

# Business Plan **2015-2020**

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## INTRODUCTION

Energy plays an important role in our lives. It lights up our cities and villages, powers industrial processes, and makes our daily lives more comfortable.

The energy sector in Malaysia has undergone significant changes since the 1990s. This was driven by the Government's aim to enhance supply security, improve efficiency and quality in utility services, and increase private sector participation in infrastructure development in the power sector.

In its continuing efforts to enhance the performance of the energy supply industry, on 1<sup>st</sup> May 2001, the Government established Suruhanjaya Tenaga under the Energy Commission Act 2001. On 1<sup>st</sup> January 2002, Suruhanjaya Tenaga became fully operational and assumed all the powers and responsibilities of the Department of Electricity and Gas Supply which was dissolved on the same date.

In line with the objectives of its formation, Suruhanjaya Tenaga 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.

The governance of Suruhanjaya Tenaga is entrusted to its Chairman and the Commission members, who are responsible to the Minister in charge of energy. The roles and functions of Suruhanjaya Tenaga are executed by the various Departments, Units and nine regional offices.

Suruhanjaya Tenaga undertakes various functions and activities in line with the provisions of the energy supply laws as defined in the Energy Commission Act 2001.

One major function of Suruhanjaya Tenaga is to advise the Minister on all matters concerning national energy supply policy objectives and the supply and use of electricity and piped gas.

In ensuring smooth and orderly functioning of the energy supply industry, Suruhanjaya Tenaga issues licences for the generation, transmission and distribution of electricity and the distribution of piped gas.

In order to ensure that consumers enjoy reasonable and cost efficient tariffs, Suruhanjaya Tenaga monitors costs incurred by licensees in carrying out supply activities, formulates tariffs, administers competitive bidding of new generation capacity, as well as monitors industry performance.



Codes, guidelines and directives are issued by Suruhanjaya Tenaga to facilitate compliance to the various provisions of the energy supply laws. These are issued after the necessary studies and consultations have been undertaken by Suruhanjaya Tenaga.

In ensuring that all industry personnel, consumers and public are protected from dangers arising from the supply and utilisation of electricity and piped gas, Suruhanjaya Tenaga certifies competent personnel and equipment. Examinations, surveillance and investigations, as well as awareness programmes are carried out to ensure compliance.

Suruhanjaya Tenaga also regulates and promotes energy efficiency and the utilisation of renewable energy resources. This includes certification of electrical energy managers, setting of energy labelling standards and advising on renewable energy projects.

In line with good regulatory practice, Suruhanjaya Tenaga regularly engages with various related stakeholders in dealing with industry issues. At the same time, it also networks with related international institutions and regulatory bodies to learn and share best practices in energy regulation.

Suruhanjaya Tenaga will continue to strive for a secure, reliable, efficient and safe energy supply at a reasonable price for the nation.

Suruhanjaya Tenaga's responsibilities are detailed in the Energy Commission Act 2001 and the following Acts and Regulations;

- Electricity Supply Act 1990
- Gas Supply Act 1993
- Licensee Supply Regulations 1990
- Electricity Regulations 1994
- Gas Supply Regulations 1997
- Electricity Regulations (Compoundable Offences) 2001
- Gas Supply Order (Compoundable Offences) 2006
- Efficient Electricity Management Regulations 2008



## FUNCTIONS OF SURUHANJAYA TENAGA

As the statutory body responsible for regulating the energy sector, particularly the electricity and piped gas supply industries in Peninsular Malaysia and Sabah, Suruhanjaya Tenaga ensures the energy needs of the nation and the people are met. This is done by:

- Advising the Minister on all matters pertaining to the energy supply activities;
- Implementing, enforcing and reviewing the stipulated energy supply laws and regulations;
- Promoting efficiency and safety within the electricity and piped gas supply industry;
- Encouraging healthy competition and preventing the abuse of power or monopoly within the electricity and piped gas supply industry;
- Promoting the use of renewable energy and energy conservation;
- Promoting research and development of new techniques related to electricity supply and consumption, and the supply of piped gas;
- Promoting the development of the electricity and piped supply industry, including in the area of training;
- Promoting self-regulation within the industry.



## VISION

Suruhanjaya Tenaga is a highly effective energy regulator and the authority on energy matters.

## MISSION

Suruhanjaya Tenaga 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

### Energy Supply Industry

- The energy supply industry and its markets are highly progressive, competitive and resilient.

### Industry Players

- All parties/players involved in the energy supply industry are playing their roles and are operating in an orderly and well-controlled manner; constantly in a high state of readiness; and with the highest standard of professionalism possible.

