.10	2.00	0.90	0.80	0.20
Negeri Sembilan	6.33	3.67	2.44	0.56	0.44	-	-	-	-	-	-	-	9.00	1.00	1.00	-	-	-	5.90	3.30	2.20	0.50	0.40	-
Kelantan	28.00	7.00	1.00	1.00	1.00	1.00	-	-	-	-	-	-	31.33	11.00	5.67	0.33	-	-	25.50	9.25	4.50	0.50	0.25	0.25
Pahang	12.38	5.63	3.25	0.88	0.63	0.13	-	-	-	-	-	-	22.00	8.00	5.00	1.00	-	-	12.67	5.78	3.33	0.89	0.56	0.11
Terengganu	7.29	3.86	2.86	1.29	0.71	-	-	-	-	-	-	-	13.00	10.00	5.00	2.00	2.00	2.00	7.00	3.75	3.00	1.38	0.88	0.25
Kedah	11.67	4.83	2.83	1.17	0.67	-	-	-	-	-	-	-	6.86	3.43	2.57	1.00	1.00	0.29	7.00	3.50	2.43	1.00	0.79	0.14
Perak	6.17	2.92	1.75	0.75	0.58	0.08	-	-	-	-	-	-	9.67	3.17	2.17	0.83	0.67	-	6.17	2.67	1.72	0.72	0.56	0.06
Perlis	23.00	8.00	3.00	1.00	-	-	-	-	-	-	-	-	27.00	12.00	6.00	3.00	2.00	-	17.00	8.00	4.00	2.00	1.00	-
Pulau Pinang	8.00	4.50	3.00	1.25	0.75	0.25	-	-	-	-	-	-	7.00	3.00	1.14	0.29	0.29	-	6.09	2.91	1.64	0.64	0.45	0.09
TNB Overall	**6.19**	**3.40**	**2.13**	**0.79**	**0.55**	**0.09**	**6.86**	**4.36**	**3.14**	**1.43**	**0.93**	**0.07**	**7.05**	**2.97**	**1.55**	**0.45**	**0.35**	**0.08**	**5.70**	**3.01**	**1.88**	**0.69**	**0.49**	**0.08**

Evaluation of EMC Level Using MS IEC 61000-4-34



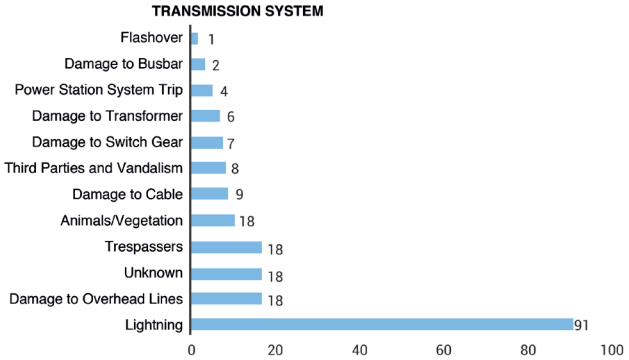
Number of Voltage Dips in the Peninsula

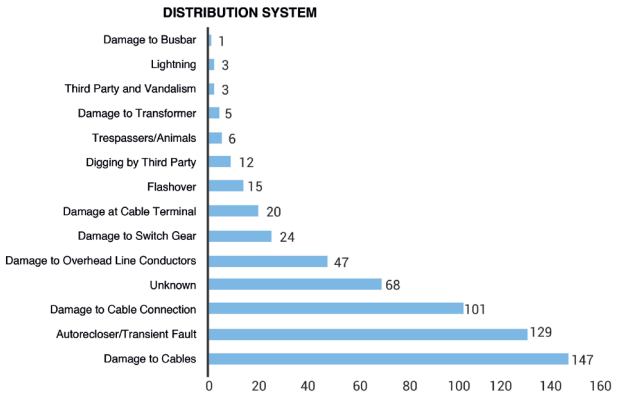
STATE	NUMBER OF VOLTAGE DIPS	CONSUMERS AFFECTED
Kuala Lumpur	**58**	26
Putrajaya	29	5
Selangor	165	36
Johor	136	17
Melaka	45	9
Negeri Sembilan	59	16
Kelantan	102	-
Pahang	114	4
Terengganu	56	1
Kedah	98	11
Perak	111	20
Perlis	34	-
Pulau Pinang	67	64
TOTAL		**209**

Subject	Number Of Voltage Dips
Total Number of Voltage Dips	901
Number of Voltage Dips Above Immunity Level	652 (72%)
Number of Voltage Dips Below Immunity Level	249 (28%)

NOTE:
The total number of voltage dips is not the result of additional total voltage for each state as similar incidents were recorded in some states.

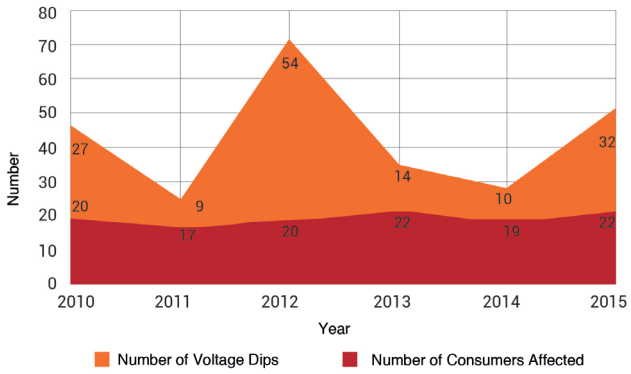
Causes of Voltage Dips in the Peninsula





There was an increase in the occurence of voltage dips at KHTP in 2015 compared with 2014. There was 22 such incidents which affected 32 consumers while another occurrence which damaged the 132 kV underground cables from Bukit Tengah to Southern Steel on 3 March 2015 affected nine consumers, the highest number to be impacted by a single incident.

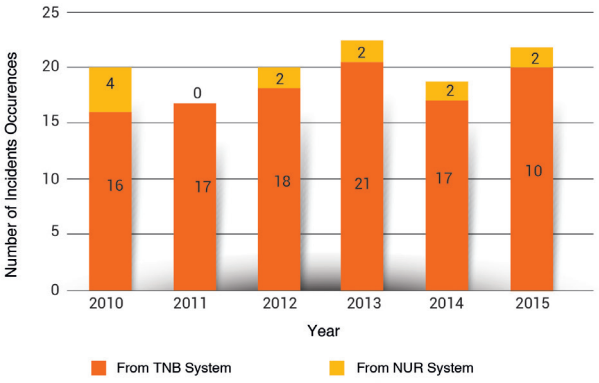
Number of Voltage Dips at KHTP, 2010-2015



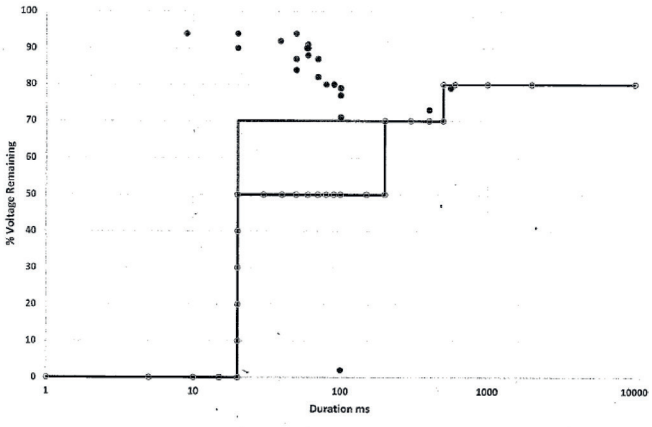
In 2015, 91% or 20 of the voltage dips were from the TNB system while the rest were from the NUR Distribution Sdn. Bhd. system.

NUR Distribution Sdn. Bhd. which performed analyses of the occurrences at KHTP using the SEMI F47 standards concluded that only two out of the 22 voltage dips were below the immunity level while the rest were above the immunity level.

Number of Voltage Dips at KHTP, 2010 - 2015



Evaluation of EMC Level Using SEMI F47



SUPPLY OF FUEL IN THE PENINSULA

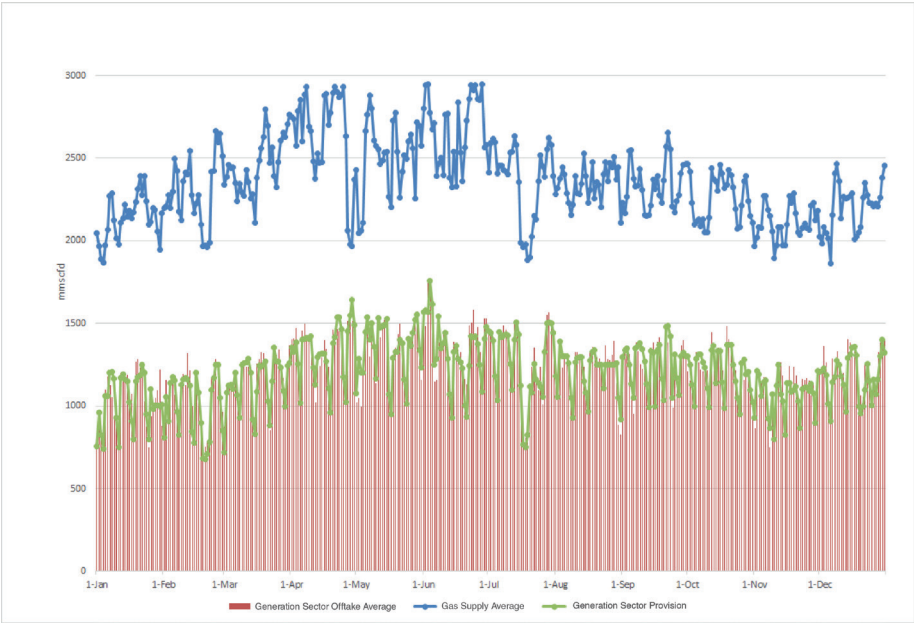
Gas remains the primary fuel for power generation even though its usage has decreased 3.3% from 2014 with the entry of coal-fired power stations of 1,000 MW capacity and the shutdown of several gas power stations.

Fuel Mix for Generation in the Peninsula, 2014-2015

FUEL	2014 (%)	2015(%)
Gas	**51.8**	**48.5**
Coal	42.3	**46.7**
Hydro	3.6	**4.5**
Others	2.3	**0.3**

NATURAL GAS

Gas Supply and Offtake Energy Sector



In 2015, PETRONAS supplied gas on an average of 2,360 mmscfd to the energy and non-energy sectors. The average consumption of natural gas by the energy sector was 1,212 mmscfd against an allocation of 1,196 mmscfd.

Scheduled Shutdowns of Upstream Gas Facilities

Ten scheduled shutdowns of upstream gas facilities were carried out. Among these were two shutdowns during the Aidilfitri holidays in July 2015 at Jerneh Complex and JDA-TTM. The Jerneh Complex shutdown caused a 198 mmscfd reduction in gas supply while JDA-TTM's supply fell by 350-400 mmscfd. However, gas supply to the energy sector was unaffected.

Shutdown Of Upstream Gas Facilities

SHUTDOWN OF MAJOR FACILITIES	DURATION OF SHUTDOWN	CONSTRAINTS ON GAS SUPPLY
Lawit Complex Shutdown for valve change out	16 – 27 February	**Nil**
Guntong E Shutdown for rig mobilisation	29-31 March 2015	**Nil**
RGT sea water pump inspection	2-4 May 2015	**Nil**
JDA Shutdown for CKX bridge installation	19-23 June 2015	**Nil**
Jerneh Complex Shutdown for vessel cleaning	16-28 July 2015	**Nil**
JDA-TTM Shutdown	19-23 July 2015	**Nil**
JDS Shutdown for valve replacement	15-21 August 2015	**Nil**
Resak OCS Shutdown for upgrading	28 September – 12 October 2015	**Nil**
Angsi Shutdown for booster compressor installation	15-29 October 2015	**Nil**
RGT sea water pump inspection	31 October – 2 November 2015	**Nil**

In August 2015, the constraints on gas supply was experienced owing to several unscheduled shutdowns in Kerteh. The situation was further aggravated by a reduction of RGT capacity after having run on full capacity to meet the shortfall caused during the scheduled JDS shutdown from 15 – 21 August.

COAL

A total of 24.63 metric tons of coal were imported for power stations in the Peninsula. Indonesia was the biggest supplier with 56% of total imports, followed by Australia (30%), Russia (9%) and South Africa (5%).

For the period between 1 September 2014 to 31 August 2015, the Kapar, Jimah and Tanjung Bin Power Stations maintained stable coal reserves capacities in accordance with the provisions in the PPA.

Coal reserve capacity at the Janamanjung and Janamanjung 4 Power Stations was below the minimum level as a result of damage to Ship Unloader 2 (SUL 2) on 8 August 2015.

The supply of sub-bituminous coal is exceeding demand for bituminous coal and particularly when the 1,010 MW capacity Janamanjung 4 Power Station had commenced operations on 14 April 2015 and more so when the 1,000 MW Tanjung Bin 4 Power Station began operating in March 2016. The increase in demand for sub-bituminous coal increases the challenge of ensuring continuing supply from Indonesia.

On the whole, coal price fell for all power stations in spite of the weak Malaysia Ringgit.

Coal Imports by Power Stations (Million Metric Tons)

COUNTRY	KAPAR ENERGY VENTURES	JANAMANJUNG	TANJUNG BIN	JIMAH ENERGY VENTURES	TOTAL
Indonesia	0	10.32	1.89	1.66	13.87
Australia	2.1	0	3.26	1.91	7.27
Russia	1.06	0	0.65	0.57	2.28
South Africa	0.49	0.07	0.65	0	1.21
TOTAL	**3.65**	**10.39**	**6.45**	**4.14**	**24.63**

Type of Coal Imported By Power Stations (Million Metric Tons)

COUNTRY	KAPAR ENERGY VENTURES	JANAMANJUNG	TANJUNG BIN	JIMAH ENERGY VENTURES	TOTAL
Bituminous	3.65	0.07	4.56	2.77	**11.05**
Sub-Bituminous	0	10.32	1.89	1.37	**13.58**
TOTAL	**3.65**	**10.39**	**6.45**	**4.14**	**24.63**

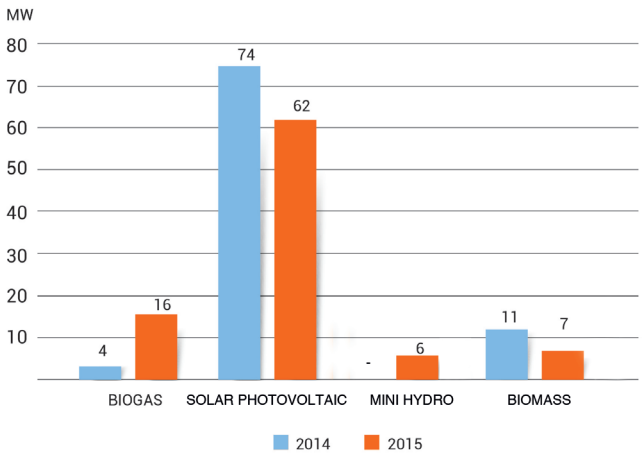
RENEWABLE ENERGY (RE)

According to licensing statistics, RE-based generation capacity rose 34% compared with 2014 subsequent to the additional RE quota imposed under the Feed-in-Tariff (FIT) from SEDA. The Commission is tasked with ensuring that RE installations are licensed before commencing operations at power stations. Among the licensing requirements are a valid FIT certificate, a Renewable Energy Power Purchase Agreement (REPPA) between developer and utility companies, a single line diagram endorsed by a professional engineer and that such installations are operated by competent persons.

Among RE generation sources, solar photovoltaic commands the highest share at 43% against other sources. Solar photovoltaic generation was consistent throughout 2015 except during periods of haze and rain which caused generation to dip by up to 30%.

Generation from biomass stations rose 27% compared to 2014 with the commencement of operations of two new stations by Maju Intan Sdn. Bhd. and Biofuel Energy Sdn. Bhd. Generation from the biogas system also rose 8% as a result of additional licenses being issued. However generation from mini hydro stations declined by 23% owing to floods in Kelantan and dry season in Sabah.

Total Capacity of Public Licences Issued to RE Power Plants (MW)

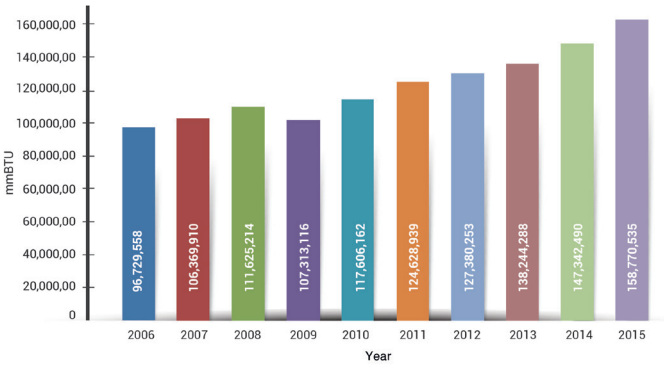


SUPPLY OF NATURAL GAS AND LIQUEFIED PETROLEUM GAS VIA PIPELINES

The volume of natural gas supplied by Gas Malaysia Berhad in the Peninsula increased by 7.76% to 158,770,535 mmBtu (422.32 mmscfd) compared with 147,342,490 mmBtu (391.92 mmscfd) in 2014.

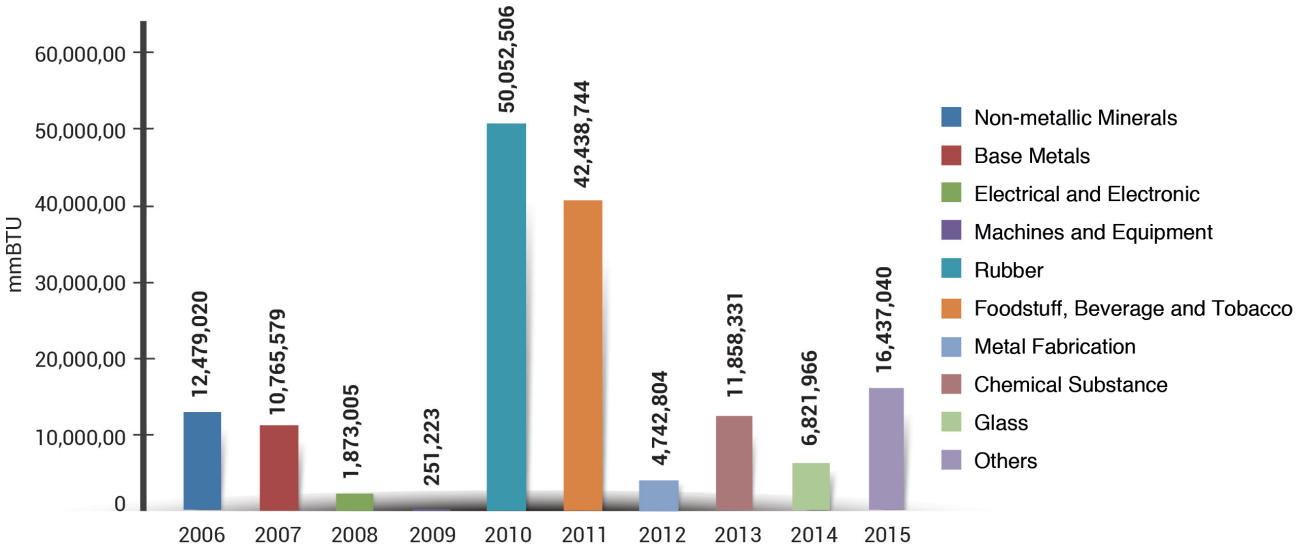
The industrial sector, which consumed an average of 99% of the total volume supplied, remained as the biggest consumer at 157,720,218 mmBtu (419.52 mmscfd). Commercial consumers accounted for 1,021,607 mmBtu (2.72 mmscfd) and residential consumption was 28,710 mmBtu (0.08 mmscfd).

Natural Gas Consumption in the Peninsula



The rubber sub-industry remained the industry's biggest consumer, accounting for 50,052,506 mmBtu (133.14 mmscfd) or 32% of the total natural gas consumption of the industrial sector in the Peninsula.

Natural Gas Consumption Based on Sub-Industry Category in the Peninsula

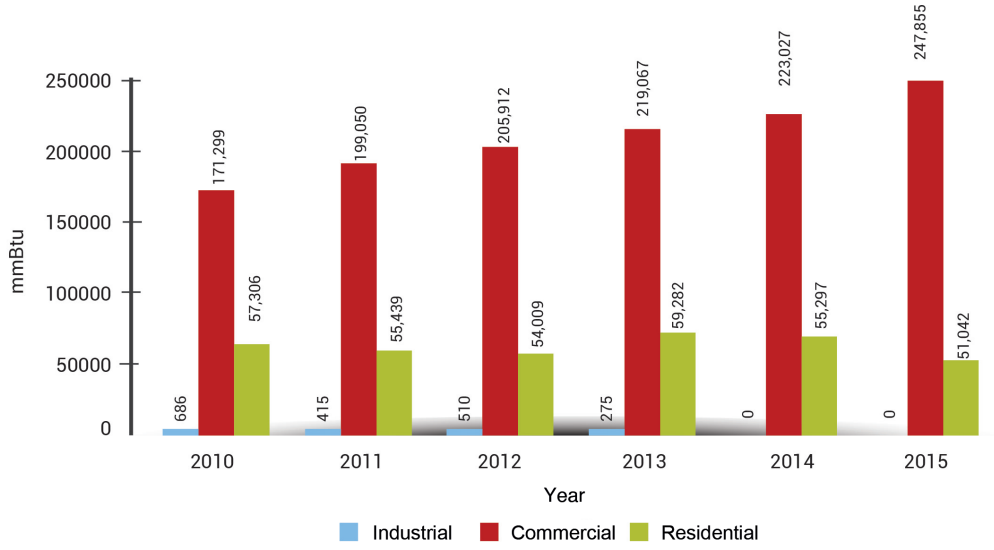


In terms of numbers of consumers for natural gas, the residential sector is the largest consumer at 88% of total consumption, followed by the commercial sector (6%) and the industrial sector (6%).

Natural Gas Consumers in the Peninsula

The volume of LPG supplied to the commercial sector by Gas Malaysia Berhad in 2015 increased from 223,027 mmBtu (0.59 mmscfd) in 2014 to 247,855 mmBtu (0.66 mmscfd), with the increase attributed to the rapid growth of commercial centres. However, there was a slight drop in supply to the residential sector owing to non-compliance issues related to conducting of periodic maintenance and system quality.

LPG Consumption in the Peninsula



LPG Consumers in the Peninsula

In Sabah and Labuan, the supply of natural gas was primarily to the industrial sector particularly to the Kota Kinabalu Industrial Park (KKIP). Total natural gas usage in Sabah and Labuan increased by 26% to 294,387 mmBtu (0.78 mmscfd) in 2015 compared with 233,723 mmBtu (0.62 mmscfd) in 2014. The introduction of the Virtual Pipeline System helped to boost the consumption of natural gas in Sabah and Labuan.

Total Consumption and Consumers of Natural Gas in Sabah and Labuan

YEAR	TOTAL CONSUMPTION (mmBtu)	NUMBER OF CONSUMERS
2010	62,236	11
2011	66,795	12
2012	74,684	12
2013	93,582	18
2014	233,723	20
2015	294,387	22

PIPED GAS DISTRIBUTION

PERFORMANCE OF GMB

Each of the 2015 performance indicators showed improvement in gas supply continuity. To ensure there is continual supply and that system integrity is at the optimum level, licensees are required to conduct periodic maintenance and inspections according to fixed schedules as well as improving efficiency to overcome issues related to interruptions in supply to premises.

Gas Malaysia Berhad Performance Indicators, 2010 - 2015

PERFORMANCE INDICATORS	2010	2011	2012	2013	2014	2015
SAIDI	0.6299	0.3630	0.7489	0.1480	0.1492	0.0874
SAIFI	0.0037	0.0039	0.0029	0.0022	0.0021	0.0016
CAIDI	169.27	90.96	260.90	66.83	70.71	54.05
Number of gas leaks along pipeline per 1,000 km	7.23	5.43	3.74	2.06	2.47	1.92
Number of gas leaks at stations and in consumers' premises per 1,000 customers	6.80	6.66	4.95	4.02	5.44	3.91

Note:

SAIDI: System Average Interruption Duration Index (minute/customer/year)
SAIFI: System Average Interruption Frequency Index (disruption/customer /year)
CAIDI: Customer Average Interruption Duration Index (minute/disruption /year)

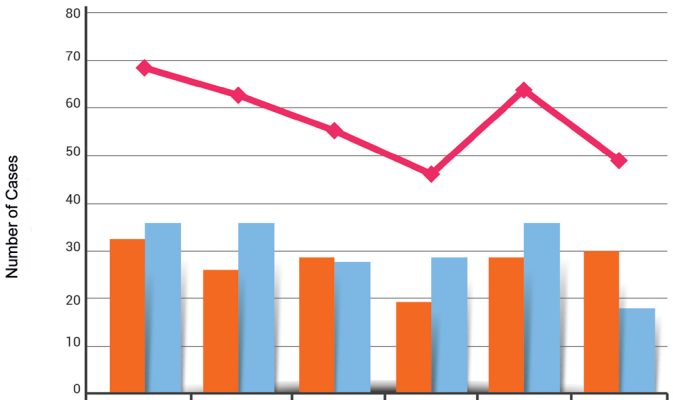
SAFETY

ELECTRICAL AND GAS SAFETY

ELECTRICAL AND GAS ACCIDENT STATUS

There were 48 electrical accidents of which 30 were fatal and 18 non-fatal. Compared to 2014, there was a 24% reduction in electrical accidents. Between 2010 and 2015, the average number of such accidents was 57 annually.

Number of Electrical Accidents, 2010 - 2015



	2010	2011	2012	2013	2014	2015
FATAL	33	26	28	19	27	30
NON-FATAL	36	36	27	27	36	18
TOTAL	69	62	55	46	63	48

Between 2010 and 2015, incorrect installation or maintenance was the main cause of electrical accidents. However, , compared with 2014, there was a reduction in the number of accidents caused by non-compliance with work safety procedures and activities of the public near electrical installations.

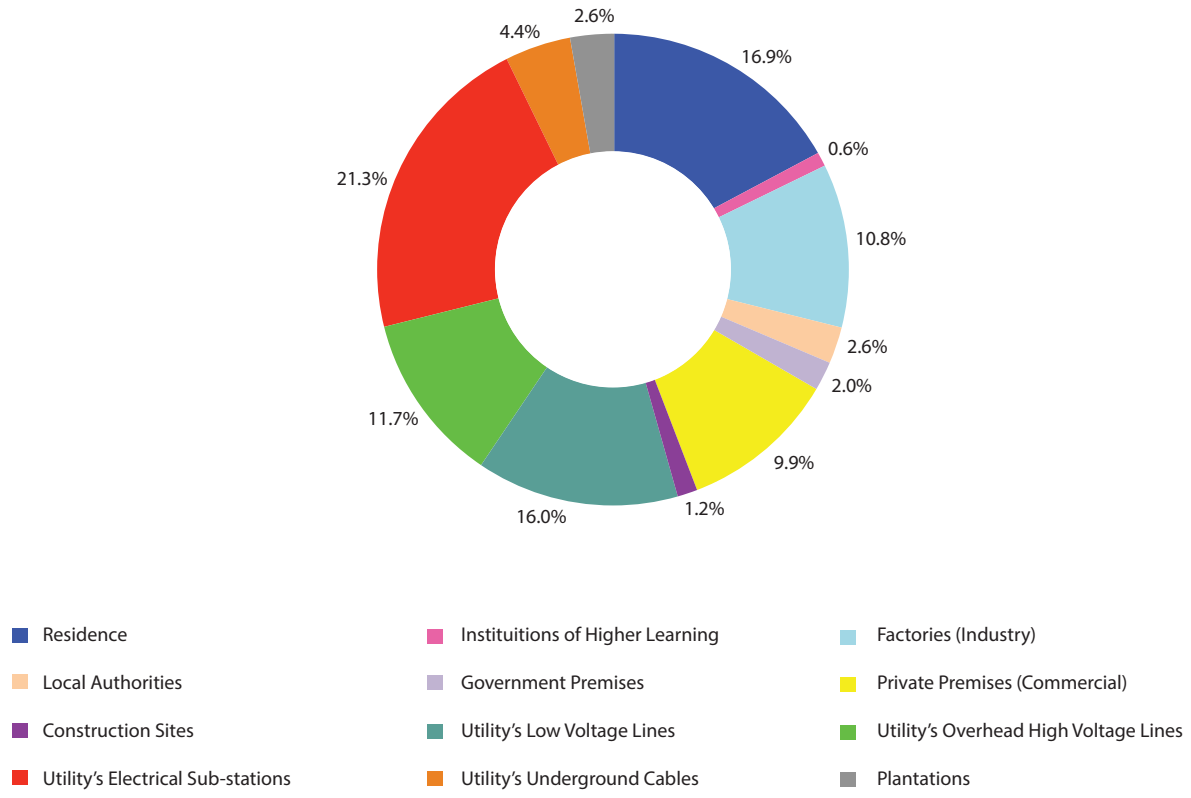
Causes of Electrical Accidents, 2010 - 2015

CAUSES	2010	2011	2012	2013	2014	2015	TOTAL
Incorrect installation/maintenance	18	24	22	12	20	12	108
Non-compliance with work safety procedures	21	15	15	16	21	12	100
Activities of public near electrical installations	9	5	5	7	11	8	45
Trespassing at electrical installations	12	6	5	9	7	5	44
Defects in electrical equipment and gear	3	4	4	0	3	3	17
Others	2	6	2	0	0	5	15
Misuse of wiring system	4	2	2	2	1	3	14
TOTAL	**69**	**62**	**55**	**46**	**63**	**46**	**343**

Between 2010 and 2015, the most number of accidents, 183 cases or 53% of the total, occurred at utlility-owned installations. Utility-owned installations include overhead high voltage and low voltage lines, electrical sub-stations and underground cables.

There were 73 electrical accidents (21% of total) at utility-owned electrical sub-stations and 58 (17%) in residential dwellings.

Locations of Electrical Accidents, 2010-2015



In 2015, there were 13 accidents (27.1% of total) at electrical sub-stations owned by licensees followed by 10 cases (20.8%) at residential premises.

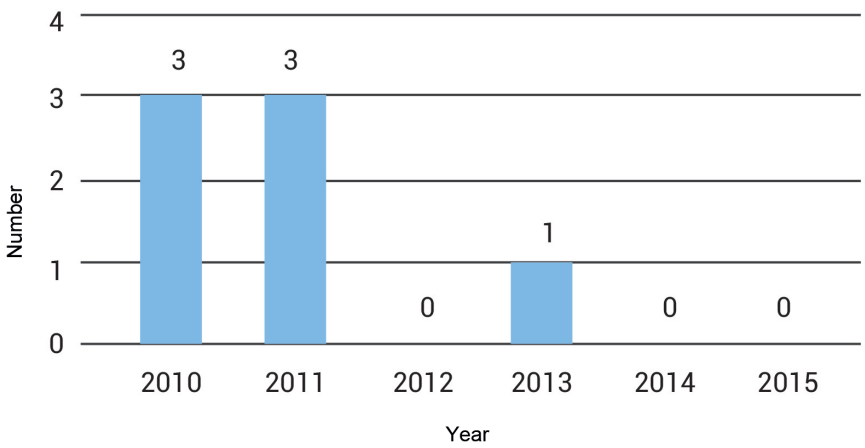
Breakdown of Accident Locations, 2010 - 2015

LOCATION	2010	2011	2012	2013	2014	2015	TOTAL
Utility-owned electrical sub-stations	17	13	7	9	14	13	**73**
Residence	8	15	6	8	11	10	**58**
Utility-owned overhead low voltage lines	10	11	13	6	11	4	**55**
Utility-owned overhead high voltage lines	6	4	13	5	5	7	**40**
Factories (industrial)	8	7	5	5	7	5	**37**
Private premises (commercial)	10	4	4	6	9	1	**34**
Utility-owned underground cables	3	2	2	3	4	1	**15**
Government premises	0	0	2	3	1	1	**7**
Plantations	2	1	1	0	0	5	**9**
Local authorities	3	2	2	0	1	1	**9**
Construction sites	2	1	0	1	0	0	**4**
Institutions of higher learning	0	2	0	0	0	0	**2**
TOTAL	**69**	**62**	**55**	**46**	**63**	**48**	**343**

The Commission has intensified efforts to implement action plans and strategies based on four approaches as follows:

As was the case in 2014, there were no reports of piped gas accidents in 2015. The Commission issued reminders on improvement works which are required of private licensees. Apart from that, the Commission also conducted audit inspections on gas installations and made it compulsory for premises with a piped gas system to have a full-time Responsible Person.

Number of Piped Gas Accidents, 2010 - 2015

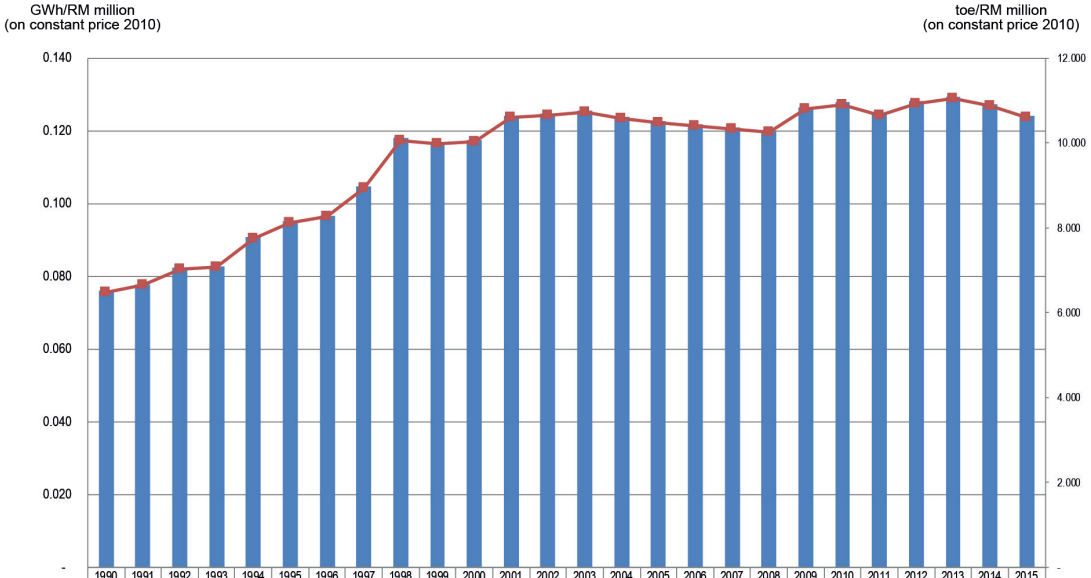


ENERGY EFFICIENCY

DEVELOPMENT OF ENERGY EFFICIENCY

ENERGY INTENSITY

Electricity Energy Intensity, 1990-2015



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Electricity Intensity (toe/GDP) on constant price (RM million)	6.509	6.669	7.057	7.094	7.773	8.147	8.288	8.964	10.102	10.012	10.053	10.631	10.678	10.760	10.602	10.523	10.437	10.374	10.286	10.836	10.948	10.677	10.974	11.086	10.905	10.637
Electricity Intensity (GWh/GDP) on constant price 2010 (RM million)	0.076	0.078	0.082	0.082	0.090	0.095	0.096	0.104	0.117	0.116	0.117	0.124	0.124	0.125	0.123	0.122	0.121	0.121	0.120	0.126	0.127	0.124	0.128	0.129	0.127	0.124

There was a significant increase in electricity energy intensity from 1990 to 2000 as during this period Malaysia was moving towards being a developing nation and a large part of economic activities were focused on the industrial sector.

However, from 2000 to 2015, intensity has been at a stable level as the pace of industrialisation had peaked. At the same time, the country's economy is switching its focus to the service sector which consumes less electricity as compared to the industrial sector.

The decrease of electricity intensity was also due to increasing energy efficiency activities. Electricity energy intensity for 2015 was lower by 2.5% compared with that of 2014 which was at the 0.124 GWh/KDNK level.

MONITORING OF ELECTRICITY CONSUMPTION IN GOVERNMENT PREMISES

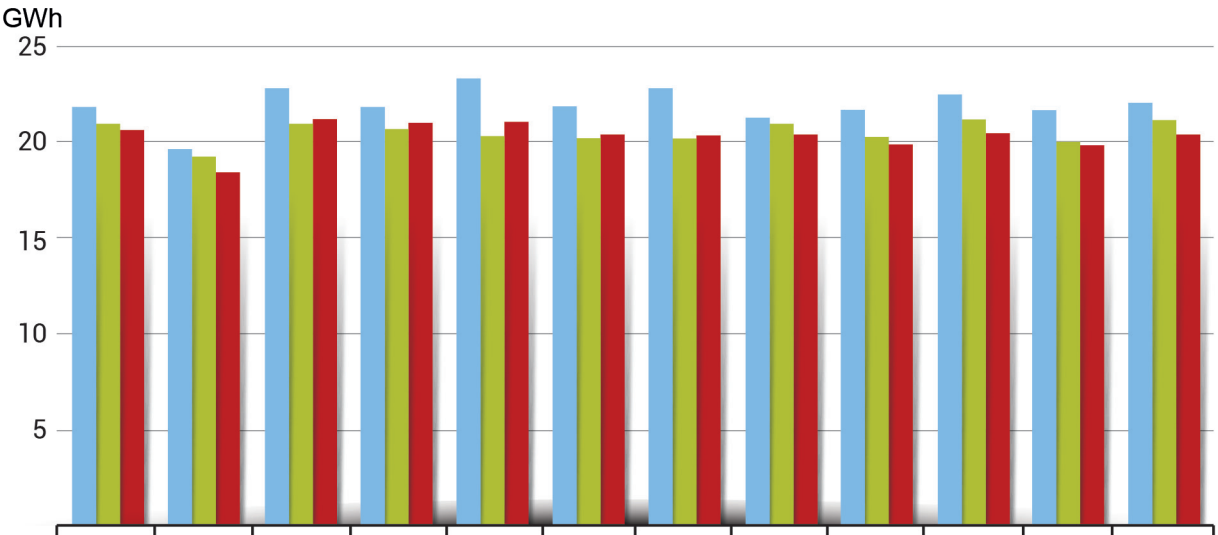
In 2013, the Government decided that a reduction in utilities costs, particularly electricity consumption, be made one of the Key Performance Indicators for all Ministries. A 5% reduction in energy costs was set as the target for 2014.

The Commission monitored the electricity consumption of 25 Government premises based on the cost savings target of 5% set at the initial implementation stage in 2014 and which was continued into 2015. Ultimately, electricity consumption at the 25 Government premises recorded savings of 6.8% in 2015.

Total and Cost of Electricity Consumption in Government Premises, 2013 - 2015

SUBJECT	2013	2014	2015
Total annual consumption of electricity (kWh)	264,317,434	249,559,216	**246,468,187**
Total annual cost of electricity consumption (RM)	100,261,374	113,020,775	**111,261,796**
Percentage of Savings in Electricity Consumption 2015			
Savings in electricity consumption in 2015 against 2013 (baseline)			6.8%
Savings in electricity consumption in 2015 against 2014 (baseline)			1.2%
Percentage of Savings in Electricity Billings 2015			
Increase in electricity consumption costs in 2015 against 2013 (baseline)			11%
Savings in electricity consumption costs in 2015 against 2014 (baseline)			1.6%
Rate of reduction in carbon dioxide emissions in 2015			13,226 tonne of CO_2

Electricity Consumption (GWh) at 25 Government Premises, 2013-2015



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2013	22.32	19.76	23.01	22.89	23.09	22.18	22.78	21.26	21.49	22.53	21.30	21.72
2014	21.25	19.58	21.41	21.02	20.86	20.67	20.50	20.98	20.55	21.36	20.37	21.01
2015	21.10	18.32	21.76	21.33	21.68	20.85	20.59	20.59	19.92	20.85	19.97	20.41

RETROFIT OF BUILDING CONTROL SYSTEM AND CONVERSION TO LED LIGHTING IN GOVERNMENT PREMISES

The projects to promote energy efficiency in Government premises involved two work scopes: Retrofit of the Building Control System and Conversion to Light Emitting Diode (LED) Lighting. The two projects were implemented in 2015 and involved nine Ministries in Putrajaya, which were a part of the 25 Government premises being monitored for their electricity consumption.

Ministries Involved in Retrofit and LED Conversion Projects

NO.	CONVERSION TO LED LIGHTING	RETROFIT OF BUILDING CONTROL SYSTEM
1	Ministry of Finance	Ministry of Human Resources
2	Ministry of Foreign Affairs	Ministry of Health
3	Ministry of Science, Technology and Innovation	
4	Ministry of Domestic Trade, Cooperatives and Consumerism	
5	Ministry of Energy, Green Technology and Water	
6	Ministry of Education	
7	Ministry of Agriculture and Agro-Based Industries	

The selection of the two Ministries for Retrofit of The Building Control System project was based on outcomes of the energy audits conducted in 2010 which indicated that there was potential for energy savings for these buildings. For the Convertion to LED Lighting project, the selections were based on filtering several factors such as a high Building Energy Index and usage of non-energy efficient conventional lighting.

As at the end of 2015, the Commission was still in the process of obtaining the comprehensive report on the Retrofit of the Building Control System Project. The Conversion to LED Lighting at vehicle parking areas of the Ministries concerned showed a 40% savings in energy consumption.

Monitoring of the two projects will continue into 2016 in conjunction with the monitoring of electricity consumption of 25 Ministries.

PROJECTS UNDER THE NATIONAL ENERGY EFFICIENCY ACTION PLAN (NEEAP)

Implementation of energy efficiency programmes under the National Energy Efficiency Action Plan (NEEAP) commenced after approval was obtained from the Government in 2014. The Commission was appointed by the Ministry of Energy, Green Technology and Water as the coordinating agency to ensure smooth implementation of the programmes that had been planned.

Projects under NEEAP, 2016-2020

NO.	PROJECTS
1	Energy audit and management programme in commercial premises.
2	Energy audit and management programme in the industrial sector.
3	Energy audit, management and retrofitting programme in the public sector.

ELECTRICAL EQUIPMENT WITH MINIMUM ENERGY PERFORMANCE STANDARDS RATINGS (MEPS)

Since the gazetting of the Minimum Energy Performance Standards (MEPS) in May 2013, 1,274 models of refrigerators, televisions, air-conditioners and fans have obtained star ratings under the standards. The Commission also issued MEPS certificates for 224 types of lamps compared with 17 in 2015.

ENHANCING COMPETITION AND ECONOMIC EFFICIENCY

COMPETITION

DIRECT AWARD OF 180 MW UPPER PADAS HYDROELECTRIC PROJECT IN SABAH

To cater for the long-term capacity needs of Sabah and simultaneously achieve a balance against high generation costs caused by the price of diesel, the Government had on 13 July 2015 given approval in principle for Konsortium Kerjaya Kagum Hi-Tech JV to launch the Upper Padas Hydroelectric Project as a public-private joint venture with the State Government. The development will fulfill the features of multi-functional infrastructure projects, that are to serve as a power station, flood control dam and water supply source. Discussions on the project are ongoing under the supervision of the Ministry of Energy, Green Technology and Water.

SHORT-TERM CAPACITY ACQUISITION THROUGH RESTRICTED BIDDING

The implementation of several generation projects such as Tanjung Bin Energy, Jimah East Power, the redevelopment of the Connaught Bridge combined cycle plant and the 1,000-1,400 MW combined cycle plant at Pasir Gudang by Konsortium TNB-SIPP are expected to be delayed. Based on the revised electricity demand projections after taking Budget 2015 into consideration, additional capacity will be required to meet the demand for 2016 - 2018 as there will be a capacity shortfall of between 350 MW and 560 MW within this period.

However, as this situation is specifically for short-term, the best approach would be to exploit existing assets to meet reserves requirements. Accordingly, restricted bids for the short term extension of existing power plants were called on 16 March 2015 and finalised in June of the same year.

Bidding was opened to the first-generation IPP's and TNB power plants which were scheduled to cease operations in 2015 and 2016 and restricted to not more than 560 MW in capacity. The commercial offer had to be lower than the existing level and gas fuel and other technical requirements must be submitted in the bids. On the closing date, the following five bids were received:

PLANT	CONCESSION EXPIRY DATE	CAPACITY OFFERED	CONFIGURATION
Putrajaya Power Station Serdang	31 Aug 2015	223 MW	2 x OCGT 100MW & 123MW
Connaught Bridge Power Station Klang	31 Aug 2015	240MW	2 x OCGT 2 x 120MW
Port Dickson Power Station Port Dickson	20 Jan 2015	436MW	4 x OCGT 4 x 109MW
Powertek Power Station Malacca	12 Jan 2015	434 MW	4 x OCGT 4 x 108.5MW
YTL Power Station Paka	30 Sept 2016	585 MW	2 x CCY 390MW & 195MW

Based on the technical evaluation of their bids, the extended concession were awarded to three power plants: Port Dickson Power Station, Powertek Power Station and YTL Power Station, Paka.

POWER ASSET CONSOLIDATION IN THE PENINSULA

PORT DICKSON POWER SDN. BHD.

Malakoff Corporation Berhad acquired the 440 MW capacity Port Dickson power plant from Sime Darby Berhad. In 2015 the power plant was awarded a three-year extension of its concession for up to 28 February 2019. The extension was given based on the competitive tariff offered by Malakoff and currently, the power plant is operating under the new terms and power purchase agreement recently negotiated jointly with the Commission and TNB.

JIMAH EAST POWER SDN. BHD.

1Malaysia Development Berhad-Mitsui Consortium was the original successful bidder for the 2,000 MW Project 3B. However, in early 2015, due to a financial crisis, 1MDB had to withdraw from the consortium. Subsequently, the Government agreed to allow the transfer of 1MDB's stake to TNB to save time and costs as a new bidding exercise would take a year to finalise owing to a lack of a better alternative site for the power plant and that the tariff would be higher owing to rising foreign exchange rates. Construction of the project is ongoing with commencement of operations expected on 15 June and 15 December in 2019. There was no impact on the tariff from the transfer of interests in the project.

IMPLEMENTATION OF NEDA

The New Enhanced Dispatch Arrangement (NEDA) is one of the transformation measures introduced to enhance competition, efficiency and transparency in the electricity supply industry and create a competitive electricity market.

NEDA is expected to reduce electricity costs for the country with the introduction of a liberal electricity supply policy towards power producers under the current PPA/SLA and those with expired PPA/SLA.

The NEDA framework was proposed in The Planning and Implementation Committee for Electricity Supply and Tariff in April 2015 with the following objectives:

- To improve cost-efficiency in the generation industry through short-term competition.
- To promote participation in the sale and purchase of energy from energy-efficient technology such as co-generation.
- To provide opportunities for non-PPA/SLA power producers such as co-generators, renewable energy-based generators, embedded power producers and producers with expired PPA/SLA to operate as Merchant Generators and sell power to Single Buyers.
- To provide opportunities for power producers with expired PPA/SLA to continue to supply cost-effective energy by optimising the use of their existing facilities.

Some of the key principles of NEDA are:

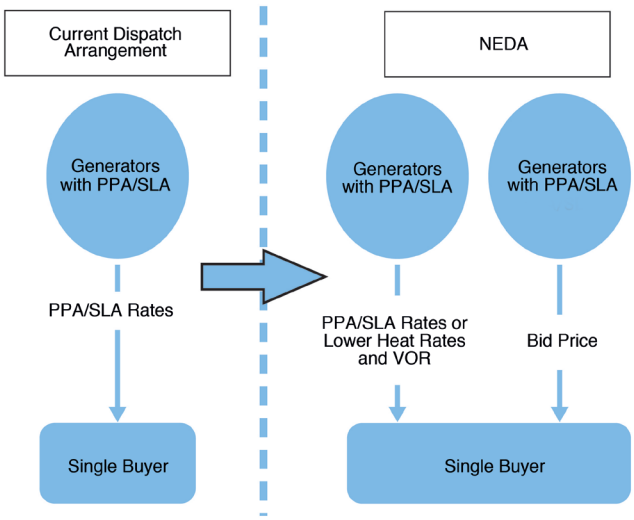
- Power companies with PPA/SLA can offer Heat Rates and Variable Operating Rates (VOR) that are lower than what have been stipulated in the PPA/SLA. If power is dispatched, generators will be paid at their offered price. If no offer has been made, the PPA/SLA rates will apply.
- Merchant Generators (power producers with expired PPA/SLA), co-generators, renewable energy-based generators and embedded generators with more than 10 MW are allowed to supply power to Single Buyers. If power is dispatched, generators will be paid at their offered price.
- Merchant Generators such as co-generators and renewable energy generation with 100 kW to 10 MW are allowed to sell power.

- That there are no major changes in the generation schedule and the original transmission arrangement.

- That there is no conflict with the original PPA/SLA.

The NEDA mechanism has been documented in the NEDA Regulations and should be applied in conjunction with the Single Buyer Regulations. Single Buyers are required to devise a power transmission schedule by generation units using the Least Cost Dispatch Scheduling Methodology. The hierarchical transmission of power is performed under the Least Cost Dispatch, that is, transmission starts with the least-cost generators and ends with the highest-cost until total demand has been met.

Electricity Supply Industry Reform with NEDA



NEDA was implemented in stages, with the first phase launched in October 2015 for generators with PPA/SLA to offer VOR alternatives. The second phase for Merchant Generators without PPA/SLA, co-generators and renewable energy generation has been planned for implementation in the third quarter of 2016.

ECONOMIC EFFICIENCY

RING-FENCING ON SINGLE BUYER AND SYSTEM OPERATOR

The year 2015 was the second year the ring-fencing mechanism was applied to Single Buyer and System Operator. The Electricity Supply Act (Amendment) 2015 recognises Single Buyer and System Operator as departments that constitute as an entity of the licencees. This recognition means that Single Buyer are now responsible for electricity procurement and related services including planning, scheduling, acquisitions and settlement and other functions as specified. The Single Buyer is also required to comply with regulations, codes, guidelines and instructions related to their functions issued by the Commission or the Minister concerned. The amendment also recognises the ring-fencing mechanism imposed upon the Single Buyer and System Operator.

The Oversight Panel, the committee which monitors the implementation of ring-fencing on the Single Buyer and System Operator, is headed by the Commission's Chairman. Its members consists of representatives from the Commission, TNB, Ministry of Energy, Green Technology and Water, TNB Fuel and Petronas. The Oversight Panel convened three times in 2015 to discuss situations and issues related to grid system reliability and current challenges such as energy projections, fuel and energy sufficiency and the need for new transmission lines and operating systems.

No requests to amend the Single Buyer Rules were received in 2015 by the Rule Change Panel.

BENCHMARKING STUDY ON GENERATION, TRANSMISSION AND DISTRIBUTION COSTS

In 2015, the Commission conducted a Benchmarking Study On TNB's Generation, Transmission and Distribution Costs to analyse and compare its generation costs against those of IPP power plants as well as capital and operating costs of TNB's transmission and distribution entities against those of regional utilities.

The Purchasing Power Parity Index was used to analyse TNB's benchmark for generation, capital and operating costs against those of international utilities in order to obtain a balanced and more accurate comparison. The results of the study will serve as a guide and direction for a further review by the Commission.

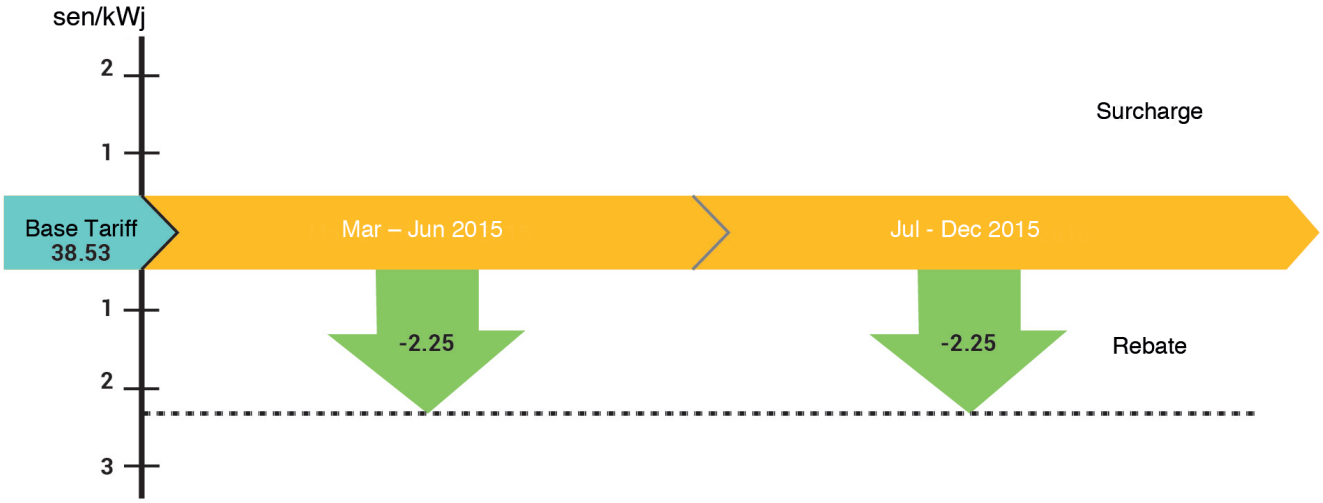
IMPLEMENTATION OF IMBALANCE COST PASS-THROUGH MECHANISM

The Imbalance Cost Pass-Through (ICPT) mechanism was implemented in the Peninsula in January 2014 as a means to allow any changes in fuel and generation costs beyond the control of utilities to be passed down to consumers every six months.

The elements of fuel and generation costs taken into consideration to calculate the ICPT are prices of piped natural gas, liquefied natural gas, coal and distillates and MFO. Other related generation costs are PPA displaced costs for renewable energy and cost of power purchase from foreign countries.