### Consumer and Public

- Public interest, in general, and consumer interests, in particular, are well protected in the context of decisions and activities by the energy supply industry players.

### Minister and the Government

- The Government of Malaysia, in general, and the Minister, in particular, are constantly in a high state of being advised on all matters pertaining to the running of energy supply industry and to situations regarding the availability and requirement for energy in Malaysia.

### National Energy Policy

Malaysia's energy sector is guided since 1979 by the National Energy Policy, which has the following objectives:

- Ensuring the provision of adequate, secure and cost-effective energy supplies by developing indigenous energy resources, both non-renewable and renewable,
  - using least-cost options,
  - diversifying supply sources;
- Promoting the efficient utilisation of energy and the elimination of wasteful and non-productive patterns of energy consumption; and
- Ensuring that factors pertaining to environmental protection are taken into consideration in the production and use of energy.

### New Energy Policy

Under the New Energy Policy which was launched in 2010, energy supply will continue to be strengthened by creating a more competitive market and reducing energy subsidy in stages.

The New Energy Policy has identified five approaches:

**First:** Rationalising energy pricing gradually to match market price, taking into account current economic condition and affordability to the *rakyat*;

**Second:** Undertaking a more strategic development of energy supply by diversifying energy resources, including renewable energy resources. Nuclear energy will also be considered as an alternative source of energy;

**Third:** Accelerating the implementation of energy efficiency initiatives in the industrial, commercial, residential and transport sectors;

**Fourth:** Improving governance to support the transition to market pricing, while providing assistance to mitigate impact on the low income group; and

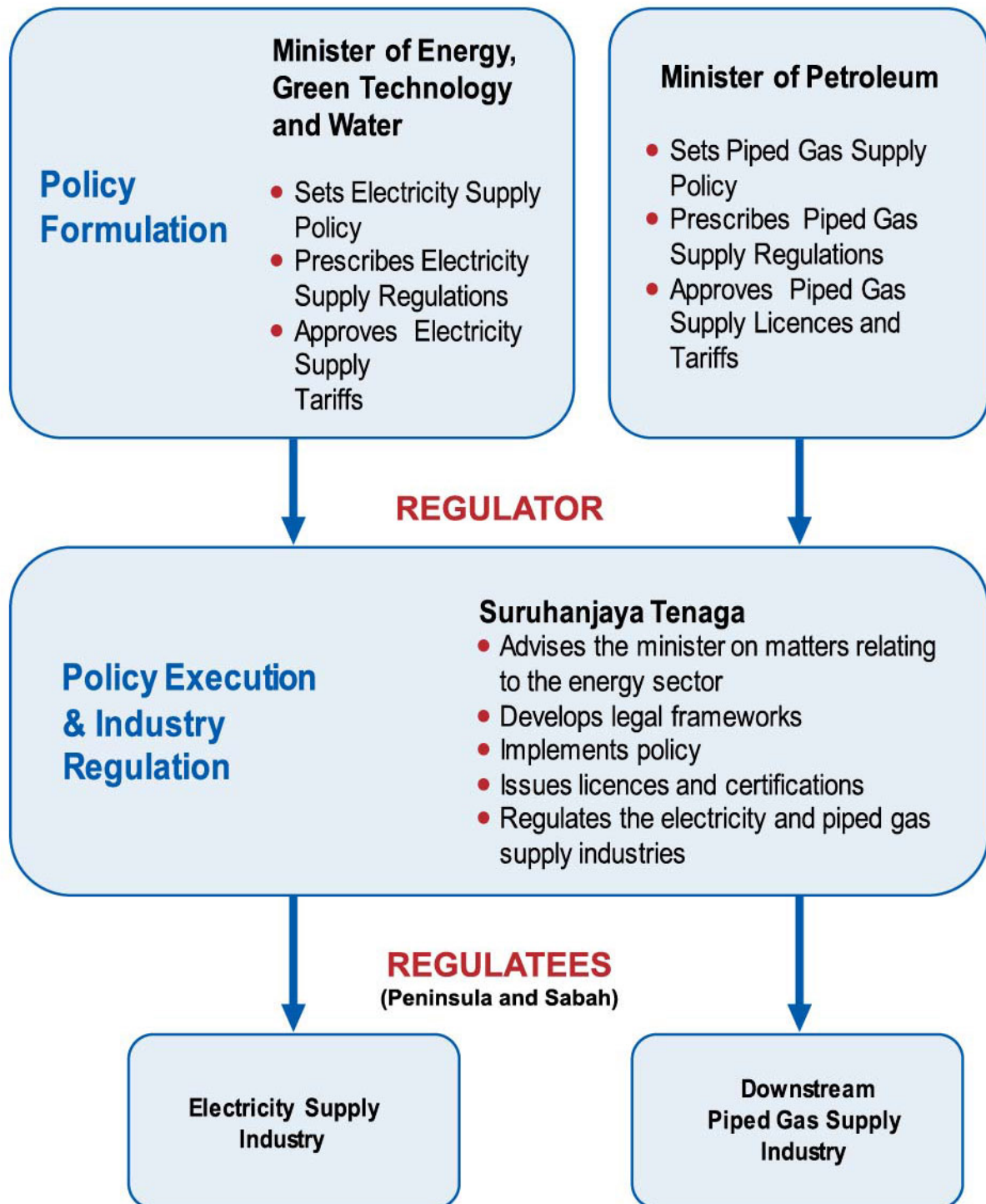
**Fifth:** Ensuring that the New Energy Policy is implemented based on an integrated approach and according to schedule to achieve energy supply security.