In 2015, two ICPT reviews were made in the Peninsula, from 1 March to 30 June, and from 1 July to 31 December. The reviews in the two periods resulted in a rebate of 2.25 sen/kWh, with part of the rebate for the second period absorbed by the first-generation IPP Power Purchase Agreement's renegotiated savings funds.

ICPT Mechanism Implementation



In Sabah and Labuan although the ICPT mechanism has not yet been implemented, the Government approved a reduction of 1.20 sen/kWh from the average tariff of 34.52 sen/kWh for the same period as in the Peninsula.

The reduction is in accordance with the fall in world crude oil price which has lowered fuel costs for electricity generation in Sabah and Labuan.

FUEL PRICE AS DETERMINANT OF ELECTRICITY TARIFF

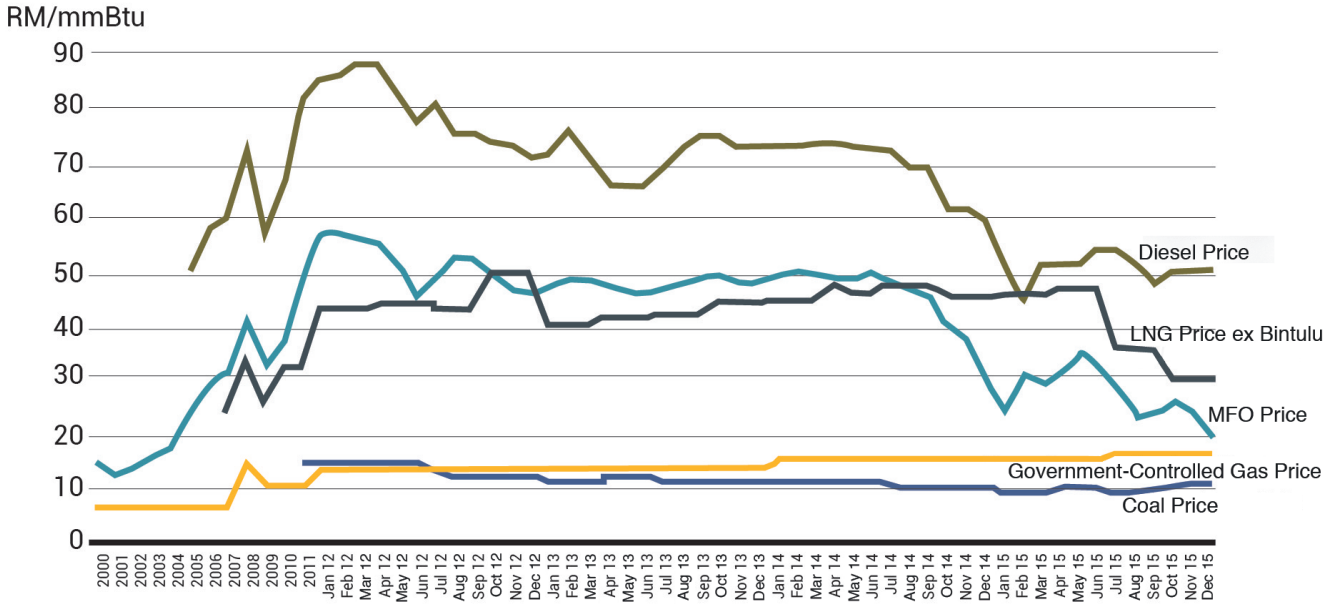
The primary fuel components used to determine electricity tariff are piped gas, coal and LNG. The price of piped gas is controlled by the Government, while market forces determine coal and LNG prices.

In its efforts to rationalise subsidisation, the Government had decided that the price for piped gas be increased by RM1.50/mmBtu every six months until it reached the same level as market price. Accordingly, from 1 January 2014, piped gas price increased to RM15.20/mmBtu from RM13.70/mmbtu in 2013. However, the Government postponed the price increase between July 2014 and June 2015. In July 2015, piped gas price was increased again and set at RM16.70/mmBtu.

The price of coal is determined by prevailing market forces and is based on the Applicable Coal Price (ACP) mechanism. Coal, at RM11.40/mmBtu in the last quarter of 2015, is the cheapest fuel component in the determination of electricity tariff.

LNG price is based on its export value ex Bintulu and the Japan Customs-Cleared Crude (JCCC) price index, both of which are influenced by the effect of the trailing price respectively between two to four and five to six months. Therefore, any fall or rise in world crude oil price is expected to impact the price of LNG in the Peninsula only after six months. The price of LNG in the last quarter of 2015 fell to RM31.32/mmBtu (the highest was RM47.90/mmBtu) as the result of the fall in world crude price.

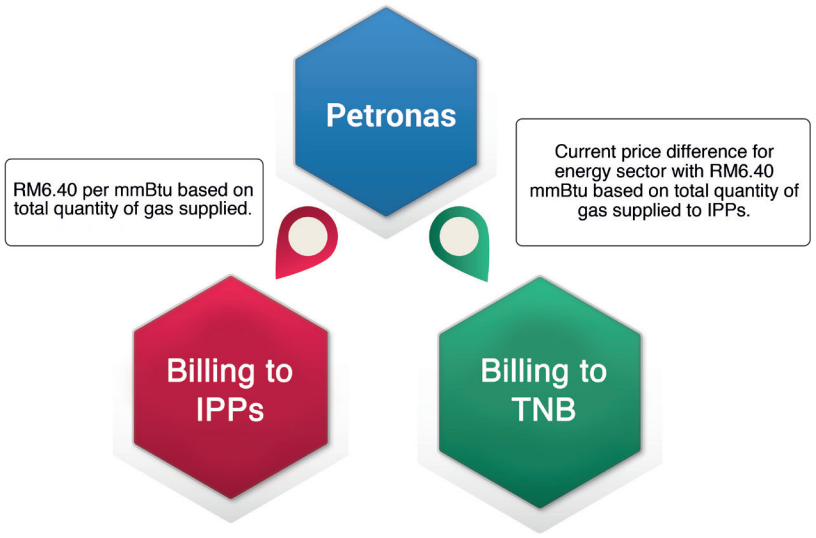
Fuel Price Flow for Determination of Electricity Tariff



GAS BILLING MECHANISM

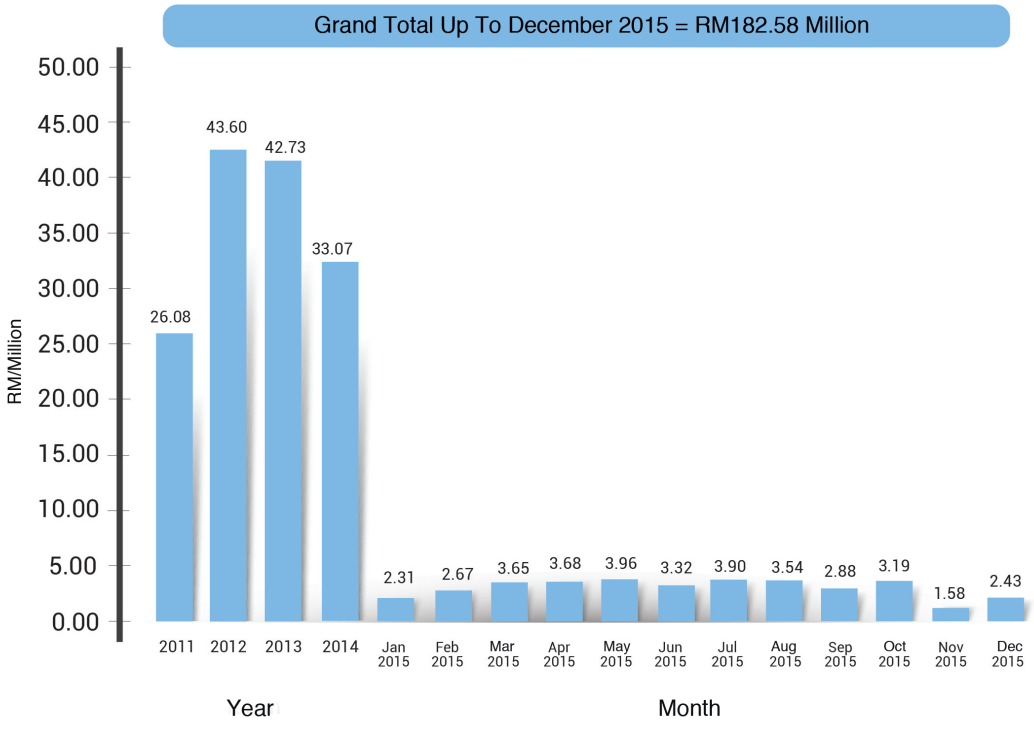
The implementation of the gas billing mechanism continued in 2015 due to the effective handling of unintended gains by IPPs who use natural gas for generation. As had been the case in the preceding years, the mechanism was monitored and regulated by the Gas Billing Mechanism Committee which is chaired by the Commission.

Petronas Billing under the Gas Billing Mechanism



Savings obtained by TNB from the reduction in fuel prices to IPPs are channelled through the ICPT mechanism in accordance with the Government's decision to lighten the burden of the people whenever relief from fuel price costs is obtained. On the whole, the gas billing mechanism has achieved savings of RM182.58 million in total or an average of RM3.15 million per month from March 2011 to December 2015.

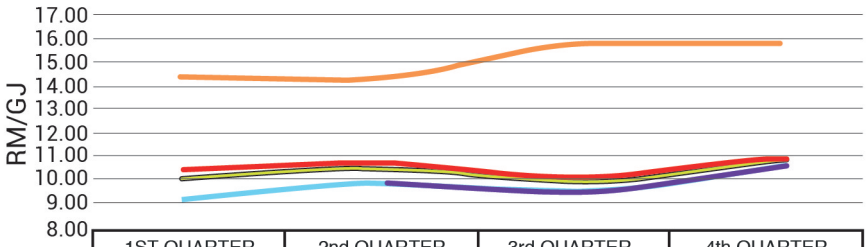
Savings from Gas Billing Mechanism, March 2011 - December 2015



IMPLEMENTATION OF ACP MECHANISM

The price of coal supplied to power stations has been determined by the ACP mechanism since 2011. In 2015, the market price of coal was unstable and subsequently fell owing to the influence of the Ringgit Malaysia exchange rate.

Coal Price



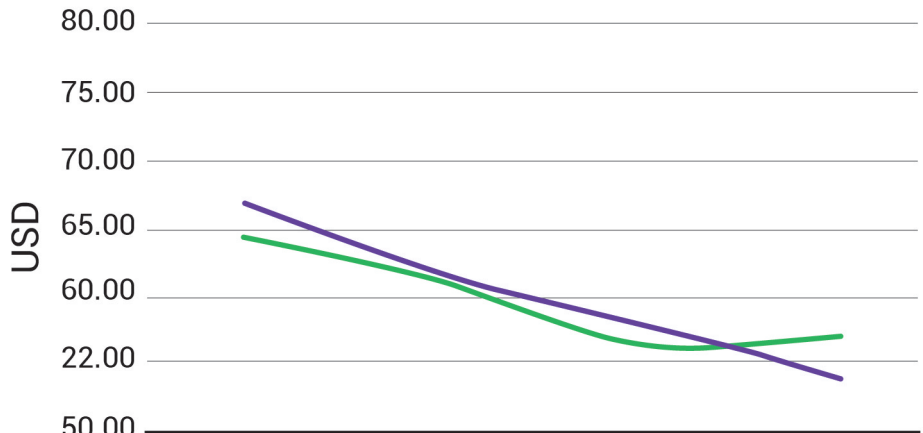
	1ST QUARTER 2015 (RM/Gj)	2nd QUARTER 2015 (RM/Gj)	3rd QUARTER 2015 (RM/Gj)	4th QUARTER 2015 (RM/Gj)
Jimah Energy Ventures (JEV)	10.04	10.46	9.92	10.85
TNB Janamanjung (TNBJ)	9.16	9.86	9.49	10.61
TNB M4		9.86	9.49	10.61
Kapar Energy Ventures	10.41	10.72	10.11	10.95
Tanjung Bin Power	10.04	10.46	9.92	10.85
Gas Price	14.407	14.407	15.828	15.828

In 2015, coal price at 15.83 RM/Gj was lower than that of world gas price owing to a depressed market which was exacerbated by a fall in bunker rates for coal shipments.

Two of the biggest coal buyers - China and India - had also reduced their imports as domestic sources were mostly cheaper than that of the global market.

The Newcastle coal price index (NWEC) and the Argus McCloskey Coal Price Index (API#4) indicated that the decline in coal prices was caused by an imbalance between supply and demand. In the fourth quarter of 2015, however, the NEWC price index showed a slight increase subsequent to the depreciation of the Ringgit Malaysia.

Market Price Index



	1ST QUARTER 2015 (USD)	2nd QUARTER 2015 (USD)	3rd QUARTER 2015 (USD)	4th QUARTER 2015 (USD)
NEWC	64.3	61.0	56.65	57.2
API4	66.45	61.55	58.1	54.35

INTRODUCTION OF ENHANCED TIME-OF-USE (EToU) SCHEME IN THE PENINSULA

In 2015, the Government approved the implementation of the EToU scheme as an alternative option for commercial and industrial consumers under tariff category C1, C2, E1, E1s, E2, E2s, E3 and E3s to reduce energy costs. The scheme will take effect from 1 January 2016. The EToU scheme for consumers under category D and Ds will commence only in January 2017 as re-programming works are required in the existing metering system.

Under this tariff scheme, consumers would be able to control their electricity consumption and benefit from the lower tariff if they operate during off-peak periods. The scheme will also help to reduce the operating costs of consumers who are receiving discounts under the Special Industry Tariff as these discounts are being abolished in stages up to 2020. However, there was dissatisfaction from some consumers who were not able to enjoy the benefits as they operate around-the-clock daily.

The EToU tariff rate from Monday to Friday is based on consumption during peak, medium peak and off-peak periods. For Saturdays, Sundays and public holidays, only the off-peak rates will apply.

For the initial switch from the existing rates to the EToU scheme, TNB will install and re-programme all existing meters for the new scheme. The entire conversion cost will be borne by TNB. However, should a consumer decide to switch back to the existing tariff, the latter would have to bear the full cost of re-conversion.

EToU Tariff Rate

	MAXIMUM DEMAND CHARGE (RM/kW/Monthly)			ENERGY CHARGE (sen/kWh)				
	CURRENT RATE	EToU RATE		CURRENT RATE		EToU RATE		
		Peak	Medium Peak	Peak	Medium Peak	Peak	Medium Peak	Off-Peak
C1 – General Commercial Medium voltage	30.30	34.00	28.80	36.50		58.40	35.70	28.10
C2 – Commercial Peak/Off-peak Medium voltage	45.10	48.40	42.60	36.50	22.40	63.60	33.90	22.40
D – Industrial Low voltage	-	42.10	37.20	38.00 (1-200 kWh)		48.40	32.70	24.90
Ds – Special Industrial	-	42.10	37.20	44.10 (201 kWh and above)		48.40	32.70	24.90
E1 –General Industrial Medium voltage	29.60	35.50	29.60	42.70		56.60	33.30	22.50
E1s – Special Industrial	23.70	35.50	29.60	33.70		56.60	33.30	22.50
E2 – Industrial Peak/Off-peak Medium voltage	37.00	40.00	36.00	33.60	21.90	59.20	33.20	21.90
E2s – Special Industrial	32.90	40.00	36.00	33.60	19.10	59.20	33.20	21.90
E3 – Industrial Peak/Off-peak High voltage	35.50	38.30	35.00	33.70	20.20	57.60	32.70	20.20
E3s – Special Industrial	29.00	38.30	35.00	31.70	17.50	57.60	32.70	20.20

MONITORING FINANCIAL PERFORMANCE OF GENERATION LICENSEES

The Commission conducts annual reviews of the financial performance of major generation licensees as part of its monitoring function in order to gauge their reliability from the technical and financial perspective. As stipulated in the licensing terms, licensees are required to submit their annual audited financial statements to the Commission for analysis.

TNB

In the Financial Year 2015, TNB recorded a 5.9% drop in profit after tax at RM5.62 billion compared with RM5.97 billion in FY2014. The decline in profit was attributed to the fall in the value of Ringgit Malaysia which caused foreign exchange losses of RM0.93 billion compared with RM0.44 billion in FY2014. The total revenue recorded for FY2015 included the total ICPT of RM1.85 billion for the period 1 January 2014 to 31 August 2015 that had not been discharged to consumers.

Operating expenditure for FY2015 fell 3.2% to RM32.4 billion compared with RM33.5 billion in FY2014. The lower expenditure was the result of lower generation costs from lower consumption of LNG, oil and alternative fuels. The lower prices for coal and LNG also helped in lowering generation costs.

The return on rate base (RORB[1]) in FY2015 was approximately 8.9%.

SESB

SESB recorded a 23.4% drop in profit after tax in FY2015 to RM98.6 million compared with RM128.8 million in FY2014. The primary cause for the decline in profit was an 87% increase in financial costs against that of 2014.

SESB's revenue rose to RM1.93 billion in FY2015, an increase of 12.9% compared with RM1.71 billion in FY2014. The revenue included the subsidised electricity tariff rebate totalling RM23.7 million for the period 1 March to 31 August 2015.

The regulated returns obtained by SESB for FY2015 showed an RoRB of 4.3%.

Restructuring of SESB Business Entities

The implementation of the IBR framework in determining electricity tariffs in the Peninsula commenced in 2012. Early planning is also required in order to implement measures to review electricity tariffs in Sabah and Labuan through the framework.

To implement the IBR in Sabah, several frameworks needed to be prepared. Preparations of the frameworks which commenced in 2015 included:

i. To prepare a draft of the regulatory implementation guidelines as a guide for SESB.

ii. To demarcate SESB activities in order to determine for the utility which are regulated or non-regulated businesses and also to separate the respective accounts.

iii. To prepare a revenue requirement model.

iv. To prepare SLAs for SESB power plants.

v. To create Single Buyer and Grid System Operator.

vi. To determine the regulatory period to ensure that research on tariffs are conducted periodically and consistently.

vii. To determine efficiency targets for financial and technical performance of utilities concerned in order to facilitate the regulatory processes of the Commission in creating an electricity supply industry that is competitive and viable.

viii. That the ICPT mechanism is utilised according to established timelines.

ix. That the shared savings mechanism from electricity supply activities are channelled back to consumers or for the utilisation of the power industry.

[1]RoRB = $\frac{\text{(sales revenue - operation cost - depreciation - consumer deposit interest - corporate tax)}}{\text{(power plant, equipment and asset - accrued earnings - consumer deposit)}}$

In conjunction with the IBR initiative, the amended Sabah and Labuan Grid Code, which came into force on 1 January 2015, will involve a restructuring of the role and functions of departments in SESB so as to be in line with the functions as stipulated in the Code:

i. That the GSO's responsibilities for the grid system's real time operations in Sabah and Labuan include:

   a. Monitoring and controlling the grid system to ensure that it is operated safely, reliably, continuously and more economically.

   b. To handle and coordinate maintenance and control operations of the grid system in Sabah and Labuan.

   c. To run the generation dispatch of each power station based on the schedule issued by the Single Buyer.

ii. That the Grid Owner who represents the SESB Transmission Division is responsible for the development, maintenance and operations of SESB transmission lines.

iii. That the Single Buyer is responsible for planning and making power demand projections, acquisition of generation capacity, generation scheduling and supervision of commercial affairs with generators.

The amended Code also provides for additional scopes for Single Buyer, GO and GSO with the creation of the Licence Standards for planning and also the operation and maintenance procedures for Sabah and Labuan. In connection with this, a workshop was held in Kota Kinabalu with Single Buyer and Grid System Operator departments from the Peninsula from 23 to 25 March 2015 in order to give exposure to SESB.

The Single Buyer Department in SESB was formed on 1 June 2015 and a GSO Technical Advisor (with expertise and experience in re-framing the Malaysia Grid Code in 2007) was appointed on 1 September 2015.

Preparation of Regulatory Accounts for Each SESB Business Entity

As a preparation towards the IBR mechanism framework, SESB is required to provide regulatory accounts consisting of detailed and transparent information on capital, operating, distribution and other costs.

Since 2013, in accordance with licensing requirements, SESB has been required to have separate accounts for each of its licensed business activities. Should the Government approves the IBR mechanism in 2017, SESB will need to provide regulatory accounts for its four business entities as contained in the Regulatory Implementation Guidelines, that is, Single Buyer, Transmission, Grid Operations and Distribution. These accounts will be analysed and used to determine SESB's base tariff under the IBR mechanism.

IPP

In the Peninsula and Sabah, the auditing of FY2015 accounts of most of the major IPPs was ongoing.

For FY2014, the financial performance of IPPs in the Peninsula can be summarized by the average return on asset (ROA) according to first, second or third generation power stations. First-generation IPPs recorded an ROA of 27.1%, second-generation 6.4% and third-generation 3.5%. On the whole, the financial performances of IPPs in the Peninsula are sound and stable.

In Sabah, the ROA of IPPs in FY2014 was in the region of -3.7% to 27.9%. Among the IPPs, ARL Power Sdn. Bhd. recorded the highest ROA at 27.9% owing to an increase in profit after tax from other income streams. Stratavest Sdn. Bhd. recorded a negative ROA as a result of losses by several power plants which had shut down in 2014. Generally, the performance of IPPs in Sabah was stable.

TOWARDS IBR IMPLEMENTATION IN SABAH AND LABUAN

The IBR mechanism as used in other countries for economic regulation of electricity utilities has proven to be an effective method to determine electricity tariff. The Commission which set the TNB electricity tariff for the Peninsula under the IBR mechanism in 2012 intends to streamline the determination of electricity tariff in Sabah and Labuan with that of the Peninsula under the IBR mechanism.

Preliminary steps taken towards the implementation of IBR in Sabah and Labuan were:

- Preparation of Regulatory Implementation Guidelines as a guide for SESB in determining tariff under the IBR regime;
- Demarcation of SESB activities and determining businesses that are regulated and those that are unregulated for utilities, including separation of respective accounts:
- Preparation of revenue requirement model (RRM) for SESB;
- Preparation of separate SESB accounts from 2013 for Generation, Transmission and Distribution, including total registered asset value being taken into consideration in RRM calculations.
- Determination and monitoring of SESB performance indicators since 2014;
- Preparation of SLA for SESB power stations;
- Creation of Single Buyer's role in SESB's organisational structure from 2015; and
- Implementation of fuel cost savings in the form of electricity tariff rebates of 1.20 sen/kWh since March 2015 which is borne in full by the Government every six months, together with the implementation of IPCT in the Peninsula.

PREPARING THE SLA FOR SESB POWER STATIONS

Among the primary components in the implementation of the IBR to determine electricity tariff in Sabah and Labuan is the SLA of SESB power stations with the Single Buyer. The concept and commercial and technical terms for the SLA are as stipulated in the Power Purchase Agreement with IPPs.

Considering that up to now SESB does not have SLAs for its power stations, it is imperative to have the agreement in place in order to facilitate the monitoring of its operating efficiency from the technical and financial perspective. Besides this, the SLA will also be used for calculating notional revenue in the financial report according to SESB business entities as well as the generation costs of Single Buyers in the IBR mechanism.

As a start, SESB has submitted a draft SLA for three major power stations, Patau-Patau, Tenom Pangi and Kubota and is currently finalising the rates and SLA documents for these stations.

REVIEW OF GAS MALAYSIA BERHAD NATURAL GAS TARIFF

The review of the natural gas tariff and implementation of the Gas Cost Pass-Through (GCPT) mechanism for GMB originally scheduled for May and November each year has been rescheduled for January and July so as to align the natural piped gas price increase period for the energy and non-energy sector. As at June 2015, the average GMB natural gas tariff remained at RM19.77/mmBtu.

Effective from 1 July 2015, GMB's average natural gas tariff was revised to RM21.80/mmBtu. The revision only involved the implementation of the GCPT mechanism and did not affect other components of the tariff.

The Government has approved GMB's natural gas tariff revision to take effect from 1 January 2016. The average tariff will rise by 17.11% to RM25.53/mmBtu. Besides the implementation of the GCPT mechanism, the revision also involved other components in the tariff such as regulated assets, cost of depreciation, operating costs and rate of return.

Tariff for Each Category of GMB Customers

TARIFF CATEORY	CONSUMER CATEGORY	RANGE OF GAS USAGE (mmBtu)	TARIFF (RM/mmBtu)		
			November 2014 – June 2015	July – December 2015	January – June 2016
A	Domestic	0	19.52	19.52	19.52
B	Commercial	0-600	21.00	20.30	23.78
C	Commercial	601-5,000	18.19	20.40	23.90
D	Industrial	5,001-50,000	18.55	20.60	24.14
E	Industrial	50,001-200,000	19.44	21.50	25.19
F	Industrial	200,001-750,000	19.63	21.50	25.19
L	Industrial	750,000 and above	20.11	22.22	26.03
		AVERAGE TARIFF (RM/mmBtu)	**19.77**	**21.80**	**25.53**

IBR Mechanism in Revision of GMB Natural Gas Tariff

The Commission obtained Government approval on 29 September 2015 to use the IBR mechanism in revising GMB's natural gas tariff on 1 January 2016. The trial period will be 2016 while 2017 to 2019 will be the first regulatory period.

Under the IBR mechanism, there will be provisions for incentives and imposition of penalties on GMB's annual financial turnover based on the company's annual performance target and reasonable rates of return determined by the Commission with the concurrence of the Government.

IBR enables GMB to take initiatives to reduce its operating costs without affecting its service quality in the first regulatory period to be in force from 2017 to 2019. Savings accrued will be shared with consumers through tariff reductions whenever the current base tariff is revised for the following regulatory period.

ENERGY SECTOR INFORMATION AND DATA

The Malaysia Energy Information Hub (MEIH), which serves as the Commission's database, was developed in 2011 and launched in 2012. The website contains statistical information on the country's energy and also major publications of the Commission such as the National Energy Balance (NEB), the Performance and Statistical Information of the Electricity Supply Industry in Malaysia and the Malaysia Energy Statistics Handbook.

Since 2014, NEB data providers were given access to update their respective data. As up to now, 30 data providers are collaborating to provide the data to NEB annually.

In 2015, the Commission upgraded the MEIH website to enrich its contents and design, to make it more responsive as well as to optimise its functions as an on-the-go database using tablets and smartphones.

To ensure good practice in compiling data, the Commission also introduced the Establishment of Standard Operating Procedures (SOP) for Energy Data Collection and Dissemination to allow for a more detailed and systematic data compilation while at the same time enhancing the quality of the data collected.

With an improved MEIH and the provision of an SOP, it is hoped that the role of the Commission as the main reference source for the country's energy will be more effective and that it will meet the needs of domestic and international audience.

ENHANCING LEGAL COMPLIANCE AND SERVICE QUALITY

LEGAL COMPLIANCE

LICENSING AND CERTIFICATION

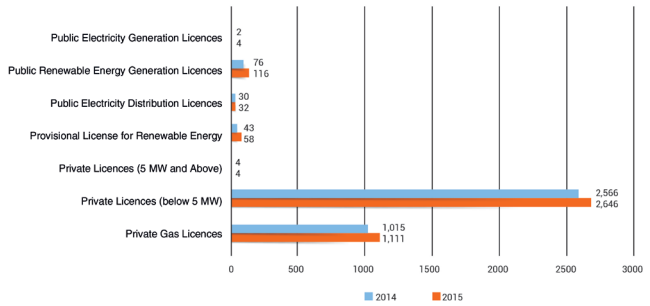
ISSUANCE OF PUBLIC AND PRIVATE LICENCES

In 2015, 3,971 licences were issued compared with 3,726 the previous year. From the total, 210 are public licences, including provisionals. Public generation licences were issued to three new generators, namely, TNB Manjung Five Sdn Bhd, TNB (Generation Division – Hulu Terengganu Project) and TNB Connaught Bridge Sdn Bhd. The Commission also extended the generation period of TNB Pasir Gudang Sdn. Bhd.

15 licences were revoked and nine amended. The revocation of the fifteen licences was owing to failure by the licensees to commence operations, changes in shareholding of the company and the sales of company assets.

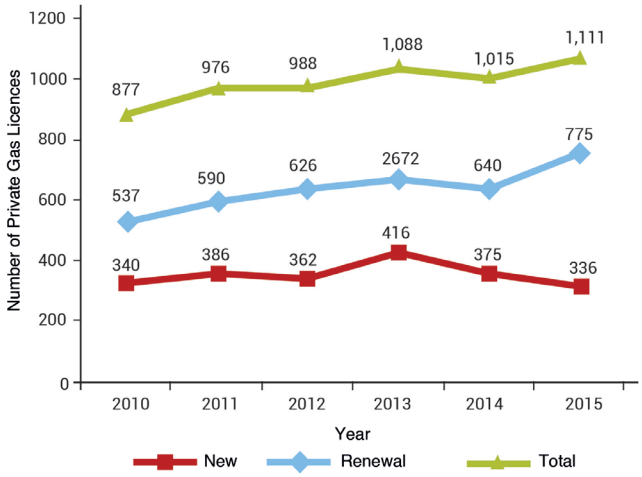
Of the 289 licences issued by the Commission for renewable energy generation, eight were revoked. The 253 valid licences are in the Peninsula (305.768 MW) and 28 in Sabah (65.3254 MW).

Public and Private Licences Issued in 2014 – 2015



There were 1,111 applications for new and renewed private gas licences in 2015 compared with 1,015 in 2014. Also underway is the issuance of reminders for licence renewal while periodic monitoring was conducted on the appointment of responsible persons and maintenance reports of premises.

Private Gas Licences Issued in 2010 - 2015



Registration and Approval of Installations

There was an increase in registrations for electrical and piped gas installations in 2015. Registrations (new and re-registrations) for electrical installations increased from 10,599 in 2014 to 10,622 in 2015. A total of 2,434 approvals were given for natural gas and LPG installations and operations compared with 2,288 in 2014. The approvals included private pipe systems, pipe transmission systems, metering stations, regional stations, regulating stations and additional gas installations.

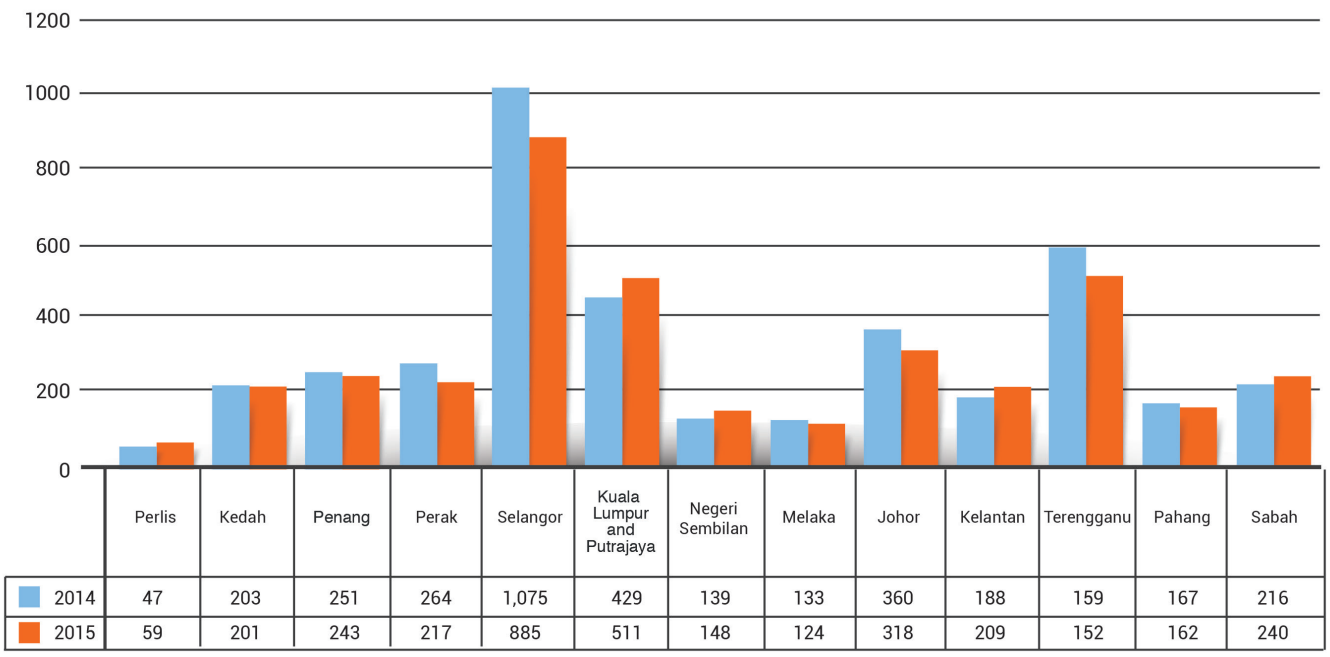
Approval to Install and Operate Natural Gas and LPG Installations, 2014 - 2015

APPROVAL	CATEGORY	NATURAL GAS INSTALLATIONS		LPG INSTALLATIONS	
		2014	2015	2014	2015
To Install (ATI)	Industrial	86	168	0	3
	Commercial	104	9	1,012	1,146
	Residential	19	13	34	19
	TOTAL	**209**	**190**	**1,046**	**1,168**
To Operate (ATO)	Industrial	83	180	0	1
	Commercial	94	9	824	873
	Residential	9	4	23	9
	TOTAL	**186**	**193**	**847**	**883**

Registration of Contractors

There were 3,459 registrations of electrical contractors in 2015, a drop of 7% compared to 2014. The downward trend was also observed in the registration of gas contractors, with only five new contractors being registered compared with nine in 2014.

Registration of Electrical Contractors



	Perlis	Kedah	Penang	Perak	Selangor	Kuala Lumpur and Putrajaya	Negeri Sembilan	Melaka	Johor	Kelantan	Terengganu	Pahang	Sabah
2014	47	203	251	264	1,075	429	139	133	360	188	159	167	216
2015	59	201	243	217	885	511	148	124	318	209	152	162	240

New and Renewed Registration of Gas Contractors

TYPE OF APPLICATION	CLASS A	CLASS B	CLASS C	CLASS D	TOTAL
Renewal	40	42	11	8	**101**
New	1	2	1	1	**5**

COMPETENCY CERTIFICATION

COMPETENCY CERTIFICATION FOR ELECTRICITY AND GAS

A total of 6,412 Electrical Competency Certifications were issued in 2015, an increase of 19.3% compared with 5,376 in 2014. The total number of certifications issued up to the end of 2015 was 114,191.

Total Competency Certifications Issued until 2015 by Category

CATEGORY	RESTRICTION	NUMBER
Electrical Services Engineer (JPE)	11 kV	43
	22 kV / 33 kV	106
	66 kV	2
	132 kV	46
	275 kV	41
	500 kV	9
	TOTAL	**247**
Competent Electrical Engineer (JEK)	1 kV	2
	11 kV	230
	22 kV / 33 kV	313
	66 kV	10
	132 kV	161
	275 kV	478
	500 kV	29
	TOTAL	**1,223**
Electrical Supervisor (PE)	1 kV	231
	TOTAL	**231**
Chargeman (PJ)	A0	15,905
	A1	14,375
	A4 - A2	599
	A4 - A1	704
	A4	7,028
	BO - 2	329
	BO - 1	564
	BO	4,417
	B1	1,257
	B4	1,436
	TOTAL	**46,614**
Cable Jointer (PK)	1 kV	219
	11 kV	173
	22 kV / 33 kV	127
	132 kV	3
	TOTAL	**522**
Wireman (PW)	PW1	11,202
	PW2	25,059
	PW3	6,820
	PW4	22,216
	PW5	5
	PW6	52
	TOTAL	**65,354**
	GRAND TOTAL	**114,191**

Electrlcal Competency Certifications Issued

TYPE OF APPLICATION	CATEGORY OF COMPETENCY CERTIFICATION						
	WM	CM	CJ	ES	CEE	ESE	TOTAL
Through Energy Commission Examinations	99	361	0	7	33	8	508
Through Accredited Institutions	3,213	2,664	27	-	-	-	5,904
TOTAL	3,312	3,025	27	7	33	8	6,412

15 competency examinations for Electrical Services Engineers, Competent Electrical Engineers and Electrical Supervisors were conducted by the Commission in 2015. Only 51 of the 68 candidates passed the examinations.

Of the total of 736 candidates who sat for the Chargeman (A4-2, A4-1, A4, B0-2, B0-1, B0, B1 and B4) competency (theory) examination on 25 March 2015, only 198 passed.

Thirty-seven new approvals were given to accredited institutions to conduct various training courses compared with 43 in 2014. The new approvals are as follows:

New Approvals for Accredited Institutions

NO.	INSTITUTION	NO.	INSTITUTION
1	ADTEC Kemaman, Terengganu • PW2 (Full /Part Time)	11	GIATMARA Ledang, Johor • PW4 (Full Time) - 2-year course
2	ADTEC Shah Alam, Selangor • A1 (Full Time)	12	GIATMARA Prima Tasek Gelugor, Pulau Pinang • PW4 (Full Time) - 2-year course
3	ADTEC Shah Alam, Selangor • Main Switchboard and Low Voltage Motor Control Module (Full Time)	13	GIATMARA Raub, Pahang • PW2 (Full/ Part Time). Change of Address
4	Akademi Binaan Malaysia Wilayah Timur, Terengganu • Low Voltage Overhead Lines Module (Part Time)	14	GIATMARA Sepang, Selangor PW2 (Full/ Part Time)
5	Akademi Binaan Malaysia Wilayah Timur Terengganu • Main Switchboard and Low Voltage Motor Control Module (Part Time)	15	IKBN Bukit Mertajam, Pulau Pinang • PW4 (Full Time) - 2-year course
6	GIATMARA Jeli, Kelantan • PW2 (Full/Part Time) Change of Address	16	IKBN Bukit Mertajam, Penang • Main Switchboard and Low Voltage Motor Control Module (Part Time)
7	GIATMARA Jerai (Yan), Johor • PW2 (Full/Part Time)	17	IKBN Seri Iskandar, Perak • PW2 (Full Time / Part Time)
8	GIATMARA Jerantut, Pahang • PW2 (Part Time)	18	IKM Beseri, Perlis •PW4 (Full Time) - 1-year course
9	GIATMARA Keningau, Sabah • PW2 (Full /Part Time) Change of Address and Increase in number of trainees	19	IKM Besut, Terengganu • PW4 (Full Time) - 1-year course
10	GIATMARA Kulai, Johor • PW2 (Full / Part Time)	20	IKM Jasin, Melaka • PW4 (Full Time) - 1-year course
21	IKM Johor Bahru, Johor • A1 (Full Time) Increase in number of trainees	30	ILSAS, Bangi, Selangor • 11 / 33 kV Cable Span Practices Module (Full/Part Time) Additional number of trainees and sessions of up to 10 a year.
22	KM Lumut, Perak • PW4 (Full Time) - 3-year course	31	KISMEC, Sungai Petani, Kedah • A0 (Full/Part Time) Change of address
23	KM Sungai Petani, Kedah •PW4 (Full Time) - 3-year course	32	Kolej Kemahiran Tinggi MARA PasirMas, Kelantan • A1 (Full Time)
24	IKM TASYA Pekan, Pahang • PW4 (Full Time) - 3-year course	33	Kolej Kemahiran Tinggi MARA Pasir Mas, Kelantan • A1 (Full Time)
25	ILP Kuala ILP Terengganu, Terengganu • Main Switchboard and Low Voltage Motor Contol Module (Part Time)	34	Kolej Kemahiran Tinggi MARA Pasir Mas, Kelantan • Low Voltage Overhead Lines Module (Part Time)
26	LP Kota Kinabalu, Sabah • A1 (Full / Part Time)	35	Kolej Komuniti Yayasan Pelajaran Johor, Kluang, Johor • PW2 (Full /Part Time)
27	IILP Miri, Sarawak • AO (Full / Part Time)	36	Kolej WIT Sdn Bhd, Port Klang, Selangor •PW2 (Full/Part Time)

NO.	INSTITUTION	NO.	INSTITUTION
28	ILP Sandakan, Sabah • Main Switchboard and Low Voltage Motor Control Module	37	PSDC Bayan Lepas, Penang • A0 (Full / Part Time)
29	ILSAS, Bangi, Selangor • B1 (33 kV) Restricted Additional sessions up to 5 sessions a year		

Note:
WM2 : One Phase & Endorsement Test
WM4 : Three Phase & Endorsement Test
A0 : Low Voltage System (Without Aerial Lines and Power Stations)
A1 : Low Voltage System (Without Power Stations)
A4 : Low Voltage System
B1 : High Voltage System (Without High Voltage Power Stations)

The Commission, through its Examinations Committee, has been looking at some implementation, procedural and policy issues of the competency examinations. Among the matters discussed in 2015 were:

- New applications for accreditation by institutions.
- The Committee's confirmation of competency examination results.
- Applications for Restricted Competency Certification by local authorities.
- Request by Malaysia Strategic Partners Association (PERNISMA) for permission to sit for Restricted Chargeman B0 Competency Certification – Restricted to Laying of Underground Cable of up to 33 kV for TNB installations (Without Supply).
- Proposal to introduce industrial training for students or wiremen competency course trainees at institutions accredited by the Commission in Sarawak and in electrical contractor companies registered with the Sarawak Electrical Inspectorate Unit.
- Proposal for funds to upgrade teaching equipment for Chargeman B0 courses and examinations at the National Youth Skills Institute in Kinarut, Sabah.

Examinations conducted by accredited training institutions throughout the country are also monitored to ensure they are in compliance with established conditions as follows:

- The examination equipment and teaching are in accordance with established standards.
- Accurate and safe tools are used during examinations.
- The theoretical, practical and oral examinations conducted are in compliance with established standards.
- Only approved examination questions are used.
- Assessment of candidates who qualify to sit for the examinations is conducted in uniformity with the prescribed methods.
- The panel of examiners who conducts the examinations has been rated as qualified.

Industry players and representatives of accredited institutions were also given the opportunity to enhance their understanding of guidelines for work safety procedures for electrical works and compliance terms for accredited and audit institutions during the Dialogue with Related Institutions on Accreditation and Competency Examinations Compliance.

The dialogue clarified the following matters:

- Introduction to related Acts and Regulations.
- The need to use Personal Protective Gear.
- Responsibility of Competent Person and employer.
- Correct operation of electrical installations.
- Procedures in the issuance of Permit to Work.
- Sharing of the checklist for Chargemen and Wiremen courses.
- Requirement for registration of competent instructors.
- Sharing audit results of accredited institutions.

Wiring test.

Electrical Safety Seminar and Dialogue with Institutions.

Industrial Training at Accredited Institutions in Sarawak

To facilitate the application process for trainees in Sarawak, the Commission has given approval for industrial training in Wireman PW2 and Wireman PW4 Competency Courses to be conducted with electrical installation contractors who are registered with the Sarawak Electrical Inspectorate Unit. The two accredited institutions who agreed to conduct the courses were the Miri Industrial Training Institute and the Kuching MARA Skills Institute. Previously, such courses were only available in Sabah.

In 2015, 311 Competent Gas Persons were registered with the Commission, of which 303 were new registrations while eight were renewals.

Up to 2015, a total of 864 gas competency certifications were issued. Of the total, 82 were Gas Engineers, 285 were Gas Engineering Supervisors, 489 were Gas Fitters and eight restricted competent gas persons categorised as Class II Gas Fitters.

Number of Gas Competency Certifications and Registrations, 2014 - 2015

COMPETENCY CLASS	NUMBER OF GAS COMPETENCY CERTIFICATIONS ISSUED		NUMBER OF REGISTERED COMPETENT GAS PERSONS			
			RENEWED REGISTRATIONS		NEW REGISTRATIONS	
	2014	2015	2014	2015	2014	2015
Engineers	1	1	26	28	0	0
Gas Engineering Supervisors	4	7	94	91	0	0
Gas Fitters Class I	21	6	96	112	1	1
Gas Fitters Class II	0	***5**	**21**	**19**	**0**	**1**
Gas Fitters Class III	45	8	33	53	7	6
TOTAL	**71**	**27**	**270**	**303**	**8**	**8**

*Note: The number of Class II Gas Fitters in 2015 included three Class II Gas Fitters (Restricted Gas Competent Person) registered in the year.

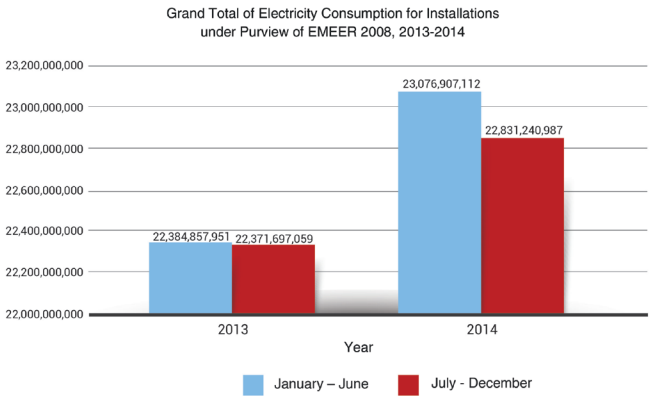
ELECTRICAL ENERGY MANAGER

A total of 1,701 installations were identified as having consumed more than 3 million kWh of electricity for six consecutive months. Of the total, 1,025 installations had each appointed a registered Electrical Energy Manager (EEM) to oversee electricity consumption at their premises. A total of 150 new EEMs were registered with the Commission to make for a grand total of 647 EM.

A total of 1,165 periodic reports were received from companies under the purview of the Efficient Management of Electrical Energy Regulations (EMEER), 2008, compared with 755 in 2014.

Comparison of Total Installations Under EMEER 2008 and Appointment of Registered Electrical Energy Managers, 2014-2015

SUBJECT	2014	2015
Number of installations consuming more than 3 million kWh of electricity.	1,945	1,701
Number of installations that appointed EEMs in current year.	110	196
Cumulative number of installations that appointed EEMs.	830	1,025



Analyses were performed on the reports received on electricity consumption for installations and the Specific Energy Consumption Average for the industrial and commercial sector in 2014.

The outcome of the analyses is dependent on the number of companies that had submitted complete reports and the number received will be taken as samples for the year concerned.

Specific Energy Consumption Average for Industrial Sector

SECTOR	SPECIFIC ENERGY CONSUMPTION AVERAGE						UNIT
	2012	SAMPLE	2013	SAMPLE	2014	SAMPLE	
Iron Manufacturing	628.40	10	591.48	16	487.19	13	kWh/MT
Cement	279.05	5	71.43	14	67.50	13	kWh/MT
Glass	27.64	1	25.67	1	-	0	kWh/m^2
Rubber	7.58	1	7.60	7	8.09	8	kWh/carton
Wood	247.15	3	294.13	4	269.54	5	kWh/m^3
Ceramics	4.41	3	4.45	7	3.31	7	kWh/m^2
Pulp and Paper	654.79	4	562.67	5	787.07	6	kWh/MT
Foodstuff	269.76	7	273.13	13	270.27	18	kWh/MT
Oil Plant	71.56	8	46.37	17	56.79	21	kWh/MT
Petrochemicals/ Oil and Gas	572.56	11	251.97	16	535.10	16	kWh/MT
Semiconductor	23.34	1	4.76	5	4.65	5	kWh/pcs
Automotive	681.46	4	803.32	5	831.50	6	kWh/unit

Specific Energy Consumption Average for Commercial Sector

SECTOR	SPECIFIC ENERGY CONSUMPTION AVERAGE						UNIT
	2012	SAMPLE	2013	SAMPLE	2014	SAMPLE	
Hotel	165.44	1	270.13	2	267.07	2	kWh/m^2
Shopping Mall	434.18	14	373.69	20	341.08	46	kWh/m^2
Office	128.05	5	169.47	10	189.36	8	kWh/m^2
Hospital	259.82	5	245.18	5	250.15	6	kWh/m^2
University	121.71	5	114.90	7	121.98	10	kWh/m^2

To increase the knowledge and skills of EEMs, 55 providers of continuous development programmes have been accredited to conduct courses related to energy management.

Under the Energy Service Company (ESCO) registration programme, 70 ESCOs were registered with the Commission to perform works on managing and saving energy in Government buildings.

CERTIFICATE OF APPROVAL FOR EQUIPMENT

ELECTRICAL EQUIPMENT AND GAS FITTINGS, APPLIANCES AND EQUIPMENT

The Commission issued 15,257 certificates of approval and release letters for electrical equipment in 2015, an increase of 9% compared with 14,030 issued in 2014.

Certificates of Approval and Release Letters for Electrical Equipment, 2010-2015

YEAR	NEW APPLICATIONS			RENEWAL		RELEASE LETTER	TOTAL
	IMPORTING	MANUFACTURING	EXHIBITION	IMPORTING	MANUFACTURING		
2010	507	145	2	216	111	152	1,133
2011	3,557	1,186	36	1,846	818	859	8,302
2012	3,957	1,069	17	1,988	1,053	1,297	9,381
2013	5,447	1,276	6	1,923	926	1,820	11,398
2014	7,539	1,927	29	1,739	806	1,990	14,030
2015	7,415	1,413	62	3,015	1,304	2,048	15,257

A total of 229 applications for gas fittings, appliances and equipment were approved. The approval includes gas equipments and components such as gas meter, ball valve, pressure regulator, gas leakage detector device, gas stove and polyethylene pipe (PE).

Fifty-nine new and renewal applications from gas equipment manufacturers and importers were also approved in 2015.

COMPLIANCE AUDIT

MANAGEMENT AND ENGINEERING AUDIT

Six power stations were audited in 2015 compared to twelve in 2014.

Audited Power Stations

STATION	AUDIT PERIOD	AUDIT STATUS
Ranhill Powetron 1 Sdn. Bhd.	July 2009 - December 2013	Completed
Teknologi Tenaga Perlis Consortium Sdn. Bhd.	January 2011 December 2014	Completed
Kuala Langat Power Plant Sdn. Bhd.	January 2011 - December 2014	Completed
NUR Generation Sdn. Bhd.	January 2011 - December 2014	Completed
NUR Distribution Sdn. Bhd.	January 2011 - December 2014	Completed
SESB	September 2009 - August 2013	Completed

Besides management and engineering audits, the Commission also monitored proposals for operational improvements made by licensees who had been audited the previous year to ensure that these plans are in compliance with requirements. It was observed, that all seven licensees had implemented their proposals and the average compliance recorded was over 70%.

AUDIT ON ELECTRICAL SAFETY

In 2015, an audit was conducted on the installation of an electricity supplier. The audit covered two areas: firstly, the review and confirmation of written documents for the Competent Person training programme, the list of Competent Persons and work procedures at the installation and, secondly, physical observation of the installation site and practical switching works undertaken at its sub-station.

Electrical Safety Audit Conducted

INSTALLATION OWNER	LOCATION	DATE	STATUS
TNB	Malacca	21 - 24 April	Completed

Among the conclusions from the physical observation of the site was that switching procedures were unsafe as follows:

AUDIT ON ACCREDITED INSTITUTIONS

Eleven audits were performed at accredited institutions in 2015 in order to ensure that they were complying with the terms of their accreditation which include teaching equipment, recruitment of students and a sufficient number of competent instructors. Reminders and advice were given to institutions found not in compliance with their accreditation terms in order that they would raise their training quality in future.

List Of Accredited Institutions Audited

NO.	INSTITUTIONS	CATEGORY
1	ABM Wilayah Timur, Terengganu	PW2, PW4, A0, A1 and Low Voltage Overhead Lines Module
2	GIATMARA Keningau, Sabah	PW1 and PW2
3	GIATMARA Kinabatangan, Sabah	PW2
4	GIATMARA Kulai, Johor	PW1 and PW2
5	IKBN Wakaf Tapai, Terengganu	PW2, PW4 and A0
6	IKM Besut, Terengganu	PW2 and PW4
7	IKM Kuching, Sarawak	PW1, PW2, PW4 and A1
8	ILP Arumugam Pillai, Nibong Tebal, Pulau Pinang	PW2 and PW4
9	ILP Jitra, Kedah	PW2 and PW4
10	ILP Miri, Sarawak	PW2 and A0
11	Kolej Kemahiran Tinggi MARA Pasir Mas, Kelantan	PW2, PW4, A0 A1 and Low Voltage Overhead Lines Module

The earth loop tester was one of the equipment audited.

Auditing the trainer's teaching on wiring.

SAFETY AUDIT ON GAS INSTALLATIONS

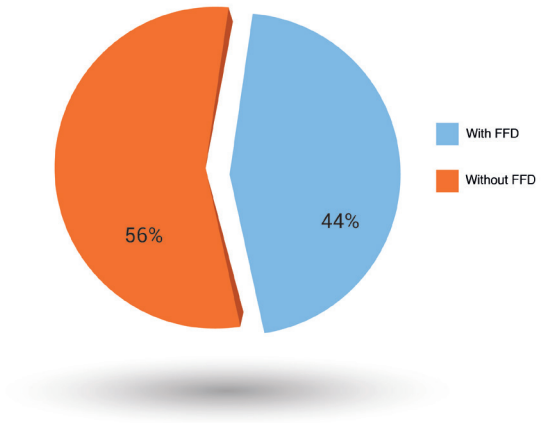
The Commission had issued directives to owners of shopping malls to introduce safety controls for piped gas systems, with the emphasis on installing Flame Failure Devices (FFD) in kitchen appliances in conformity with the Department of Standards Malaysia.

Subsequent to the issuance of the directive, the Commission conducted audits on FFD installations in 150 commercial premises to ascertain the level of compliance and also to investigate whether the FFDs used were built-in or have been modified.