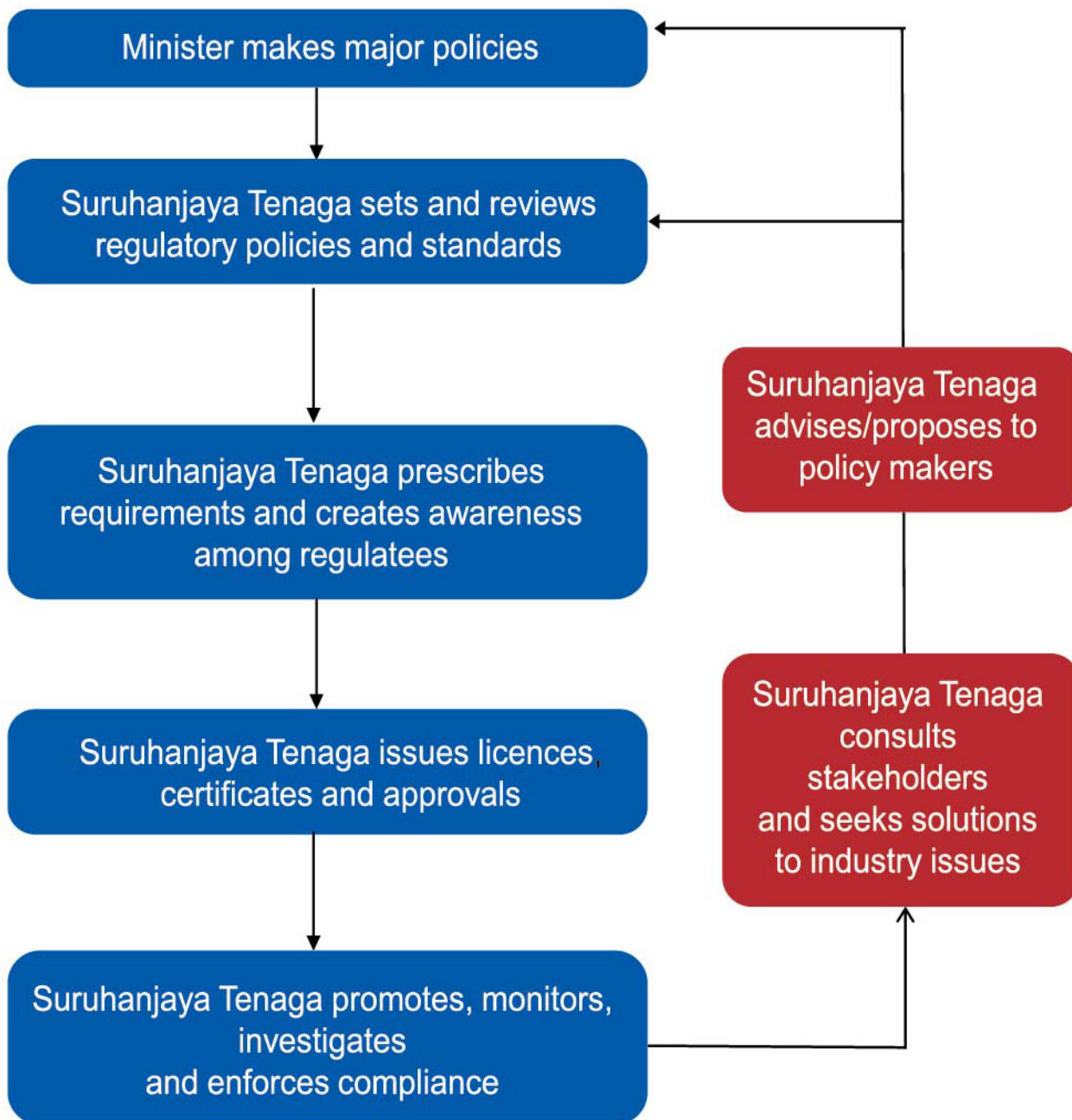
## ENERGY INDUSTRY REGULATORY FRAMEWORK

### POLICY MAKERS





## REGULATORY PROCESS





## CLIENT CHARTER

Suruhanjaya Tenaga is committed in:

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

Our commitment to our customers is as follows:

### For complainants

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

### For applicants

We will process and approve complete applications for licences and certifications within the stipulated periods as in Appendix 1.



## FUTURE CHALLENGES

### Industry Structure

Malaysia liberalised its generation segment of the electricity supply industry in the mid-90s to boost the supply of power in order to meet the nation's rapid economic growth. Today, there are 26 Independent Power Producers (IPPs) generating and selling power to the three main utilities in the Peninsula, Sabah and Sarawak. Currently, these IPPs contribute to almost 70% of the installed capacity in the country.

Existing policies and strategies would have to be revisited in order to arrive at the right structure that will enable the industry to function more effectively and efficiently. Any benefits out of industry restructuring will be passed on to consumers.

### Fuel Resources

As fuel resources become scarce and more expensive, there are bigger challenges ahead of us in ensuring the provision of adequate, secure and cost-effective energy supply. LNG, hydro and renewables are expected to feature more prominently in the future power generation fuel mix, in addition to coal.

### Improving Efficiency and Environmental Impact

As fossil fuel resources are being depleted by the day, energy efficiency is a culture that must be embraced by the nation in order to safeguard the livelihood of our present and future generations.

The move towards incentive-based regulation from the current cost-of-service regulation of electricity and piped gas utilities is intended to pave the way for achieving enhanced industry operational efficiency and reasonable prices for consumers.

In minimising the negative impacts of energy production, transportation, conversion and utilisation on our environment, construction of new conventional power plants using fossil fuels will need to include state-of-the-art technologies that are more efficient and environmentally friendly.



## Planning for the future

Over 60 percent of industry costs go towards generating electricity, with the main cost elements being capital cost (asset management and financing costs) and fuel cost (cost of fuel input). Regulatory policies that influence capital investment efficiency therefore have a major bearing on industry efficiency. A transparent capacity planning and investment policy framework is crucial in ensuring the long term sustainability and least-cost operation of the industry.

An optimal fuel mix policy for the electricity sector need to be formulated to cater for a more robust electricity demand growth in the future. Only then will optimum planning outputs such as capacity margin, site selection, and optimal plant mix will be achieved.

The generation sector can also be subjected to a more competitive environment to improve efficiency. The recent effort by the Government through Suruhanjaya Tenaga to introduce competitive bidding for procuring new generation capacity will be continued in the future. With the ending of the first generation IPPs by 2016 and the retirement of old TNB generating plants, a total of about 9,000 MW of new capacity will be needed by 2020.

### Current Reform Initiatives Are Based On 'No Regrets' Steps Approach



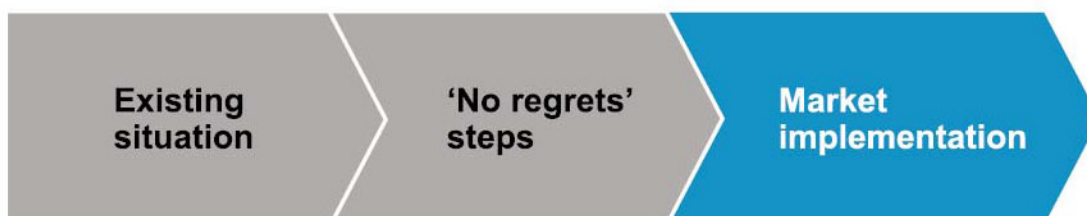
**The reform process consists of two distinct phases:**

- 'No regrets' steps
- Market implementation steps

## Ongoing Reform Initiatives ('No Regrets' Steps) For The Malaysian Electricity and Gas Supply Industries

- Gradual phasing-out of gas subsidy with stabilisation mechanism
- Incentive-based electricity tariff regulation with regulatory accounts unbundling, performance incentive scheme and imbalance cost pass-through mechanism
- Competitive framework for new generation capacity development
- IPP generation efficiency savings sharing framework
- Generation fuel security policy framework
- Ring-fencing of single buyer and system operator with market rules and regulatory oversight
- Enhanced time-of-use and cost-reflective tariffs framework
- New enhanced dispatch arrangement
- Gas third party access framework