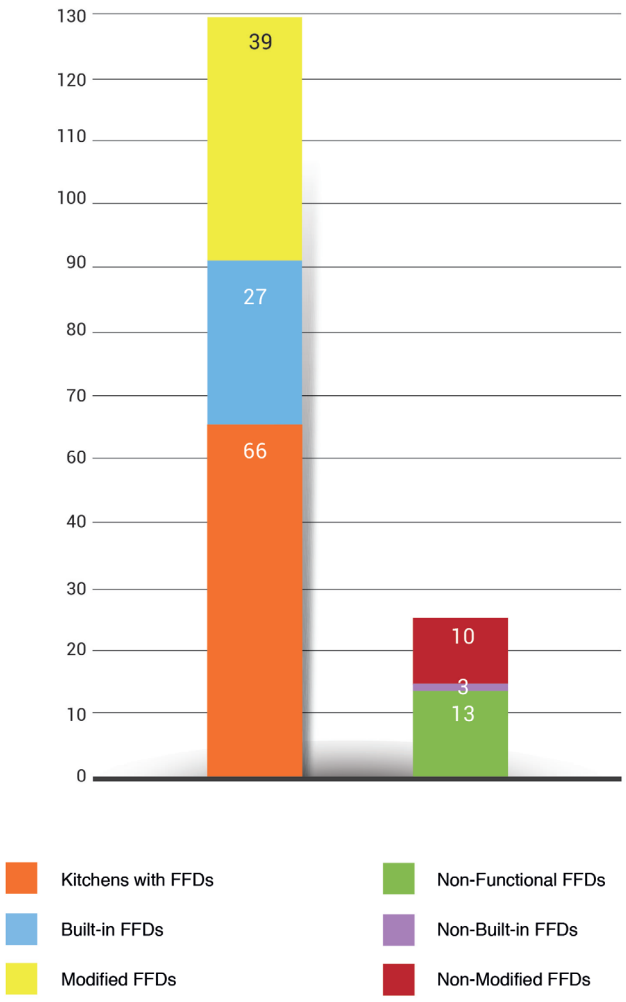
Subsequent to the audits and inspections, it was proposed that:

- Only built-in FFDs are allowed to be installed.
- FFDs installed by manufacturers are safer as they can be tested before purchase.
- FFDs are installed only by manufacturers and kitchen installers.
- FFDs should be installed by manufacturers' representatives and kitchen installers who have the appropriate expertise.
- There is exposure to safety measures required for kitchen operations.
- Kitchen operators are educated on safety and they understood the function of FFDs, their correct usage and they possess the skill to identify damage to the device.

FFD Installation Compliance at Commercial Premises



FFD Installation Research at Commercial Premises



MONITORING AND ENFORCEMENT

MONITORING

In accordance with its responsibilities as the country's energy regulator, the Commission monitors the industry with the objective of addressing issues related to electricity and gas and also to ensure that legal requirements are complied with.

Monitoring activities increased from 2,671 in 2014 to 2,833 in 2015.

Monitoring Activities According To States

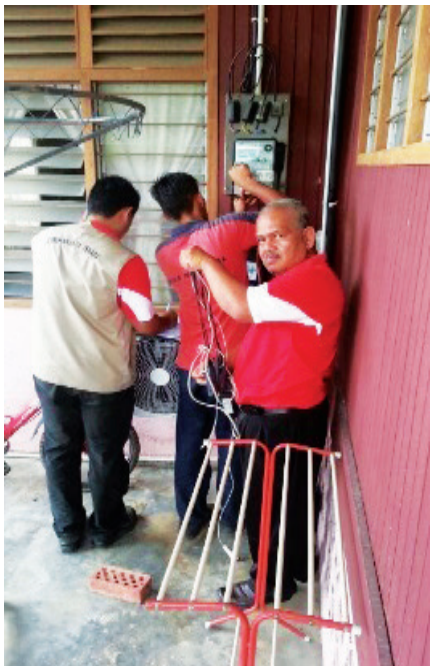
STATE	ELECTRICAL INSTALLATIONS	PIPED GAS INSTALLATIONS	ELECTRICAL CONTRACTORS	RETAIL PREMISES/ IMPORTERS/ MANUFACTURERS	ELECTRICITY METERS	ENERGY EFFICIENCY	TOTAL
Perlis	4	0	3	5	21	2	35
Kedah	16	0	6	5	41	3	71
Pulau Pinang	70	0	15	14	58	12	169
Perak	60	20	29	11	107	12	239
Selangor	133	6	23	14	68	7	251
Federal Territory Kuala Lumpur and Putrajaya	73	6	11	7	192	4	293
Negeri Sembilan	34	7	9	3	16	15	84
Melaka	48	31	19	9	84	10	201
Johor	111	0	16	13	90	0	230
Kelantan	102	2	10	3	83	5	205
Terengganu	31	15	2	2	37	5	92
Pahang	139	15	17	13	122	1	307
Sabah West Coast	63	21	49	9	99	12	253
Sabah East Coast	233	31	17	21	86	12	400
TOTAL	**1,117**	**154**	**226**	**129**	**1,104**	**100**	**2,833**

The monitoring of electrical installations remains the Commission's major activity as it has to ensure that electricity usage by fraudulent means are curbed since such acts cause losses to utility companies and danger to consumers.

The second highest monitoring activity is inspection of electricity meters as there had been a large number of complaints from consumers on higher billings.

Monitoring of energy efficiency was also intensified in order to encourage installations to appoint EEMs.

Joint operation - Ops Gasak - between the Commission, SESB, Eastern Sabah Security Command (ESSCOM) and local authorities to check on electricity theft in squatter areas in Sandakan, Sabah.

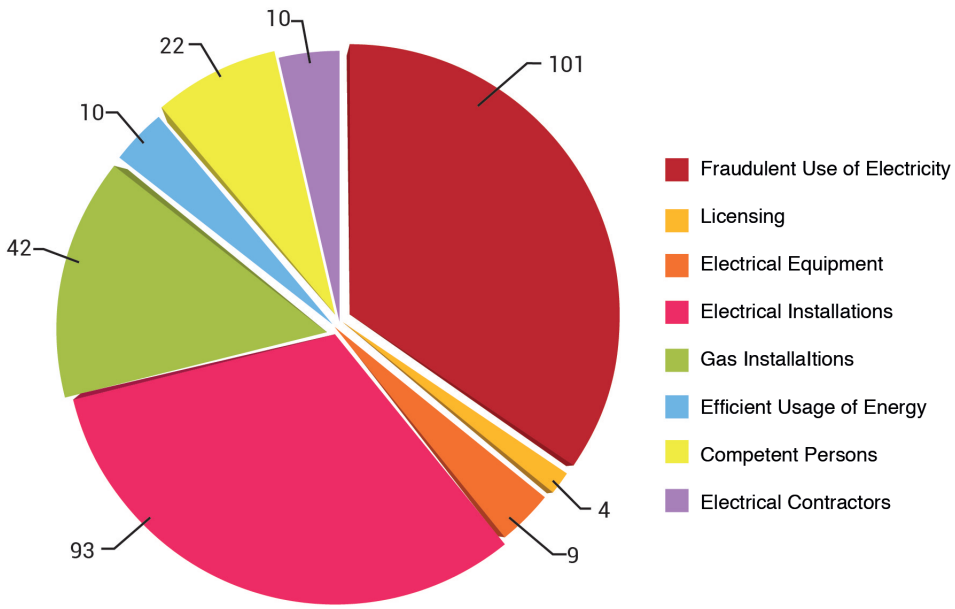


Checking on the accuracy of a meter at a premises suspected of having an illegal electrical extension.

ENFORCEMENT

In 2015, the Commission conducted enforcement actions at 291 premises. Of the total visited, 48 were issued notices and eight investigation papers were opened on electricity theft.

Number of Enforcement Actions Taken



Preventing Use of Electricity by Fraudulent Means

In 2015, enforcement actions to curb the consumption of electricity through fraudulent means were conducted at 101 suspected premises. Of the total, 11 were large power consumers while the rest were ordinary power consumers.

To combat illegal electrical extensions in Sabah, the Commission collaborated with ESSCOM, the Immigration Department, local authorities and SESB to conduct Ops Gasak in squatter areas in Sandakan. The operation involved inspection of 80 houses and illegal electrical extensions identified were immediately dismantled.

Inspection of a meter on a rented premises without a Public Installation Licence.

The Portable Working Standard equipment used to check the accuracy of electricity meters.

Licensing of Electricity Provider

The Commission continued to conduct enforcement to curb the sale and distribution of electricity by those without Public Installation Licences. Four premises were inspected in 2015, including a shopping mall, a construction site and an entertainment park.

Electrical Equipment Approval

Inspections of electrical equipment, which started in 2015, are targeted at manufacturers and distributors of electrical equipment without Certificates of Approval or SIRIM-Energy Commission safety labels. The Commission inspected nine premises and ordered the disposal of equipment as well as seizure and confiscation of those which did not comply with the Electricity Regulations 1994.

Inspecting sub-standard cables at a distributor's premises.

Market Surveillance

In 2015, market surveillance was conducted on retailers of electrical equipment in the Klang Valley. The operation discovered that equipment was being sold without Certificates of Approval and with counterfeit SIRIM-Energy Commission safety labels.

The surveillance also discovered that some electrical equipment in the premises visited did not comply with Regulations 97 and 98 of the Electricity Regulations 1994

Inspection of electrical an installation for registration purposes.

Registration of Electrical Installations

The Commission inspected 42 premises in connection with legal compliance of the registration of installations. Subsequently, ten notices were issued to premises found to be without valid Certificates of Registration.

To combat electrical accidents in public areas, inspections made in 2015 were focused on public installations such as street lights which were not properly maintained in playgrounds and schools. Inspections of commercial and industrial installations were ongoing to ensure that such premises are safe.

Inspection of TNB installation by Energy Commission officers.

Licensing of Gas Installations

Ninety-three restaurants were inspected to ensure that the piped gas systems being used are licensed by the Commission and that they are well-maintained. Following the inspections, 15 notices were issued to restaurants which did not install gas leak detectors and for using rubber pipes to channel piped gas to kitchens.

Checking a gas installation for proper maintenance and safe operation.

Efficient Usage of Energy

Inspections carried out in 2015 were focused on large scale industrial consumers which used 3 million kWh or more of electricity for six consecutive months. Of the ten premises visited, only three had appointed EEMs while seven others are in the process of fulfilling the requirements of the EMEER 2008.

Control of Electrical Installations

After having inspected 22 premises, the Commission discovered that 13 had not appointed Competent Persons. Notices were issued to all the 13 premises for failure to comply with Section 23, Supply of Electricity Act 1990 and the Electricity Regulations 1994.

Registration of Electrical Contractors

To ensure that electrical safety is at optimal level, only registered electrical contractors are allowed to perform electrical works. In 2015, ten contractors were examined to ensure that works performed by them were in conformity with established standards. Of the total, two were issued notices for failure to comply with the requirements of the Electricity Regulations 1994.

Preventing Illegal Connections

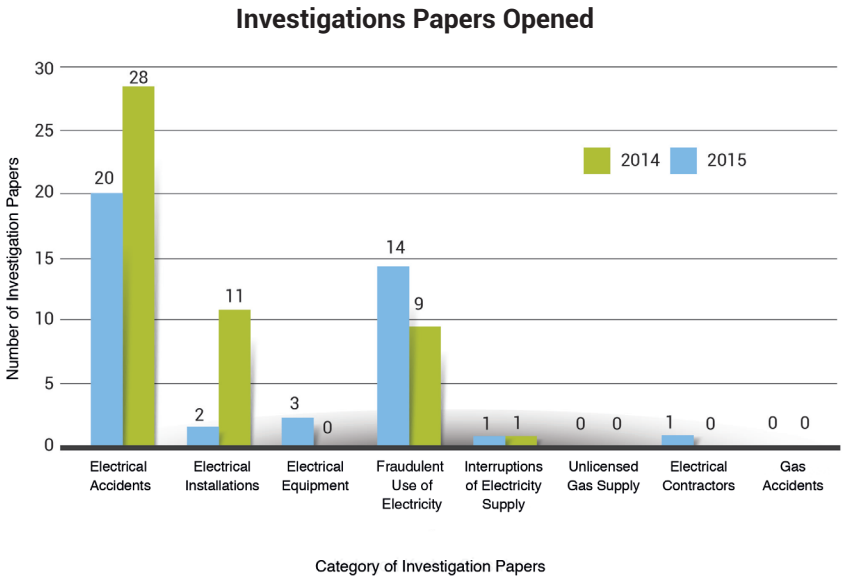
The Commission collaborated with the Federal Territory Ministry to carry out OPS BAH throughout 2015. The operation involved 20 enforcement agencies such as the Royal Malaysian Police, Immigration Department, National Anti-Narcotics Agency, Kuala Lumpur City Hall, Federal Territory Islamic Department and other statutory bodies. The Commission participated in three large-scale operations which involved inspections of gambling premises, cyber centres, massage parlours and entertainment centres to ensure that electricity supply at these premises was cut off – as instructed by the police - according to proper procedures.

Before the raids: Enforcement agencies involved in OPS BAH discussing procedures to be complied with in disconnection of electricity supply.

INVESTIGATION AND PROSECUTION

INVESTIGATION

In 2015, 49 Investigation Papers were opened for non-compliance with the Electricity Supply Act 1990, the Gas Supply Act 1993 and other subsidiary legislations under them. Of the cases, 57% were related to electrical accidents, 18% electricity theft while the rest were related to installations and interruptions of electricity supply.



Inspection of thermal and feeder pillars at a fatal accident site.

Testing insulation and earthing resistance in the investigation of a fatal accident case.

PROSECUTION

In 2015, two cases of fraudulent use of electricity were filed in court and the trials are ongoing.

Twenty-two compound notices with fines totalling RM53,500 were issued to parties who had violated legal provisions under the Commission.

Revocation and Suspension of Competency Certification

The Commission suspended the certification of two Competent Persons who were involved in an electrical accident which caused a fatality. Investigations had revealed that the two persons violated several clauses under sub-regulations 59(4) of the Electricity Regulations 1994 and also other legal provisions related to work safety compliance.

Subsequently, action was taken against the two Competent Persons under sub-regulation 59(8) of the Electricity Regulations 1994 pertaining to serious misconduct that culminated in an electrical accident.

Suspension of Competency Certification Subsequent to Fatal Electrical Accident at Taman Bukit Mantin Sub-Station, Nilai, Negeri Sembilan

NAME	CERTIFICATION	DECISION
Ismail Bin Ahmad Noorani	Chargeman T-2-B-0195-2014	1 Year Suspension
Mohd Amin Bin Ahmad	Chargeman T-6-H0627-2001	1 Year Suspension

SERVICE QUALITY

MONITORING OF SUPPLY AND SERVICE QUALITY

AMENDMENTS TO GUARANTEED SERVICE LEVEL (GSL) AND MINIMUM SERVICE LEVEL (MSL)

With GSL 1 (frequency of interruptions) and GSL 2 (supply resumption period) coming into force on 1 January 2015, penalty rebates for the two GSLs can now be paid from the effective date.

On 5 November 2014, the Commission approved a proposal to amend service quality standards to be above that of the TNB Service Performance Standards. The amendment was made based on the requirement that standards are reviewed every two years and after taking into consideration the improvement in TNB's work processes as reported in the World Bank's *Doing Business*. This amendment also came into force on 1 January 2015.

The amendment to the GSL involved only GSL 4 (provision of supply). The time frame for provision of low voltage supply for new individual connection up to when supply is connected is within five working days for overhead lines and 14 working days for underground cables. The previous time frame was seven working days for overhead lines and 21 days for underground cables. The time frame for GSL 4 - the time taken for connection of supply for low voltage domestic consumers that involves installation of meters - is three working days compared with five previously.

The amendment to the MSL involved three aspects of service: quality of supply, provision of supply and customer relations. Where quality of supply is concerned, the time set for response to complaints on voltage or limit violation is 180 days. On the other hand, investigation into voltage dips should not exceed 30 working days while reports on occurrence of voltage dips should be ready within 14 days.

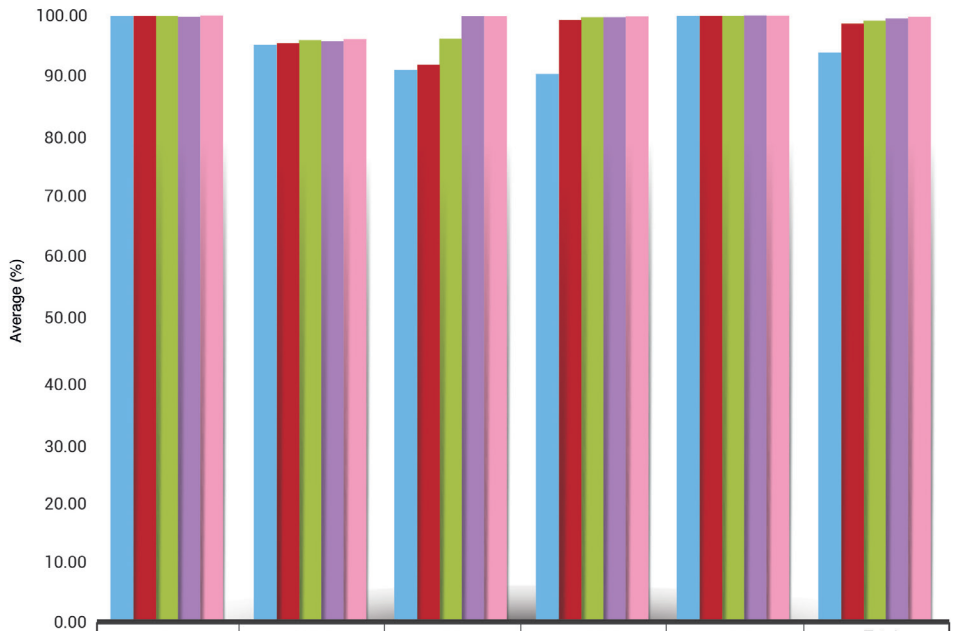
For provision of supply, the time frame to inform consumers of connection charges and the time taken to prepare the infrastructure for electricity supply would depend on the supply voltage.

The average waiting time at customer service counters has been shortened from 20 minutes previously to 15 minutes.

MONITORING OF GSL ENFORCEMENT AND MSL PERFORMANCE GUARANTEE

The overall GSL achievement in 2015 improved to 99.03% compared with 98.98% in 2014. However, the GSL 4 achievement declined from 99.16% in 2014 to 98.97% in 2015 as a result of the enlarged scope of procedures beginning from cable spanning to application and until supply is approved.

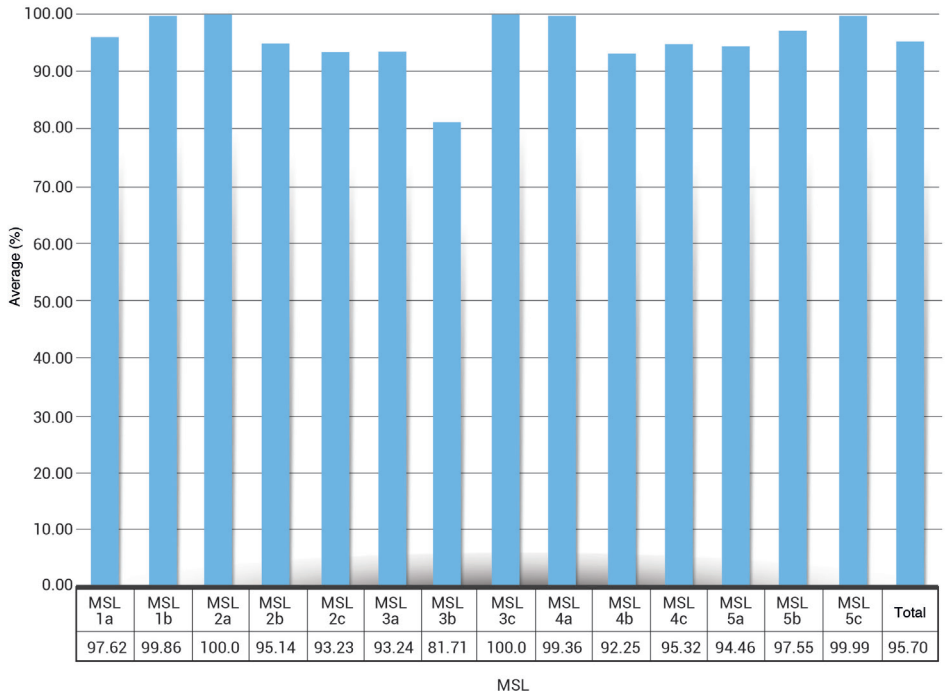
GSL Achievement, 2011 - 2015



GSL 1	GSL 2	GSL 3	GSL 4	GSL 5	Total
100.00	65.51	91.00	91.00	100.00	94.56
100.00	95.79	92.72	98.87	100.00	97.48
100.00	96.30	96.01	99.15	100.00	98.29
99.99	96.21	99.55	99.16	100.00	98.98
100.00	96.38	99.79	98.97	100.00	99.03

Overall, the MSL achievement for 2015 was at above the 90% level.

MSL Achievement



MSL 1a	MSL 1b	MSL 2a	MSL 2b	MSL 2c	MSL 3a	MSL 3b	MSL 3c	MSL 4a	MSL 4b	MSL 4c	MSL 5a	MSL 5b	MSL 5c	Total
97.62	99.86	100.0	95.14	93.23	93.24	81.71	100.0	99.36	92.25	95.32	94.46	97.55	99.99	95.70

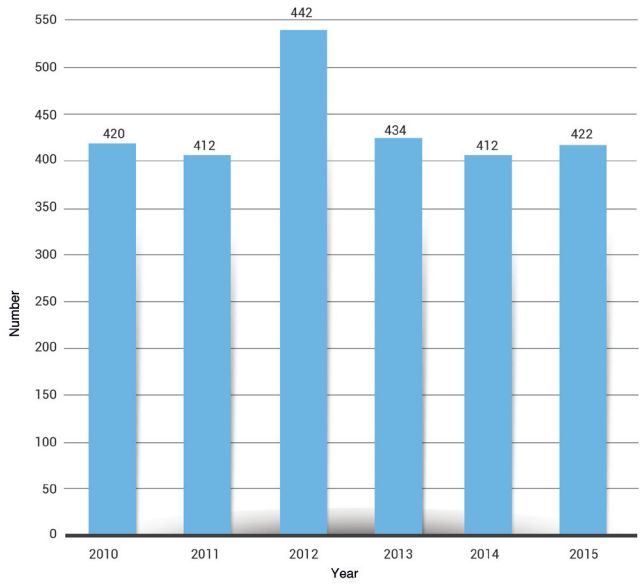
HANDLING OF COMPLAINTS ON UTILITY SUPPLY SERVICES

COMPLAINTS TO ENERGY COMMISSION

In 2015, 422 complaints were received through various channels such as the e-Aduan (e-Complaints) website, telephone calls, e-mail, at the office counter, by mail, facsimile and the mass media. There was a 2.5% rise in complaints received compared with 412 in 2014. The increase came largely from complaints on failure to comply with established standards for wiring.

Publicity about the Commission in the mass media helped to create greater understanding of its functions in resolving issues related to the installation and supply of electricity. Indirectly, this has caused the general public to channel official complaints to the Commission's e-Aduan system.

Total Complaints Received, 2010–2015



Of the total, 98% of the complaints were resolved while investigations were ongoing on the rest which was received at the end of December 2015.

The highest number of complaints received was about electricity supply (47.9%), followed by installation of electricity (25.6%). Complaints on electricity supply were largely about unreasonable increase in billings for consumers' premises. Complaints on electrical installation were mostly related to wiring in developer-built houses which were not in compliance with established standards.

Enhancing Legal Compliance and Service Quality

The Commission also reinforced its monitoring and enforcement by setting up special task forces to tackle issues related to electricity and piped gas.

Category of Complaints

CATEGORY	2014	2015
Electricity Supply	233	202
Electrical Equipment	34	33
Electricity Installation	88	108
Electrical Competency	19	28
Electrical Contractors	19	12
Gas Competency and Supply	2	10
Energy Management	1	0
Others	16	29
Total	**412**	**422**

IMPROVING THE REGULATORY FRAMEWORK AND ORGANISATIONAL CAPABILITY

REGULATORY FRAMEWORK

ACTS, REGULATIONS AND CODES OF PRACTICE

In keeping pace with developments in the energy industry, the legislative framework for the regulation of the economic and technical aspects of the industry has to be constantly updated in order to ensure relevancy and compliance by all parties concerned.

One of the legislative amendments was the Electricity Supply (Amendment) Act 2015, which was gazetted on 5 November 2015 and will come into force on 1 January 2016. Other legislations and regulations are in the process of being enacted.

AMENDMENTS TO ELECTRICITY REGULATIONS AND LICENSEE SUPPLY REGULATIONS

Amendments were introduced to reinforce and streamline governance and regulations, electrical safety management, more effective enforcement and to maintain a balance between the interests of licensees and consumers in line with latest developments in technology and the country's economy.

With regard to the Electricity Regulations 1994, the Commission proposes to amend and improve upon the following matters:

- Licence application process, terms and conditions.
- Responsibilities and functions of System Operators and Single Buyers.
- Using the supply network for communication purposes.
- Lightning protection system.
- Increasing the wayleave.
- A review of electricity management plans and programmes.
- Increase in penalty rates.

The Commission is reviewing the proposed amendments to the Licensee Supply Regulations 1990 to ensure that they are in constant compliance with the requirements of established standards. Several matters related to electricity supply procedures and technical requirements in the Regulations which need clarification are:

- Supply system.
- Application to obtain supply.
- Time period by licensees to provide supply.
- Consumers' deposit.
- Pre-paid meters, smart meters and telemetering.

AMENDMENTS TO POWER QUALITY STANDARDS

Power quality-related standards were revised based on SEMI F47 for IEC 61000-4-34 and IEC 61000-4 for adoption by the industry.

The amendments to IEC 61000-4-34:2009 were approved by the Department of Standards Malaysia in May 2015 and recognized as MS61000-4-3:2014 Electromagnetic Compatibility (EMC) - Part 4-34:Testing and Measurement Techniques - Voltage Dips, Short Interruptions and Voltage Variations Immunity Test for Equipment with Main Currents More Than 16 A Per Phase (First Revision) (IEC 61000-4-34:2009, MOD).

The Industrial Standards Committee for Generation, Transmission and Distribution of Energy (ISCE) had approved the amendments to MS IEC 61000-4-11 on 3 June 2015. The amendments have been submitted to the Department of Standards Malaysia.

Consumers were made aware of power quality standards through the PQ Awareness Programme which was held on 19 November and 3 December 2015.

DEVELOPMENT OF CODES OF PRACTICE

Following two electrical accidents involving a water heater and a wiring system at a high-risk location, the Commission also developed the following Codes of Practice:

- **Code of Practice for Installation and Maintenance of Electrical Water Heaters**

  The Code explains the issues on design, installation, inspection, testing and maintenance of electrical water heaters to ensure the safety of users.

  The Code, which stresses on safety aspects of electrical water heaters, is intended to be a guide for:

  - Manufacturers, importers and retailers of electrical water heaters.
  - Qualified individuals who install wiring, electrical water heaters and protection equipment.
  - Qualified individuals who maintain electrical water heaters.
  - Water heater users.

- **Code of Practice for High-Risk Locations**

  Examples of high-risk locations are swimming pools, water sprinklers, agricultural and horticultural premises and also sites used for medical purposes. The Code lists safety measures needed to be taken by qualified individuals who install and maintain the wiring system at high-risk locations and also the public who are in close proximity to such locations.

NEW FRAMEWORK FOR REGULATION OF ELECTRICITY SUPPLY

MEMORANDUM OF UNDERSTANDING ON CROSS-BORDER ELECTRICITY SUPPLY

The Laos, Thailand, Malaysia and Singapore Power Integration Project (LTMS PIP) is an initiative to realise the importance of the electricity market among the four nations. The project demonstrates the viability of using existing facilities which can at the same time promotes energy trading in the region.

The initiative will contribute towards energy security by reinforcing the energy integration network and enhancing regional economic prosperity. It is also expected to assist in identifying and resolving issues related to cross-border electricity trading among ASEAN countries.

LTMS PIP aims at fulfilling one of the goals of the ASEAN Power Grid which was created to carry electricity from Laos to Singapore via the Thai and Malaysian electricity network. This mechanism will create opportunities for the potential development of clean and environmentally friendly hydro-power.

The countries concerned have set up a working group and are collaborating to compile information towards the development and completion of the project. Among the aspects for cooperation in LTMS PIP are:

i. To study the technical feasibility and the viability of cross-border energy trading of up to 100 MW from Laos to Singapore using existing transmission lines.
ii. To exchange information on existing and planned sources of power generation and information on electricity demand.
iii. To identify issues related to laws and regulations on cross-border energy trading.
iv. To study possible commercial arrangements for cross-border energy trading but not necessarily restricted to commercial models.
v. Collaboration in other areas of cross-border energy trading as had been agreed to by the countries concerned.

Discussions to finalise the Memorandum of Understanding on the matters concerned were held in 2015.

MEMORANDUM OF UNDERSTANDING ON TRANSMISSION OF POWER FROM SARAWAK

The transmission of electricity from Sarawak to the Peninsula has been identified as one of the options to achieve the objectives of fuel diversification and reduction in carbon dioxide emission. In discussing the options concerned, The Planning and Implementation Committee for Electricity Supply and Tariff meeting on 18 August 2015 agreed to conduct a more comprehensive study including the possibility of having a MoU that would enable more detailed studies and discussions.

GAS FRAMEWORK AGREEMENT FOR THE ENERGY SECTOR

Under the Single Buyer Rules and Grid System Operator Guidelines, the respective roles of the latter and former in monitoring fuel supply sufficiency for the power industry in the Peninsula involves central planning, nomination and provision of gas supply to electricity generators. Several issues concerning the non-viable operational terms of the Gas Sales Agreement (GSA) between Petronas Berhad (PETRONAS) and power generators have been identified, particularly the nomination process and the management of allocations set by System Grid Operators and Single Buyers who are not party to the GSA.

Talks between PETRONAS and TNB on a Gas Framework Agreement (GFA) had begun in 2014 to resolve operational issues and to formalise the role which had long been undertaken by TNB before the setting up of the Single Buyer concept. The agreement aims at bringing both parties together in governing electricity generators under the Power Purchase Agreement or Service Level Agreement which is subject to the dispatching system by the GSO. The agreement will also set up the regulatory regime for the forthcoming implementation of the Third Party Access system. Accordingly, the GFA will play its role in formalising the two–tiered gas price framework established for the power industry in the Peninsula.

Talks between PETRONAS and TNB, which had entered the final stage in 2015, covered provisions related to gas quantity for the energy sector, gas provision planning cycle, threshold quantity, shortfalls, outages, take or pay, gas surplus and price formula. The GFA, when in force, will replace several clauses related to the existing GSA.

DISTRIBUTION CODE FOR SABAH AND LABUAN

In amending the Sabah and Labuan Grid Code, clauses related to distribution and the rural network were removed to differentiate the grid system from the distribution network.

Consequently, as distribution is no longer subject to any code, there was a need to create a Distribution Code for Sabah and Labuan. Subsequently a working group comprising representatives from the Commission and SESB was set up to develop the framework for the Sabah and Labuan Distribution Code. An initial draft of the Code has been completed and presented to the Peninsula Distribution Code Committee.

However, with the expected entry of solar photovoltaic power plants from the Large Scale Solar programme and the Net Energy Metering scheme, a review of the draft Code is needed in order to accommodate these developments.

NET ENERGY METERING SCHEME AND LARGE SCALE SOLAR PROGRAMME

The Feed in Tariff (FiT) scheme for the development of renewable energy projects will end in 2017. The Net Energy Metering (NEM) scheme and the Large Scale Solar (LSS) programme have been proposed to promote renewable energy and to increase its contribution to the country's fuel mix post-2017. Under the NEM scheme, consumers will still be able to install solar power units for private consumption and also sell surplus solar energy to the grid. The LSS programme is a large scale solar energy project with a minimum size of 1 MWac and a maximum of 50 MWac and power generated from a LSS project will be connected to the transmission or distribution network.

The Planning and Implementation Committee for Electricity Supply and Tariff meeting on 18 August 2015 agreed to the implementation of a NEM scheme with a capacity of 500 MW and the LSS programme's connection to the grid from 2017 up to 2020. The NEM project will start in 2016 and stretch up to 2020, with the provision of 100 MW per year for five years. The LSS will contribute 200 MW to the Peninsula's grid while 50 MW per year is being planned for Sabah for a total of 250 MW in five years. The LSS plan will generate an additional 1,000 MW for the Peninsula and Sabah.

In order to realise the proposals, the Commission is collaborating with the Ministry of Energy, Green Technology and Water, SEDA, TNB and SESB to develop a NEM and LSS framework for consideration by the Government. The Commission and SEDA jointly held a workshop on 16 – 17 February 2015 to obtain feedback from stakeholders in the development of NEM and LSS. Participants in the workshop came from TNB, Single Buyers, GSOs, solar project developers, producers of solar project components and consumer representatives. Also in attendance were representatives of the Ministry and several other Government agencies. The Government has also made provisions for NEM and LSS as an initiative under the 11th Malaysia Plan.

CO-GENERATION GUIDELINES

Co-generation is an energy-efficient technology which produces two types of energy - thermal and electricity simultaneously from a single energy source. The overall efficiency of the energy used in the co-generation system can reach up to 80%. To promote the use of energy-efficient technology in Malaysia, guidelines are being prepared to enable surplus power from co-generation to be sold to the grid.

On 16 November 2015, a co-generation in Malaysia workshop was held in collaboration with Malaysian Gas Association with the objective to publicise to stakeholders the Government's initiative to promote the development of co-generation plants. The co-generation programme is under the NEEAP.

COMPETITION GUIDELINES

Competition is a catalyst in improving energy efficiency, reducing costs, encouraging innovation and pushing efforts to enhance industry performance as well as effecting better pricing and service. Competition is therefore encouraged in the power generation industry in order to reduce generation costs and improve service quality.

In 2015 work started on the drafting of the Guidelines on Competition in Generation which will serve as a reference for stakeholders on the competitive processes such as open biddings conducted by the Commission to promote efficiency in the electricity supply industry. Preparation of the draft guidelines is ongoing and should be finalised in 2016.

NEW GAS REGULATORY FRAMEWORK

REGULATION OF THIRD PARTY ACCESS SYSTEM

The final phase of preparing the regulatory framework for the third party access system continued in 2015. The introduction of the system is to ensure continuity of natural gas supply as well as to promote the growth of the country's gas industry.

The Commission collaborated with the Economic Planning Unit and the Attorney General's Chamber to draft the Gas Supply (Amendment) Bill 2016 which was approved by the Cabinet on 16 December 2015 for submission for a first, second and third reading in the first sitting of Parliament in 2016. The Bill contains provisions for the implementation of the third party system.

Draft amendments to the Gas Supply Regulations 1997 were prepared in line with the extended regulatory scope of the Commission through the Bill, including updating third party access codes for major gas facilities, regasification terminals, pipeline transmission and distribution pipelines.

The Commission together with the EPU made a technical visit to Sabah Oil and Gas Terminal (SOGT) on 20 August 2015 to study its system and functions and to obtain a better understanding of the natural gas supply scenario in the state. SOGT commenced operations in 2014. A visit was made to the SOGT connection points with the Sabah-Sarawak Gas Pipeline and gas pipeline routes to consumers in Kimanis.

ORGANISATIONAL CAPABILITY

IMPROVING SERVICE DELIVERY

ENERGY COMMISSION ONLINE SYSTEM (ECOS)

The Commission launched its Energy Commission Online System (ECOS) on 1 December 2015 to enable online applications. Applications which were done manually previously at the Commission's Regional Offices can now be done through ECOS are:

- Registration of Electrical Contractors
- Registration of Electrical Installations
- Licensing of Private Installations
- Registration of Electrical Competent Persons
- Applications for Electrical Competency Examinations
- Registration of EEMs

ECOS also provides facilities for payments to the Commission. Since its launch, the system has benefited applicants by making the application process easier and faster. ECOS can be accessed at http://ecos.st.gov.my.

SERVICE RECOVERY CENTRE

The Commission plans to develop a Service Recovery Centre to ensure there is continuity in its main service application systems in the event of disruptions or disasters. Besides minimising downtime, the availability of such a facility would also be in line with the ICT security principles and also meet the certification requirements for the Information Security Management System.

To ensure physical safety and system protection, the facility will be located away from the existing data centre at the Commission's headquarters. Several major application systems have been identified for location at the centre, including the Online Application System, ECOS, Standard Accounting for Government Agencies and the Commission's portal.

MOBILE APPLICATIONS

The Commission has improved its service quality by adopting the latest developments in technology such as mobile applications which enable easy and speedy sharing of up-to-date information. Through mobile applications, the presentation and sharing of information can now be extended to users of smartphones, particularly among the Commission's staff. The Commission's mobile application software can be downloaded from Google Play and Apple Appstore for smartphones with Android or Apple iOs.

When it is integrated with e-Aduan, e-Kelengkapan, ECOS and OAS, these mobile applications will not only enable the Commission's staff to check on complaints but also obtain information on registered electrical equipment, electrical and gas contractors, electrical and gas Competent Persons and EEMs.

HUMAN RESOURCE MANAGEMENT DEVELOPMENT

STRENGTHENING ORGANISATIONAL CAPACITY AND CAPABILITY

In 2015, in line with the Human Capital Development Framework, a career advancement evaluation was conducted for the Commission's non-executive staff.

Forty-five staff members were identified for career advancement and after a systemic evaluation exercise, 34 were recommended to move up in their career path.

There were also two promotions to fill positions in the senior and middle management categories.

To ensure that there is continuity in management and enhancement in organisational efficiency, a recruitment exercise for new staff was conducted in 2015. Twenty-two new staff members with backgrounds in various fields and experiences, particularly from the electricity and piped gas supply industry - were appointed.

BUILDING A HIGH PERFORMANCE WORK CULTURE

e-Benefits and Claims are online systems for the administration of various facilities and claims of staff as well as to store data used by all staff members in an orderly manner. The systems can process claims related to medical facilities, subsidies, overtime, mileage and related allowances. The system has enhanced organisational efficiency by facilitating and speeding up the claims process.

DEVELOPING STAFF COMPETENCY AND SKILLS

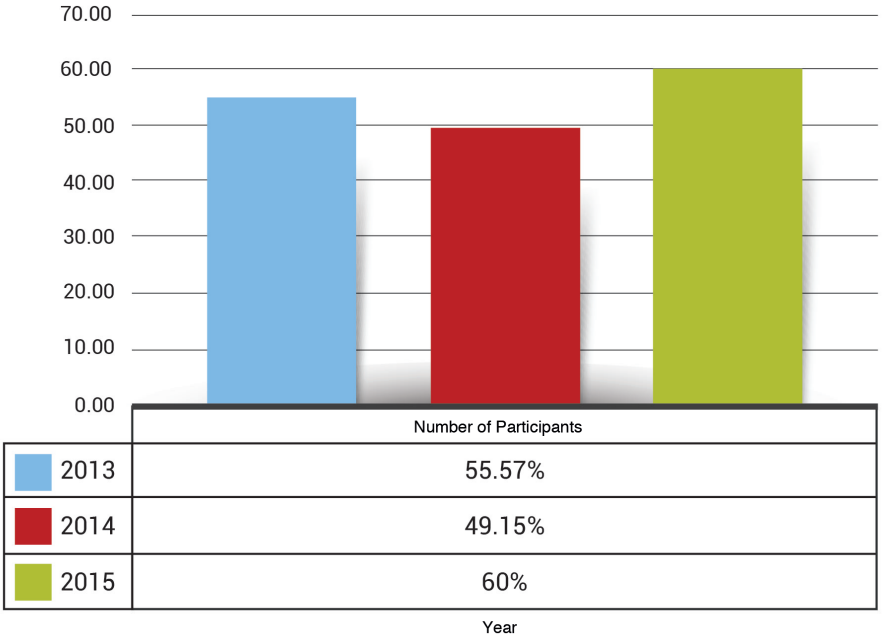
The Training and Development Unit was established in January 2015 to focus on enhancing the basic competency of all staff member. The comprehensive Competency Development Framework was introduced to enhance the knowledge, efficiency and skills of staff members to enable them to contribute towards achieving the vision and mission of the Commission.

The Commission increased its investment in training programmes by 11% in 2015 compared with 2014 to enhance the knowledge and skills of its staff. The scope of training included programmes specially tailored to meet the needs of the Commission's various Departments. On the average, executive staff members are required to attend seven days of training a year while four days are required for non-executive staff members.

There are several categories of training programmes under the training framework; economic regulation, supply regulation, safety regulation, energy efficient regulation, energy information and statistics, monitoring and enforcement, governance, office administration and professional courses. Besides these, the Commission's staff also participated in training sessions and programmes held in collaboration with TNB and the Japan International Cooperation Agency.

The Commission also collaborated in training programmes with the Malaysian Gas Association, TNB, the Royal Malaysian Police, Institut Kemahiran Tinggi Negara Dusun Tua, TNB Integrated Learning Solution, TEEAM and Securities Industry Development Corporation.

Percentage Increase in Training Attendance, 2013-2015



	Number of Participants
2013	55.57%
2014	49.15%
2015	60%

Year

Operation of 33 kV Sub-Station Course

Smart Partnership Teambuilding Programme

Vehicle Maintenance Course

Handling Complaints on Meter and Billings Workshop

ENHANCING AWARENESS, COOPERATION, AND GOOD PRACTICE

AWARENESS

INTENSIFYING THE OUTREACH PROGRAMME

Over the years ,the Commission has been intensifying its Outreach Programme activities to create greater public awareness on safe and efficient use of electricity and piped natural gas in residential and commercial premises.

COMMUNICATIONS AND PUBLIC RELATIONS

Promotion in Mass Media

In 2015, 630 community service message slots on electrical and gas safety and energy efficiency were broadcast through various local radio stations. These included Nasional FM, Klasik FM, Traxx FM, Ai FM and Minnal FM in the Radio Television Malaysia network, Hot FM (Media Prima), Sinar FM and Mix FM (ASTRO) and IKIM FM.

As the print media is still the preferred medium for all communities, the Commission made use of it to carry its messages such as the *Be Energy Smart* campaign, the importance of testing automatic circuit breaker switches, danger in using electrical heating pads and its import prohibition into Malaysia and electrical safety measures during the flood season.

The Commission also continued its online media activities, which had started in 2014, to reinforce its branding through various media portals such as Berita Harian, Harian Metro, Utusan Malaysia, Sinar Harian, New Straits Times and The Star.

MONTH	INSERTION	MEDIA
April	Safe and efficient usage of electricity, with focus on the need for monthly testing of automatic circuit breaker switches.  	New Straits Times www.nst.com.my www.bharian.com.my Harian Metro www.hmetro.com.my Klasik FM (RTM) Traxx FM (RTM) Ai FM (RTM) Minnal FM (RTM) Hot FM (Media Prima) Sinar FM (ASTRO)

MONTH	INSERTION	MEDIA
May	Appreciating the safe and efficient use of electricity by parents and children during school holidays. 	Newspaper : • New Straits Times • Harian Metro • Utusan Malaysia • Daily Express Sabah • The Star Online Newspapers : • www.nst.com.my • www.bharian.com.my • www.hmetro.com.my • www.utusan.com.my Radio: • Klasik FM (RTM) • Traxx FM (RTM) • Ai FM (RTM) • Minnal FM (RTM) • Sabah FM (RTM) • Hot FM (Media Prima) • Sinar FM (ASTRO)
June - August	Safe and efficient usage of electricity and piped gas.   	Newspapers : • New Straits Times • Berita Harian • Harian Metro • Utusan Malaysia • The Star Online Newspapers: • www.nst.com.my • www.bharian.com.my • www.hmetro.com.my • www.utusan.com.my • www.thestar.com.my Radio: • National FM (RTM) • Traxx FM (RTM) • Hot FM (Media Prima) • Sinar FM (ASTRO) • Mix FM (ASTRO) • IKIM FM
October	Warnings to the public not to purchase or use electrical heating pads not approved by the Commission. The ban took effect on 1 November 2015. 	Newspaper: • Berita Harian • Harian Metro • Utusan Malaysia • Sinar Harian Radio: • IKIM FM

MONTH	INSERTION	MEDIA
November-December	Electrical safety tips during floods.  	Newspaper: • Harian Metro • Utusan Malaysia • Sinar Harian Online Newspapers: • www.hmetro.com.my • www.sinarharian.com.my Radio: • Klasik FM (RTM) • Sinar FM (ASTRO) • IKIM FM

TV Interviews

On 9 December 2015, the Commission represented the Ministry of Energy, Green Technology and Water on the ASTRO Awani *7:45* programme to talk about the ICPT mechanism being launched in the Peninsula, Sabah and Labuan. The ICPT and its relationship to the review of fuel and generation costs in determining electricity tariffs was emphasised upon in the interview.

The Commission also stressed that all sectors should view seriously the importance of efficient energy usage even without the tariff factor owing to its impact on the economy and long-term energy sustainability.

To further reinforce its messages in the mass media, the Commission also appeared in the interview programme *Selamat Pagi Malaysia* on TV1, RTM, on 18 December 2015. The television appearance was for the purpose of sharing electrical safety tips during floods. The subject of the television interview paralleled the Commission's thirteen community service message slots on Klasik FM throughout the month of December 2015.

The Commission's CEO Datuk Ir. Ahmad Fauzi Hasan, talking about the ICPT mechanism formula in determining electricity tariff.

Mohd. Elmi Anas, Director of Electrical Safety Regulation, talking about testing automatic circuit breaker switches to protect consumers from electric shocks.

CONFERENCES, SEMINARS AND DIALOGUES

In 2015, the Commission organised 118 seminars on electrical safety awareness which were targeted at Competent Persons, contractors and consultants, civil servants, private agencies, electrical installation owners, utilities and consumers.

The general objectives of the seminars were:

- To create greater awareness and understanding in the industry and among consumers on established electrical safety standards.
- To create greater awareness and understanding in the industry and among building and installation owners on lightning protection systems.
- To share on developments in electrical safety performance.
- To enhance awareness and understanding of electrical hazards and electrical accident statistics.
- To promote the Commission's publication *Guidelines for Electrical Wiring in Residential Dwellings*, 2015 Edition.

Seminar participants were introduced to lightning protection systems for buildings.

The Commission sharing the latest developments in electrical safety standards.

National Electrical Safety Conference

The National Electrical Safety Conference was held for the first time in 2011 in conjunction with the tenth anniversary celebration of the Commission's establishment. Owing to the strong support received, a second conference was held in November 2015 in Kuala Lumpur with the theme *Be Energy Smart – Safety Starts With You*. The conference discussed experiences and latest methods to enhance the country's electrical safety performance. The conference theme also paralleled that of the mass media promotion throughout 2015.

The conference had the full support of industry representatives such as the Centre for Electromagnetic and Lightning Protection Research (Universiti Putra Malaysia), Institutions of Certified Engineers Malaysia, the Institution of Engineers Malaysia, Public Works Department, Malaysia Cable Manufacturers Association, Malaysian Association of Standards Users, TEEAM and TNB.

The Commission also launched the 2015 edition of *Guidelines for Electrical Wiring in Residential Dwellings*. The first edition published in 2008 received positive feedback and requests from the industry to use the publication as a reference for electrical safety. The publication will also be updated from time to time in line with legislative amendments.

The presentation panel of the conference is a cross section of industry players such as Government agencies, engineering institutions, associations and electrical utilities.

6th National Energy Forum

The Commission collaborated with the MGA and ECOM to organise the 6th National Energy Forum on 10 March 2015 in Kuala Lumpur. The conference themed *Sustainable Energy for Malaysia, Where Are We?* was attended by 450 participants consisting of policy makers, energy experts and industry players.

The conference discussed the challenges and strategies in improving the continuity of gas supply in the country and also touched on issues of depleting gas supply and initiatives to ensure that more industry players get fair access to the local gas market.

The conclusions of the forum were:

- Subsidy rationalisation and pricing renewal are very important for the continued stability and sustainability of Malaysia's energy sector but their implementation should be transparent and consistent and that communication and education should be clear to ensure understanding and hence acceptance by the general public.

- Natural gas be recognised as a cleaner and cheaper fuel and that its usage in the transport sector should be further promoted and, as an incentive for suppliers and consumers, fuel prices and subsidy targets should be looked at holistically.

- Sarawak has huge potential for hydro-electricity and, with the latest proven technology available, the supply of energy from the state to the Peninsula should be looked into for its commercial viability.

- That there is still ample room to develop the energy efficient sector in Malaysia and steps be taken for the participation of energy efficient technology such as co-generation and the abolition of light bulbs which are not energy-efficient through legislation as well as increasing investment in research and development.

Nobou Tanaka from Japan's Institute of Energy Economics also shared his experiences in his presentation entitled *Global Energy Challenges* while Dr. Dejan Ostojic from the World Bank presented the results of his study on *Energy Sustainability and Impact on Society*. The climax of the conference was the panel discussion session on *Achieving Market Liberalisation for Energy* which touched on the impact of power tariff hikes on market prices.

Energy Consultative Panel

The Energy Consultative Panel held its meeting on 15 January 2015 in Putrajaya. The panel's membership consists of policy makers, industry players, consumers and other stakeholders.

The agenda included:

- Review of the Special Industry Tariff by the Commission.

- Enhance Time-of-Use (EToU) tariff proposal by TNB.

- Current status of piped gas and electricity tariff by the Commission.

- GST Implementation - Electricity Bill and Tax Invoice by TNB.

- Current status of electricity supply situation in the Peninsula by Grid System Operator (GSO).

Sabah State Energy Consultative Panel

The Sabah State Energy Consultative Panel (SSECP) held its first meeting - which was officiated by the Minister of Energy, Green Technology and Water - on 29 October 2015 in Kota Kinabalu.

The idea of forming the SSECP - to discuss policies, strategies and prevailing energy issues in the state - arose during the ECP meeting on 15 January 2015. Twenty-two organisations - the public sector, professional organisations, consumers associations, industries, independent power producers and renewable energy generators - were appointed as members of SSECP.

Four matters on the agenda for the meeting were:

- Status and initiatives to enhance electricity supply performance in Sabah and Labuan by SESB.
- Regulatory initiatives by the Commission to enhance electricity supply performance in Sabah and Labuan.
- Status of natural gas supply by the Sabah Energy Corporation in Sabah and Labuan.
- Government initiatives by the Ministry of Energy, Green Technology and Water to enhance electricity supply performance in Sabah and Labuan.

COMMUNITY RELATIONS

EE Run 2015

The Energy Efficiency (EE) Run 2015 was one of the initiatives taken to promote the energy efficiency message through sports and also to strengthen relations with industry stakeholders. The event was held at the compound of the Commission's Diamond Building on 14 November 2015.

This was the third run held. The first was in 2011 which was held in conjunction with the official opening of the Diamond Building and the tenth anniversary of the Commission while EE Run 2013 was aimed at creating greater public awareness on efficient energy usage and at the same time promoting a healthy lifestyle message for the individual and his family.

Compared with EE Run 2013, the 2015 event attracted a greater response, with 1,500 participants compared with 1,100 in the previous event. Besides the Commission's staff members, students and the general public, the event was also opened to participants from ASEAN countries in conjunction with Malaysia's chairing of the ASEAN Ministers Meeting in 2015. The distance for the run was also changed to the normal distance for such events in Malaysia, that is, 10km and 6km.

Among the energy efficiency promotions during the EE Run 2015 were:

- A mini exhibition, with participation from the Ministry of Energy, Green Technology and Water and its agencies, on efficient use of energy, renewable energy and green technology.
- Interactive sharing of information on efficient energy usage in the form of a quiz.
- Gifts of stickers, refrigerator magnets and bookmarks, all with the message of efficient energy usage in homes and offices.

EE Run 2015 attracted 1,501 participants.

EE Challenge 2015

Following the success of the EE Challenge 2014, the Commission held the event again in 2015. Besides Selangor and Federal Territory Kuala Lumpur and Putrajaya, EE Challenge 2015 was also opened to schools in Melaka and Negeri Sembilan, resulting in the participation of twenty-nine schools.

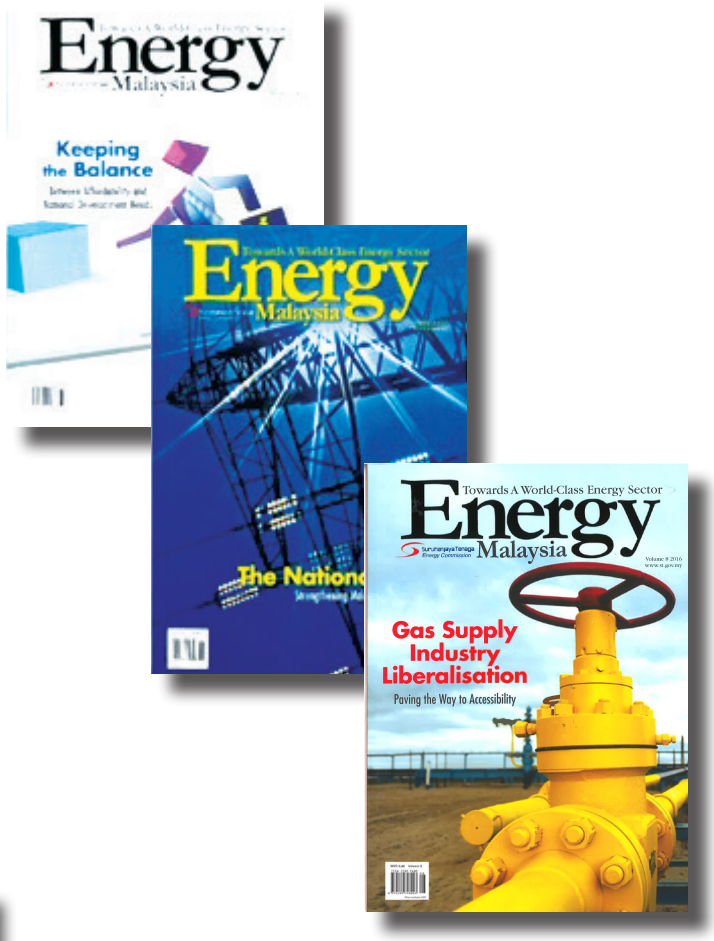
The competitors were evaluated based on intensity of electricity usage billings (kWh) for each school for a six-month period between 2014 and 2015. Schools which showed significant reduction in its billing for electricity usage and conducted activities that resulted in lower electricity consumption were adjudged winners.

The competition started on 1 April and closed on 30 October 2015. During this period, participants displayed initiative and high commitment in conducting power-saving activities. As the organiser, the Commission encourages minimum-cost activities.

Ten schools were adjudged to have recorded drops in electricity usage of between 2% and 15%. The three best schools chosen were Sekolah Menengah Kebangsaan King George V, Seremban, SMK Cochrane Perkasa, Cheras and SMK (P) Methodist, Klang.

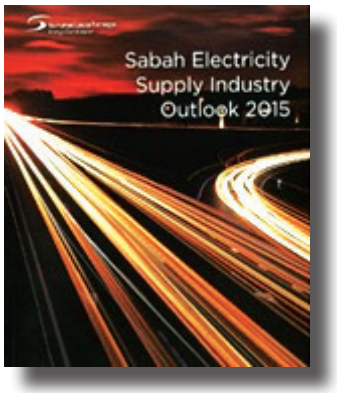
DISSEMINATION OF INFORMATION THROUGH PUBLICATIONS

The periodical magazine of the energy industry, *Energy Malaysia*, publishes articles on current issues in the industry and the initiatives of the Commission in increasing the effectiveness of monitoring the energy sector. The fifth edition reviewed the effectiveness of energy utilities to balance energy needs in line with national development. In the sixth edition, it focused on the efforts of the Commission and the Grid Code Committee to ensure the energy supply system is at the optimum level. The seventh edition features efforts to liberalise the gas supply industry.

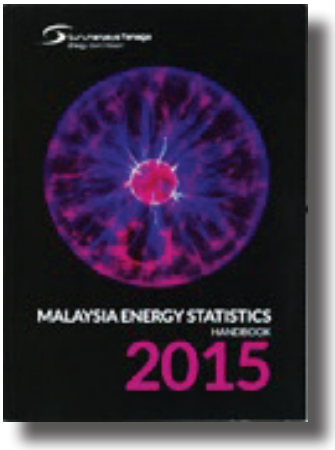


The National Energy Balance 2014 reported on the energy supply and usage data against the country's record of 6% GDP growth compared with 4.7% in 2013. *The Electricity Supply Industry Performance and Statistics 2014* reported on the energy supply and demand situation, performance of the generation, transmission and distribution systems and service quality. For the piped gas sector, *Piped Gas Distribution Industry Statistics 2014* provided gas supply statistics and data on piped gas consumers in the Peninsula and Sabah.

The Sabah Electricity Supply Industry Outlook 2015 was updated with information on energy demand, generation capacity, fuels and long-term plans for the power industry in Sabah.



The handy-sized *Malaysia Energy Statistics Handbook* was first published in 2014. The 2015 edition combined selected data from *National Energy Balance 2013, Performance and Statistics of Electricity Supply Industry 2014* and *Piped Gas Distribution Industry Statistics 2014.*



The Electrical Safety Performance Report 2013 and *2014* reported on the Commission's initiatives in enhancing awareness on work safety procedures, safety audits, competency examinations, accredited institutions, enforcement and approval of equipment which were conducted to reduce danger and occurrences of electrical accidents.

Besides the performance and statistical reports, four new guidebooks were also published to fulfill legal requirements to cater to increasingly demanding regulations on electrical safety.

The Guidelines for Wiring in Residential Dwellings 2015 featured the latest wiring system standards in line with developments in manufacturing technology. The first edition of the publication issued in 2008 was an important reference in ensuring that wiremen and contractors comply with regulations in performing wiring works in residential structures.

Updated Scope

Another set of guidelines which was also updated was *Approval of Electrical Equipment, 2014 Edition* which featured current information on:

- Increasing usage of the phrase *low voltage* in a more specific manner.
- Updating references to the Regulation of Electricity Regulations (Amendment) 2013
- Update the latest standards adopted in 34 electrical equipment.
- Certificate of Registration requirements (importers/manufacturers) included.
- MEPS calculation methods and replacement with new SIRIM-Energy Commission label.
- Update to new fee rate.

To supplement the *Approval of Electrical Equipment, 2014 Edition*, illustrated pamphlets on the *Certificate of Approval, Certificate of Registration* and *Release Letter* were published for the easy reference of consumers and companies.

To protect the public against electrical danger during floods, the Commission took the initiative to publish the *Safety Guidelines for Electricity Users During the Flood Season* which contains information on preparing for floods, safety measures to follow, the role of utilities during disasters and tips on repairing electrical equipment which had been submerged in water.

COLLABORATION

ENHANCING BILATERAL RELATIONS AND COOPERATION NETWORK

JOINT SECTORAL COMMITTEE FOR ELECTRICAL AND ELECTRONIC EQUIPMENT

In 2015, the 19th Joint Sectoral Committee for Electrical and Electronic Equipment (JSC EEE) meeting was hosted by Singapore on 10 - 12 June while the 20th meeting was in Bangkok, Thailand on 11 November. The meetings discussed the harmonisation of testing standards for electrical equipment, acceptance of testing laboratories and certification of electrical equipment in order to promote free trade among ASEAN countries.

The 19th JSC EEE meeting in Singapore reported that the transposition of the ASEAN Harmonise Electrical and Electronic Equipment Regulatory Regime (AHEEER) in national legislations has been implemented in eight ASEAN countries except Myanmar and Indonesia which were still in the process of amending their laws to meet the requirements of the ASEAN EEE Agreement. The meeting also reported that sixteen laboratory testings and four certification bodies have been listed under the ASEAN Listed Conformity Assessment Body (CAB).

At the Bangkok meeting, the Commission presented the types of certification systems used in Malaysia and their implementation process. There has been no progress as yet with Myanmar and Indonesia in their transpositioning process of their respective laws although they were hopeful the process could be completed by the end of 2015. As of now, fourteen testing laboratories and five certification bodies have been listed under CAB.

The ASEAN Sectoral Mutual Recognition Arrangement For Electrical and Electronic Equipment (ASEAN EE MRA) enables each member country to recognise test reports and certifications for electrical equipment issued by their counterparts.

AHEEER harmonises the standards for electrical equipment and regulations for each member country with a regulatory administration system.

GAZETTING ENTRY PROHIBITION FOR ELECTRICAL HEATING PADS IN CUSTOMS ORDER (PROHIBITION OF IMPORT) 2015

In 2015, the Commission collaborated with the Royal Customs Department Malaysia to gazette the Prohibition of Entry of Electrical Heating Pads in the Customs Order (Prohibition of Import) 2015 with the approval of the Minister of Energy, Green Technology and Water by a letter dated 6 March 2014.

The decision to gazette the prohibition arose from complaints received of electrical accidents caused by the explosion of such products while in use. Following the complaints, a dialogue was held by the Commission with importers, Muslim Consumers Association of Malaysia, Standards Users and SIRIM QAS International Sdn Bhd on 19 March 2015.

Subsequently a draft amendment was finalised by the Commission and Customs on 16 June 2015 and the import prohibition order came into force 1 November 2015.

The Commission and Customs finalising the amendment of the Customs Order (Prohibition of Import) 2015.

MEMORANDUM OF UNDERSTANDING (MoU) BETWEEN ENERGY COMMISSION AND STATE GOVERNMENT OF SARAWAK ON USE OF SAFETY LABELS ON CONTROLLED ELECTRICAL EQUIPMENT

The MoU between the Commission and the Sarawak State Government was signed on 28 October 2015 in Kota Kinabalu, Sabah. Tuan Syed Mohamad Fauzi bin Shahab, Director, Electricity Supply Division, Sarawak, represented the State Government in signing the MoU.

The MoU enabled recognition of the use of separate safety labels issued by Commission and the state's Electricity Supply Division for controlled electrical equipment sold in the Peninsula, Sabah and Sarawak.

The Minister of Energy, Green Technology and Water, representatives of the Permanent Secretary of Public Utilities Sarawak and Chairman of the Commission witnessing the signing of the MoU.

GOOD PRACTICE

CORPORATE SOCIAL RESPONSIBILITY

TOUCH POINT PROGRAMME

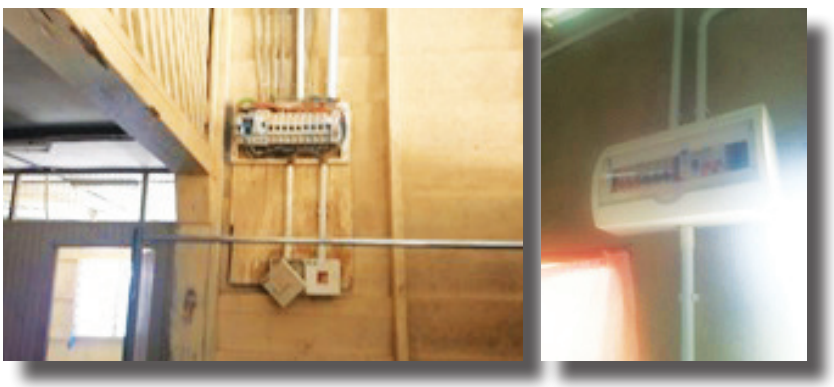
The Commission's Corporate Social Responsibility (CSR) programme for local residents involved the following:

- Free inspection of wiring system.
- Appointing registered contractors to repair or install new wiring systems.
- Sharing safe practices in electricity usage.
- Promoting efficient usage of electricity.

In 2015, the Touch Point programme was implemented in Kelantan and Pahang. In Kelantan, activities were focused on religious schools and places of worship while in Pahang the focus was on residential dwellings and old folks' homes.

Registered contractors installing new wiring for religious schools.

Re-wiring needed for a house of worship in Tanah Merah, Kelantan.



An obsolete and damaged automatic circuit breaker switch box was replaced.

DONATIONS AND SPONSORSHIPS

The Commission also carried out its CSR programme by sponsoring energy industry agencies and institutions of higher learning as a show of support for the industry's development programmes and activities. Indirect sponsorships, such as the Commission sitting on judging panels or in presenting working papers, helped to foster closer ties with the industry.

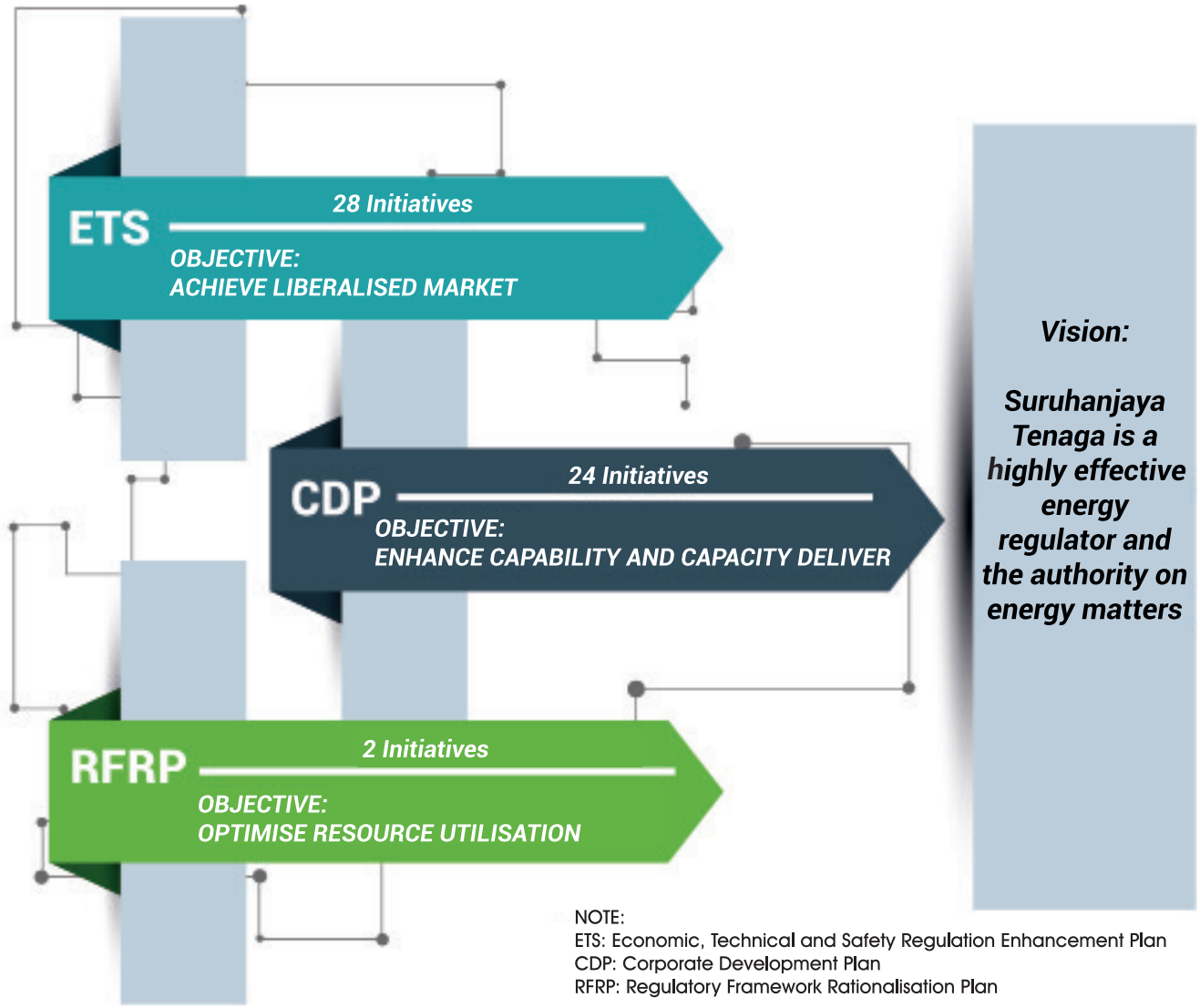
Besides sponsorships, the Commission's contributions to schools, non-profit organisations, mass media and welfare bodies also helped to enhance the Commission's image as a caring organisation.

In 2015, the Commission contributed to the Rohingya People's Humanitarian Fund to help alleviate their suffering in the country concerned.

The Commission, being concerned for the maintenance and conservation of the environment, also sponsored the Green Technology and Environmental Sustainability International Conference organised by Universiti Teknologi Malaysia.

BUSINESS PLAN 2015-2020

BUSINESS PLAN 2015-2020



NOTE:
ETS: Economic, Technical and Safety Regulation Enhancement Plan
CDP: Corporate Development Plan
RFRP: Regulatory Framework Rationalisation Plan

ECONOMIC, TECHNICAL AND SAFETY REGULATION ENHANCEMENT PLAN

Year	*Initiative*	*Project / Programme*
2015-2016	*Competitive bidding for new capacity in Peninsular and Sabah*	*Bidding for* • *30 MW, 60 MW repowering and 300 MW gas fired power plant in Sabah* • *Utility Scale Solar 250 MW* • *Net Energy Metering 100 MW*
2015-2016	*Technical and financial benchmarking*	• *Benchmarking of power plants' technical performance* • *Financial performance of TNB and SESB* • *Benchmarking study of TNB's OPEX and CAPEX*
2015-2016	*Enhancing governance in Sabah Electricity Supply Industry*	• *Development of Distribution Code for Sabah* • *Implementation of SB, Grid Owner and GSO for Sabah* • *Implementation of Ring-fencing of SB and GSO*
2015-2016	*Enhancing industry performance monitoring programme*	• *Enhance online reporting by licensees (until July 2016)* • *Coordination for Environmental Quality (Clean Air) Regulations 2014 compliance*
2016	*Introduction of Incentive-Based Regulation (IBR) for SESB*	• *Implementation of regulatory account and data template* • *Implementation of revenue requirement model* • *Implementation of Regulatory* • *Implementation Guidelines (RIGs)* • *Development of ICPT Mechanism*

ECONOMIC, TECHNICAL AND SAFETY REGULATION ENHANCEMENT PLAN

Year	Initiative	Project / Programme
2016	National Electricity Supply and Demand Forecast Framework	• Development of National Electricity Supply and Demand Forecast Framework
2016	Ensure fuel supply security	• National Gas Task Force operation • Review of Minimum Gas Requirement for Power Sector • Implementation of Gas Nomination Procedure for Sabah
2016	Implementation of service standards monitoring	• Review of Guaranteed Service Levels (GSL) and Minimum Service Levels (MSL) for TNB • Development of GSL & MSL for GMB • Development of Revised MSL for SESB
2016	Implementation of Electricity Industry Fund	• Development and implementation of guidelines on industry contribution and utilisation of fund
2016	Subsidy reduction programme towards market pricing	• Implementation of six-monthly revision in piped gas price for power and non-power sector • Establishment of blended gas pricing for power and non-power sectors
2016	Implementation of Gas Framework Agreement (GFA)	• Finalisation and implementation of GFA
2016	Undertake industry studies	• Study on status of lightning protection system for buildings in Malaysia • Review Grid Code for determining frequency response requirement for super critical coal fired power plants • Review of Generation Reliability Standard • Review of Sabah Capacity Requirement • Review of TNB Cost of Service
2016	Implementation of a new supply and safety legal framework for electricity and gas	• Amendment of the Electricity Regulations 1994 • Amendment of Licensee Supply Regulations 1990 • Amendment of Gas Supply Regulations 1997 • Finalisation of codes and guidelines for Third Party Access for gas • Development of revised MEPS Regulations • Development of guidelines related to electricity supply/licensed activities
2016	Energy database upgrade	• Development of Malaysian Energy Industry Database (MEIH) forecast report • Enhancement of energy usage database for commercial sector
2016	Development of policy / legal framework	• Cross border power and gas supply-harmonisation of regulatory standards and technical aspects through ASEAN Energy Regulatory Network (AERN) • Legal framework on energy service company (ESCO) registration • Gas cooker labeling framework
2016	Implementation of trial run for IBR (gas)	• Implementation of IBR for GMB
2016	Implementation of programs under NEEAP	• Enhancing resources for NEEAP implementation
2016	Industry competency improvement initiatives	• Study to review competent control requirements for the supply and use of electricity and gas • Study to review contractor registration requirements
2016	Household gas and electrical safety improvement initiatives	• Study to review safety regulatory framework for household gas/electrical appliances

ECONOMIC, TECHNICAL AND SAFETY REGULATION ENHANCEMENT PLAN

Year	*Initiative*	*Project / Programme*
2016	*Enforcement improvement plan*	• *Implementation of third party surveillance system*
2015 - 2016	*Development of industry codes of practice, rules and guidelines*	• *Enforcement of Electrical Infrastructure Code* • *Enforcement of Non-Domestic Electrical Installation Code* • *Implementation of Guidelines /Rules for Promoting Co-generation* • *Implementation of Guidelines for Net Energy Metering And Self Consumption For Solar PV*
2015-2017	*Development of industry codes of practice, rules and guidelines*	• *Development and implementation of Guidelines for Competition* • *Enforcement of Guidelines for Water Heater Installation* • *Implementation of Regulatory Implementation Guidelines for Sabah* • *Approval and implementation of Codes and Guidelines Under Gas Third Party Access Framework* • *Review Guidelines On Enforcement of Electricity Theft* • *Development of Guidelines On Claim Due to Negligence of Licensees* • *Development and enforcement of Guidelines on C200 kg LPG Cylinders Installation* • *Development and enforcement of Guidelines on Disconnection Due to Theft* • *Guidelines on Use of Power Line for Communication*
2015-2017	*Enhance sustainability of the electricity supply industry in Sabah*	• *Implementation of short term, medium term and long term initiatives*
2016-2017	*Industry Award programme*	• *Implementation of Industry Award programme*
2016-2017	*Operationalisation of gas open access network regulatory frame-work*	• *Operationalisation of legal and regulatory framework for open access to gas supply network* • *Account unbundling of GMB*
2017	*Tariff review (electricity)*	• *First regulatory period base tariff review for TNB* • *Implementation of cost reflective tariff*
2016-2020	*Demand response initiatives*	• *Implementation of Enhanced Time-of-Use Tariff (EToU)* • *Study on implementation of EToU for domestic consumers* • *Phasing out of Special Industrial Tariff* • *Introduction of Interruptible Load Tariff* • *Development of smart metering regulatory framework*
2016-2020	*Development of Competitive Energy Market, Legal and Regulatory Framework*	• *Operationalise NEDA* • *Develop Legal and Regulatory Framework to Enhance Competition in Peninsular* • *Establishment of Electricity Market Authority* • *Operationalisation of a liberalised electricity market*

CORPORATE DEVELOPMENT PLAN

FOCUS AREA: HUMAN RESOURCE DEVELOPMENT

Year	Initiative	Project / Programme
2015-2016	Job rotation planning	• Development of job rotation policy and programme
2015-2016	Succession planning	• Development of succession planning framework
2015- 2016	Review of manpower requirements	• Approval of additional manpower • Allocation of manpower based on need analysis
2015-2016	Knowledge management	• Implement knowledge sharing sessions • Establish repositories for studies and research, • Enhance usage of ST library
2016	Review of Terms and Conditions of Service	• Benchmarking with other regulatory bodies and market practices
2016	Training and development processing and monitoring	• Operationalisation of training module in Performance Management System (PMS)
2015-2017	Talent management and development	• Development of Job Descriptions, Job Specifications, Job SKA Profiles • Development of competency requirements framework • Development and implementation of Career Progression Mechanism Policy • Development of Training and Development Plan
2016-2017	ST Learning Centre	• Develop training areas and programmes

FOCUS AREA: BUSINESS PROCESS RE-ENGINEERING

Year	Initiative	Project / Programme
2015-2016	*Review of Client Charter*	• *Client Charter review*
2015-2016	*Development of ICT Master-plan*	• *Review ICT Masterplan*
2015- 2016	*Computerisation of processes*	• *Implementation of ECOS II* • *Enhancing online services for e-Gas, e-Electricity* • *Enhancing e-Aduan system* • *Integration of ST's e-Kelengkapan system with U-Kastam* • *Development of Computerized Investment System*
2015-2016	*Enhancement of ICT Security System*	• *Managed services by third party - Disaster Recovery site*
2015-2016	*Upgrading of IT system*	• *Email system upgrade for high availability and archiving* • *Upgrading of SAGA system* • *Upgrading of project monitoring system*
2015-2016	*Implementation of Internet Banking and Online Payment*	• *Operationalisation of internet banking* • *Implementation of online payment*
2015-2016	*Improvement in procurement process*	• *Review procurement procedure and evaluation*
2015-2016	*ISO certification*	• *Certification for processing of public licence and issuing of Certificate of Approval for electri cal appliance*
2015-2016	*Development of Emergency Preparedness Plan*	• *ST Business Continuation Management Plan* • *Industry Emergency Response Plan*
2016	*Improvement of competent person identification*	• *Development of identification card system for registration of electrical competent system*
2015-2017	*Development of mobile applications*	• *Development of mobile applications for Malaysia Energy Statistics and Energy Balance*

FOCUS AREA: FINANCIAL SUSTAINABILITY ENHANCEMENT

Year	Initiative	Project / Programme
2016	*Review of financial outlook/status*	• *ST revenue and expenses study*
2016-2017	*Review of fees and charges for licensing and certification*	• *Review of need for new processing fees*

FOCUS AREA: COMMUNICATION/OUTREACH

Year	Initiative	Project / Programme
2016	*Development of strategic communication plan*	• *Establish media plan* • *Establish crisis communication plan*
2016	*Communication and public engagement*	• *Industry-focused Seminar/Workshop/Campaign on safety and efficiency* • *Media publicly and promotions* • *Outdoor advertising* • *EE Challenge* • *Touch point and Corporate Social Responsibilty*
2015-2016	*Establishment of collaborative framework with other relevant agencies and associations in regulatory activities*	*Regional level* • *ASEAN Energy Regulatory Forum (AERN)* • *ASEAN JSC EEE Association level* • *ST – Industry working committees Agency / Organisations in other countries / state* • *Memorandum of Understanding (MOUs) – CEC* • *Memorandum of Understanding – Electrical Inspectorate Unit, Sarawak (EIU)* • *Establishment of* Panel Perunding Tenaga *for Sabah*

REGULATORY FRAMEWORK RATIONALISATION PLAN

Year	Initiative	Project / Programme
2015	*Activities to be undertaken by institutions / industry under Suruhanjaya Tenaga monitoring*	• *Implementation of Electrical competency examinations by institutions* • *Implementation of Electrical Appliance Test Report Verification by SIRIM* • *Implementation of Electrical appliance market surveillance by SIRIM*
2015	*Functions to be coordinated with other relevant regulatory agencies*	• *RE incentive processing by SEDA* • *RE activities by SEDA* • *Contractor registration by CIDB*

FINANCIAL STATEMENTS

REPORT OF THE AUDITOR GENERAL

ON THE FINANCIAL STATEMENT OF

THE ENERGY COMMISSION

FOR THE YEAR ENDED 31 DECEMBER 2015

Report on the Financial Statements

The financial statements of the Energy Commission have been audited by my representative, which comprise the Balance Sheet as at 31 December 2015 and the Income Statement, Statement Of Changes In Equity and Cash Flow Statement for the year then ended and a summary of significant accounting policies and other explanatory information.

Members of the Energy Commission's Responsibility for the Financial Statements

The Members of the Energy Commission (hereinafter known as 'Members of the Commission') are responsible for the preparation and fair presentation of these financial statements in accordance with approved financial reporting standards in Malaysia and the Energy Commission Act 2001 (Act 610). The Members of the Commission are also responsible for such internal control as the management determines is necessary to enable the preparation of financial statements that are free from material misstatement whether due to fraud or error.

Auditor's Responsibility

My responsibility is to express an opinion on these financial statements based on the audit. The audit has been carried out in accordance with the Audit Act 1957 and in conformity with approved standards on auditing in Malaysia. Those standards require that I comply with ethical requirements and plan and perform audit to obtain reasonable assurance whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements whether due to fraud or error. In making those risk assessments, the auditors consider internal control relevant to the entity's preparation and fair presentation of financial

statements that give a true and fair view in order to design audit procedures that are appropriate in the circumstances but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by the management as well as evaluating the overall presentation of the financial statements.

I believe that the audit evidence that I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

Opinion

In my opinion, the financial statements give a true and fair view of the financial position of the Energy Commission as at 31 December 2015 and of its financial performance and cash flows for the year then ended in accordance with approved financial reporting standards in Malaysia.

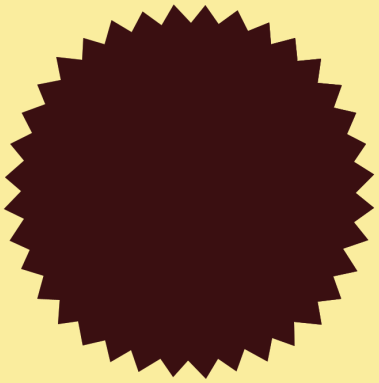
(KHAIRUL ANUAR BIN AMAT JOHARI)

FOR AUDITOR GENERAL

MALAYSIA

PUTRAJAYA

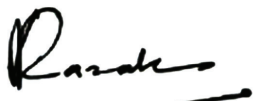
11 JULY 2016



STATEMENT BY CHAIRMAN AND CHIEF EXECUTIVE OFFICER OF ENERGY COMMISSION

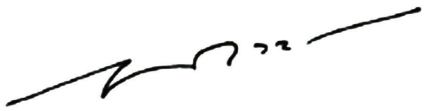
We, Dato' Abdul Razak Bin Abdul Majid and Datuk Ir. Ahmad Fauzi Bin Hasan, being the Chairman and the Chief Executive Officer of the Energy Commission, respectively, do hereby declare that in the opinion of the Energy Commission members, the Financial Statements comprising the Balance Sheet, Statement of Income and Expenditure, Statement of Changes in Equity, Cash Flow Statement and the notes to the Financial Statements have been prepared so as to give a true and fair view of the state of affairs of the Energy Commission as at 31 December 2015 and of its results and changes in the financial position for the year ended on that date.

Chairman



Dato' Abdul Razak Bin Abdul Majid
Chairman
Date: 30 June 2016
Place: Energy Commission
Precinct 2, Putrajaya

Chief Executive Officer



Datuk Ir. Ahmad Fauzi Bin Hasan
Chief Executive Officer
Date: 30 June 2016
Place: Energy Commission
Precinct 2, Putrajaya

DECLARATION OF OFFICER PRIMARILY RESPONSIBLE FOR THE FINANCIAL MANAGEMENT OF THE ENERGY COMMISSION

I, Asma Aini Binti Mohd Nadzri, Director of Corporate Services Department, being the officer primarily responsible for the financial management and accounting records of the Energy Commission, do solemnly and sincerely declare that the Balance Sheet, Statement of Income, Statement of Changes in Equity and the Cash Flow Statement in the following financial position and the notes to the Financial Statements, are, to the best of my knowledge and belief, correct, and that I make this solemn declaration conscientiously believing the same to be true and by virtue of the provisions of the Statutory Declaration Act, 1960.

BANGI
SELANGOR
30 JUN 2016

.....

Subscribed and solemnly declared
by the above-named at Bangi, Selangor
on 10 July 2014

.....

Before me,

PESURUHJAYA SUMPAH
No : B424
Nama: RAJA NAFISAH
BINTI RAJA SALIM

No 23-1, Tingkat 1, Jalan 7/7A
Sekayen 7, 43650 Bandar Baru Bangi
Selangor D.E.

.....

COMMISSIONER FOR OATH

ENERGY COMMISSION

BALANCE SHEET
On 31 December 2015

	Note	2015 RM	2014 RM Re-stated
Property, Fittings and Equipment	3	91,224,992	94,383,782
Investment	4	12,902,767	5,193,531
Current Assets			
Cash and cash equivalent	5	84,924,010	74,762,537
Short term investment		207,239,039	189,925,843
Other receivables	6	2,211,031	2,502,485
		294,374,080	267,190,865
Current Liabilities			
Other payables	7	9,368,990	9,652,185
Provision for short term workers benefits	8	365,454	222,936
Tax provision		2,114,650	1,886,051
		11,849,094	11,761,172
Net Current Assets		282,524,986	255,429,693
		386,652,745	**355,007,006**
Financed by:			
Accumulated funds		359,532,189	335,083,778
Special funds	9	21,113,285	14,664,091
		380,645,474	349,747,869
Long Term Liabilities			
Provision for long term workers benefits	8	6,007,271	5,259,137
		386,652,745	**355,007,006**

The notes are an integral part of this statement.

ENERGY COMMISSION

STATEMENT OF INCOME
For the Year Ending December 2015

	Note	2015 RM	2014 RM Re-stated
Income			
Fees and charges	10	79,549,718	75,488,048
Interest income		8,855,698	7,457,641
Various		105,905	142,408
		88,511,321	83,088,097
Expenditure			
Staff costs	11	(39,928,009)	(37,332,374)
Administration costs	12	(17,407,628)	(15,880,495)
Depreciation of property, fittings and equipment	3	(4,152,320)	(4,072,249)
Other operating costs		(445,727)	(700,241)
		(61,933,684)	(57,985,359)
Surplus Before Tax		26,577,637	25,102,738
Tax	13	(2,129,226)	(1,889,396)
Current Net Surplus		**24,448,411**	**23,213,342**

The notes are an integral part of this statement.

ENERGY COMMISSION

STATEMENT OF CHANGES IN EQUITY
For the Year Ending 31 December 2015

2015	Accumulated Funds RM	Special Funds RM	Total RM
Balance on 1 January	335,083,778	14,664,091	349,747,869
Income	88,511,321	8,830,590	97,341,911
	423,595,099	23,494,681	447,089,780
Expenditure	(61,933,684)	(2,381,396)	(64,315,080)
Tax for the year	(2,129,226)	-	(2,129,226)
Balance as at 31 December	**359,532,189**	**21,113,285**	**380,645,474**

2014 Re-stated	Accumulated Funds RM	Special Funds RM	Total RM
Balance on 1 January	316,384,699	2,105,883	318,490,582
Adjustments for prior year	(4,514,263)	-	(4,514,263)
Balance on 1 January re-stated	311,870,436	2,105,883	313,976,319
Income	83,088,097	13,654,014	96,742,111
	394,958,533	15,759,897	410,718,430
Expenditure	(57,985,359)	(1,095,806)	(59,081,165)
Current year tax	(1,889,396)	-	(1,889,396)
Balance as at 31 December	**335,083,778**	**14,664,091**	**349,747,869**

The notes are an integral part of this statement.

ENERGY COMMISSION

CASH FLOW STATEMENT
For the Year Ending 31 December 2015

	2015 RM	2014 RM Re-stated
Cash Flows from Operating Activities		
Surplus before tax	26,577,637	25,102,738
Adjustments for:		
Accumulated funds statement	-	(4,512,262)
Interest income	(8,855,698)	(7,457,641)
Depreciation	4,152,320	4,072,249
Write-off of permanent assets	-	(276,232)
Operating profit before working capital changes	21,874,259	16,926,852
Changes in working capital:		
Other receivables	291,454	(492,715)
Other payables	(283,195)	1,812,228
Provision for short term benefits	142,518	222,936
Cash from operating activities	22,025,036	18,469,301
Tax payment	(1,900,626)	(1,692,229)
Net cash flow from operating activities	**20,124,410**	**16,777,072**
Cash flow from investment activities		
Investment	(7,709,236)	(156,610)
Short term investment	(17,313,196)	(38,703,723)
Purchase of permanent assets	(993,530)	(916,300)
Interest income received	8,855,698	7,457,641
Net cash flow used in investment activities	**(17,160,264)**	**(32,318,992)**
Cash from financing activities		
Special funds	6,449,193	12,558,207
Provision for long term benefits	748,134	5,259,137
Net cash flow from financing activities	**7,197,327**	**17,817,344**
Net cash increase and cash equivalent	10,161,473	2,275,424
Cash and cash equivalent at the beginning of year	**74,762,537**	**72,487,113**
Cash and cash equivalent at the end of year	**84,924,010**	**74,762,537**
Cash and cash equivalent consist of:		
Cash and bank balance	35,776,424	21,436,492
Deposits in licensed banks	49,147,586	53,326,045
	84,924,010	**74,762,537**

The notes are an integral part of this statement

ENERGY COMMISSION

Notes to the Financial Statements

1.PRINCIPAL ACTIVITIES

The Energy Commission is a statutory corporation operating at No.12, Jalan Tun Hussein, Precinct 2, 62100 Putrajaya.

The Commission is the sole regulatory agency for the regulation and development of the energy sector and is directly responsible to oversee and supervise energy generation activities including the regulation of each licensed individual under the Energy Commission Act, 2001.

The Financial Statements were approved and certified for signature by the Commission on 30 June 2016.

2. SIGNIFICANT ACCOUNTING POLICIES

The following accounting policies practiced by the Energy Commission are consistent with those practiced in previous years.

a. Basis of Accounting

The Energy Commission's Financial Statements were prepared in compliance with the Private Entity Reporting Standards (PERS) approved by the Malaysian Accounting Standards Board (MASB) and based on the historical cost convention.

b. Property, Fittings and Equipment

Buildings, fittings and equipment are stated at cost less accumulated depreciation and impairment, if any. Works in progress are not depreciated.

Depreciation for buildings, fittings and equipment are calculated on the straight line method over the estimated useful life of the assets.

The annual depreciation rates are as follows:

Buildings	2%
Motor vehicles	20%
Furniture, fittings, renovations and enforcement equipment	20%
Office equipment (electronic)	15%
Application systems and computers	33 1/3%
Fixtures and equipment	20%

Land at cost is freehold land and is not depreciated.

The residual value, useful lives and rate of depreciation are reviewed at the end of each financial year to ensure that the amounts, methods and year of depreciation are in line with previous estimates and expected economic benefits of utilising the property and equipment.

c. Investments

The Energy Commission's investments consist of special bank products which are invested in the Syariah-compliant money market in the form of deposits and unit trusts. The investments are stated at book value calculated at cost value. The cost value is determined based on Net Asset Value (NAV) on the purchase date or on the re-investment date from the distribution of income received. The distribution of income is recognised as returns on investment on the date of declaration of income by the fund manager.

Investments are allocations of funds for the purpose of paying gratuities to retiring Energy Commission staff.

d. Cash and Cash Equivalents

Cash and cash equivalents consist of cash in hand and bank balances, deposits in banks and financial institutions and also high-liquidity short term investments with a maturity period of three months or less from the date of purchase and can be readily redeemed in the form of cash and with low risks of value fluctuation.

e. Short Term Investments

Short term investments consist of deposits in banks and other financial institutions, and also short term investments with high liquidity with maturity periods of three months or up to a year from the date of purchase and which can be readily redeemed in the form of cash with low risks of value fluctuation.

f. Receivables

Receivables are stated at cost less provisions for bad debts, if any.

g. Payables

Payables are stated at fair value of the consideration to be paid for goods or services received.

h. Special Funds

Special Funds are provisions received from the Electricity Supply Industry Trust Fund (AAIBE) under the Ministry of Energy, Green Technology and Water (KeTTHA) and Government agencies for special purposes.

i. Impairment

The carrying value of the Commission's assets and financial assets are reviewed at each date of the balance sheet to determine whether there have been indications of impairment. If any such indication exists, the recoverable amount will be estimated. An impairment loss will be recognised in the income statement except when the carrying value of the asset has been re-valued and charged to reserves. An impairment loss is recognised whenever the value in use for the asset or assets owned by the income generating unit exceeds its recoverable amount.

Recoverable amount is the higher difference between the asset's net selling price and value in use. In assessing value in use, which is measured by reference to the discounted future cash flow using pre-tax discount rate which reflects current market assessment of the time value of money and risks to the asset. For an asset that does not generate large cash flows by itself, the recoverable amount is determined by the cash-generating unit to which it belongs.

For other assets, an impairment loss is reversed when there has been a change in the estimates used to determine recoverable amount.

The impairment loss is reversed to the extent of the carrying amount of the asset that would have been determined (net of depreciation) had no impairment loss been recognised. A reversal of an impairment loss is credited to the income statement but in the case of reversal on a re-valued asset, it is credited to equity.

j. Taxation

The taxation charged for the year is calculated at the current tax rate. Current tax is the expected amount payable on taxable income for the year and is measured by using the applicable tax rates on the date of the balance sheet.

Current tax expenses is the expected tax payable on the taxable income for the year, using tax rates gazetted or substantially gazetted at the balance sheet date, and any adjustments to tax payable in respect of the previous year.

Provisions for deferred tax is made, by the liability method, for all timing differences between tax rates of assets and liabilities and their carrying amount in the financial statements. Temporary differences are not recognised for goodwill, is not deductible for taxation purposes, and the initial recognition of an asset or liability at the time of the transaction does not affect the statutory profit and taxable profit. The total provision for deferred tax is based on the expected manner of realisation or settlement of the carrying amount of the assets and liabilities, using tax rates gazetted or substantially gazetted on the date of the balance sheet.

Deferred tax assets are recognised only when it is probable that taxable profit can be derived in the future from the assets used.

k. Workers' Benefits

i. Short Term Workers' Benefits

Wages, salaries and bonuses are recognised as expenses in the current year services performed by employees of the Energy Commission. Short term accumulated compensations such as paid annual leave are recognised when employees render services that increase their entitlement for paid leave in the future, and short term non-accumulative compensations such as paid sick leave are only recognised when such leave of absence occur.

ii. Compulsory Contribution Plan

The law requires qualified Malaysian employers to make compulsory contributions to the Employees Provident Fund and Social Security Organisation (SOCSO). The contributions are recognised as expenses in the income statement. Liabilities for the compulsory contribution plans are recognised as current expenses in the income statement.

iii. Long Term Workers' Benefits

Long-term employee benefits are the provision of retirement benefits in the form of gratuities to the staff upon retirement are recognised on an accrual basis in the Income Statement as expenditure in the current year and as liability in the Balance Sheet. Recognition is by the use of actuarial valuation methods.

l. Recognition of Income and Expenditure

Income from fees and charges are accounted for on a cash basis as the annual payment obligation is on licensees. In addition, interest income from bank deposits are calculated on a cash basis while interest income from fixed deposits and short-term investments as well as all expenses are accounted for on an accrual basis.

3. PROPERTY, FITTINGS AND EQUIPMENT

2015	Works in Progress	Land	Building	Motor Vehicles	Furniture, Fittings, Renovations and Enforcement Equipment	Office Equipment (Electronic)	Application Systems and Computers	Fixtures and Equipment	TOTAL
	RM	RM	RM	RM	RM	RM	RM	RM	RM
Cost									
On 1 January 2015	279,192	8,299,405	79,205,160	4,435,794	4,871,731	4,344,907	3,341,237	1,530,134	106,307,560
Addition	287,743	-	-	172,205	238,781	362,471	211,522	-	1,272,722
Disposal and transfer	(279,192)	-	-	(461,802)	-	-	-	-	(740,994)
On 31 December 2015	287,743	8,299,405	79,205,160	4,146,197	5,110,512	4,707,378	3,552,759	1,530,134	106,839,288
Accumulated Depreciation									
On 1 January 2015	-	-	2,376,154	2,813,132	1,696,648	1,694,465	2,884,338	459,041	11,923,778
Current year depreciation	-	-	1,584,104	561,062	916,089	563,824	221,214	306,027	4,152,320
Disposal and transfer	-	-	-	(461,802)	-	-	-	-	(461,802)
On 31 December 2015	-	-	3,960,258	2,912,392	2,612,737	2,258,289	3,105,552	765,068	15,614,296
Net Depreciation									
On 31 December 2015	**287,743**	**8,299,405**	**75,244,902**	**1,233,805**	**2,497,775**	**2,449,089**	**447,207**	**765,066**	**91,224,992**

3. PROPERTY, FITTINGS AND EQUIPMENT

2014 (Re-Stated)	Works in Progress	Land	Building	Motor Vehicles	Furniture, Fittings, Renovations and Enforcement Equipment	Office Equipment (Electronic)	Application Systems and Computers	Fixtures and Equipment	TOTAL
	RM	RM	RM	RM	RM	RM	RM	RM	RM
Cost									
On 1 January 2014	-	-	87,380,832	4,213,694	4,856,359	4,288,209	3,104,052	1,548,114	105,391,260
Classification	-	8,299,405	(8,175,672)	-	(105,753)	-	-	(17,980)	-
Balance brought forward and re-stated	-	8,299,405	79,205,160	4,213,694	4,750,606	4,288,209	3,104,052	1,530,134	105,391,260
Addition	279,192	-	-	391,266	121,125	56,698	273,724	-	1,122,005
Disposal and transfer	-	-	-	(169,166)	-	-	(36,539)	-	(205,705)
On 31 December 2014	279,192	8,299,405	79,205,160	4,435,794	4,871,731	4,344,907	3,341,237	1,530,134	106,307,560
Accumulated Depreciation									
On 1 January 2014	-	-	873,808	2,413,634	762,577	1,205,904	2,717,026	154,812	8,127,761
Adjusted classification	-	-	(81,757)	-	(10,575)	-	-	(1,798)	(94,130)
Balance brought forward and re-stated	-	-	792,051	2,413,634	752,002	1,205,904	2,717,026	153,014	8,033,631
Current year deprecation	-	-	1,584,103	546,108	912,498	520,709	202,804	306,027	4,072,249
Disposal/transfer	-	-	-	(146,610)	-	-	(35,492)	-	(182,102)
On 31 December 2014	-	-	2,376,154	2,813,132	1,664,500	1,726,613	2,884,338	459,041	11,923,778
Net Book Value									
On 31 December 2014	**279,192**	**8,299,405**	**76,829,006**	**1,622,662**	**3,207,231**	**2,618,294**	**456,899**	**1,071,093**	**94,383,782**

4. INVESTMENTS

	2015	
	Cost/Book Value RM	Net Asset Value RM
Unit Amanah:- Affin Hwang Aiiman Wholesale Fund IV	12,902,767	12,577,200

	2014	
	Cost/Book Value RM	Net Asset Value RM
Unit trust: Affin Hwang Aiiman Wholesale Fund I	5,193,531	5,204,205

Investment in Unit Trust
Affin Fund 4-i Wholesale – with its existing investment features being retained - was re-named Affin Hwang Aiiman Wholesale Fund IV on 20 September 2014 with the merger of Affin Fund Management Berhad and Hwang Investment Berhad.

Holdings in the Affin Hwang Aiiman Wholesale Fund IV totalled 12,818,184 units (2014: 5,169,568). The Net Asset Value used is based on the calculation of the fund manager.

5. CASH AND CASH EQUIVALENT

	2015 RM	2014 RM
Cash and bank balance	35,776,424	21,436,492
Deposits in licensed banks	49,147,586	53,326,045
TOTAL	**84,924,010**	**74,762,537**

Cash and bank balance included Special Funds of RM21,113,285 (2014: RM14,664,091).

6. OTHER RECEIVABLES

	2015 RM	2014 RM
Staff advance	-	418
Club membership deposits	91,000	91,000
Other deposits and receivables	276,218	278,218
Accrued interest	1,843,813	2,132,849
TOTAL	**2,211,031**	**2,502,485**

7. OTHER PAYABLES

	2015 RM	2014 RM Re-stated
Trade payables	3,393,293	3,972,646
Other payables	4,728,746	4,610,094
Provisions for staff leave	1,178,312	1,047,423
Consolidated compound fund under KeTTHA	5,000	-
Audit fees	63,639	22,022
TOTAL	**9,368,990**	**9,652,185**

8. PROVISIONS FOR STAFF BENEFITS

	2015 RM	2014 RM Re-stated
On 1 January	5,482,073	4,786,059
Current year provision	1,113,588	755,896
Current year payments	(222,936)	(59,882)
On 31 December	**6,372,725**	**5,482,073**

Maturity structure for employee benefits provisions;

	2015 RM	2014 RM
Maturity within 12 months	365,454	222,936
Maturity exceeding 12 months	6,007,271	5,259,137
TOTAL	**6,372,725**	**5,482,073**

9. SPECIAL FUNDS

2015	SECPP Special Funds Account	MyPower Special Funds Account	Grid Code Funds Special Account	Retrofitting & LED Lighting Special Funds Account	Total
	RM	RM	RM	RM	RM
Balance on 1 January	3,154,323	-	-	11,509,768	14,664,091
Income:					
Grants from Government/agencies	-	8,530,000	158,000	-	8,688,000
Bank interest	31,702	3,623	-	107,265	142,590
	31,702	8,533,623	158,000	107,265	8,830,590
(-) Expenditure					
Other expenses	(-)	(-)	(149,482)	(2,231,914)	(2,381,396)
	(-)	(-)	(149,482)	(2,231,914)	(2,381,396)
Surplus	31,702	8,533,623	8,518	(2,124,649)	6,449,194
Balance on 31 December	**3,186,025**	**8,533,623**	**8,518**	**9,385,119**	**21,113,285**

2014	SECPP Special Funds Account	MyPower Special Funds Account	Grid Code Funds Special Account	Retrofitting & LED Lighting Special Funds Account	Total
	RM	RM	RM	RM	RM
Balance on 1 January	1,536,547	537,546	31,790	-	2,105,883
Income:					
Grants from Government/agencies	2,000,000	-	126,450	11,500,000	13,626,450
Bank interest	17,796	-	-	9,768	27,564
	2,017,796	-	126,450	11,509,768	13,654,014
(-) Expenditure					
Various expenses	(400,020)	(537,546)	(158,240)	(-)	(1,095,806)
	(400,020)	(537,546)	(158,240)	(-)	(1,095,806)
Surplus income	1,617,776	(537,546)	(31,790)	11,509,768	12,558,208
Balance on 31 December	**3,154,323**	**-**	**-**	**11,509,768**	**14,664,091**

Special Funds are special allocations received from the Electricity Supply Industry Trust Fund under the Ministry of Energy, Green Technology and Water and government agencies for specific purposes. Details of each account under the Special Funds are as follows:

i. **Sustainable Energy Communications Plan Project (SECPP) Special Funds Account**: To finance the promotion of sustainable energy including energy efficiency and renewable energy and also to create greater awareness and enhance knowledge among the general public of the legal framework and regulation concerning sustainable energy.

ii. **MyPower Special Funds Account**: To finance the implementation of project initiatives under the 10th Malaysia Plan: Stabilisation Mechanism, Ring Fencing Single Buyer, Fuel Supply and Security and Industry Structure.

iii. **Grid Code Special Funds Account**: To conduct Knowledge Development Programmes and the National Electricity Supply Industry Executive Talks.

iv. **Retrofitting and LED Lighting Special Funds Account**: To finance retrofitting projects and installation of LED lighting in selected ministry buildings beginning in early 2015.

v. **PQB Special Funds Account**: To finance the purchase of data logger equipment and appointment of consultants to conduct the Power Quality Baseline Study in Peninsular Malaysia the implementation of which was completed in 2014.

10. FEES AND CHARGES

	2015 RM	2014 RM Re-Stated
Public and private licences	53,836,437	51,761,997
Registration/operations renewal fees	21,670,765	20,030,035
Other operating fees	4,042,516	3,696,016
	79,549,718	**75,488,048**

11. STAFF COSTS

	2015 RM	2014 RM Re-Stated
Wages, allowances and other financial benefits	32,930,266	30,705,957
Statutory contributions	4,381,378	4,171,284
Travel and subsistence costs	2,616,365	2,455,133
	39,928,009	**37,332,374**

Staff costs includes statutory contributions, that is, Employees' Provident Fund totaling RM4,222,773 (2014: RM4,017,200) and contributions to SOCSO RM158,605 (2014: RM154,084). The number of staff at the Energy Commission on 31 December 2015 was 303 (2014: 297).

12. ADMINISTRATION COSTS

	2015 RM	2014 Re-Stated
Audit fees	63,639	22,020
Professional and consultancy fees	5,143,986	4,902,373
Association memberships	17,422	18,977
Cost of development of competency and management performance	475,339	507,671
Hospitality, communications and utilities	2,509,860	2,676,730
Maintenance and system development	3,311,639	2,497,228
Equipment and office building maintenance	1,531,760	1,459,170
Printing and office supplies	1,229,913	1,354,119
Rental of office building and equipment	2,422,420	2,250,810
Other expenses	701,650	191,397
	17,407,628	**15,880,495**

13. TAXATION

	2015 RM	2014 RM Re-Stated
Tax Expenses		
- Current year	2,114,650	1,886,051
- Over-provision in previous year	14,576	3,345
Total	**2,129,226**	**1,889,396**
Reconciliation of effective tax rates		
Surplus before tax	26,577,637	25,102,738
Tax at 26% rate	6,910,186	6,526,712
Tax-exempted income	(4,795,536)	(4,640,661)
	2,114,650	1,886,051
Over-provision in previous year	14,576	3,345
Tax expenses	**2,129,226**	**1,889,396**

The Energy Commission is tax-exempted under Section 127(3)b Income Tax Act 1967 which was given by the Ministry of Finance on 19 October 2004. The tax exemption is applicable only on statutory income as follows:

i. Income received from the Federal or State Government in the form of grants or subsidies;

ii. Income received in connection with any amount chargeable or collectible from any person according to the provisions of the Act which regulates statutory authorities; and

iii. Contributions and donations received.

14. CAPITAL COMMITMENTS

	2015 RM	2014 RM Re-Stated
Approved and Contracted		
Property, fittings and equipment	143,087	347,170
Office supplies	-	3,637
Maintenance	-	95,430
Professional services	627,594	670,572
	770,681	**1,116,809**

Included in the capital commitments for the year ending 31 December 2015 are asset costs for renovation totalling RM143,087 at the Energy Commission's headquarters and the Sandakan regional office. Capital commitments for the year ending 31 December 2014 included asset costs for renovation of the Melaka and Negeri Sembilan regional offices totalling RM139,550, the booking of a vehicle for RM171,666 and other expenses.

15. COMPARATIVE FIGURES

The folllowing comparative figures for 2014, as stated in the folllowing, have been re-stated in the 2015 Income Statement to indicate the difference in the presentation of these items and also their re-classification in the current year's Financial Statements.

i. **Property, Fittings and Equipment:** The Energy Commission has separated the land value from the value of the building according to the current acquisition cost of the asset. The re-classification of the value of the freehold land has to recognise in return the depreciation which has been charged at the depreciation rate of the building to the value of the land.

ii. **Other Payables:** The Energy Commission re-stated other payables when taking into account administrative costs which had been under-stated.

iii. **Provisions for Workers' Benefits:** The Energy Commission took into account provisions for workers' benefits (gratuities) which had been approved to take effect in 2012. Short term and long term workers' benefits were calculated in line with the standard accounting requirements in force by appointed actuarial experts.

iv. **Staff Costs:** The Energy Commission re-stated staff costs which were under-stated when taking into account long term provisions (gratuities) for staff in 2014.

v. **Administrative Costs:** The Energy Commission re-stated the administrative costs which were under-stated for 2014.

vi. **Depreciation of Property, Fittings and Equipment**: The Energy Commission re-stated the depreciation of property, fittings and equipment after separating the value of the land from the value of the building. Land is not depreciated and depreciation which is charged as re-charged to land assets

Extracts from Balance Sheet, Income Statement and Cash Flow Statement

	Note	31.12. 2014		
		As stated previously	Re-classification	As re-stated
		RM	RM	RM
BALANCE SHEET				
Property, fittings and equipment	3	94,101,391	282,391	94,383,782
Current Liabilities				
Other payables	7	9,576,734	75,451	9,652,185
Provision for short term workers' benefits	8	-	222,936	222,936
Long Term Liabilities				
Long term workers' benefits	8	-	5,259,137	5,259,137
INCOME STATEMENT				
Fees and charges	10	75,492,048	(4,000)	75,488,048
Staff costs	11	36,639,209	693,165	37,332,374
Administrative costs	12	15,806,196	74,299	15,880,495
Depreciation of property, fittings and equipment		4,260,510	(188,261)	4,072,249

	Note	31.12. 2014		
		As previously stated	Re-classification	As re-stated
CASH FLOW STATEMENT				
Cash flow from operating activities:				
Surplus before tax		25,685,941	(583,203)	25,102,738
Adjustment of Accumulated Funds Statement		177,667	(4,691,929)	(4,514,262)
Depreciation		(4,260,510)	(188,261)	(4,072,249)
Disposal of fixed assets		(182,102)	(94,130)	(276,232)
Other payables		1,736,778	75,450	1,812,228
Provision for short term benefits		-	222,936	222,936
Cash Flow from Financing Activities				
Provision for long term benefits		-	5,259,137	5,259,137

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