## Suruhanjaya Tenaga is to assist government in putting in place the liberalised electricity market implementation steps



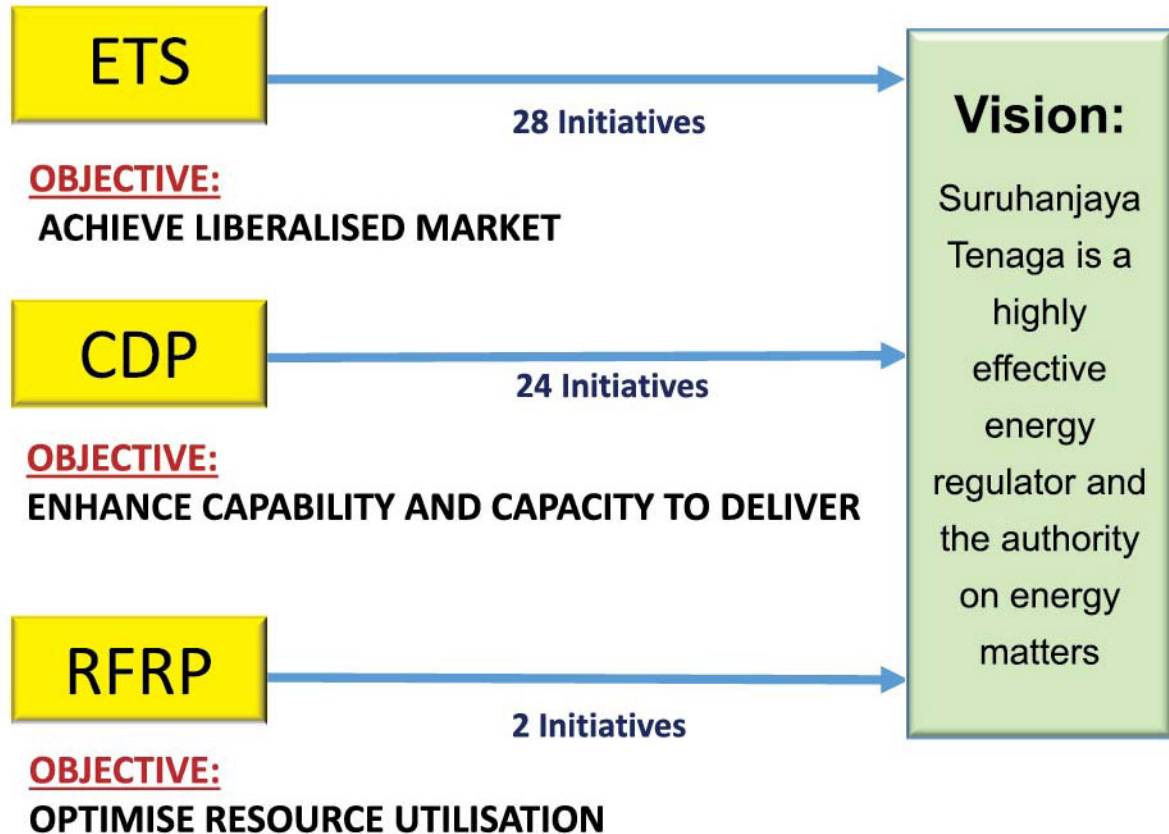
“Market implementation” initiatives are those that are targeted specifically at the introduction of the market. Benefits accrue once the market commences

Initiatives include:

- Full market governance and regulatory arrangements
- Separate ownership of TNB functions
- Establishing a Market Operator
- Transforming dispatch algorithm into a bid-based power pool
- Transitioning the PPAs into market compatible instruments
- Allowing free entry for new generation
- Allowing retail competition



## Suruhanjaya Tenaga 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	<ul style="list-style-type: none"> <li>■ Bidding for               <ul style="list-style-type: none"> <li>● 30MW, 60 MW repowering and 300 MW gas fired power plant in Sabah</li> <li>● Utility Scale Solar 250 MW</li> <li>● Net Energy Metering 100MW</li> </ul> </li> </ul>
2015-2016	Technical and financial benchmarking	<ul style="list-style-type: none"> <li>■ Benchmarking of power plants' technical performance</li> <li>■ Financial performance of TNB and SESB</li> <li>■ Benchmarking study of TNB's OPEX and CAPEX</li> </ul>
2015-2016	Enhancing governance in Sabah Electricity Supply Industry	<ul style="list-style-type: none"> <li>■ Development of Distribution Code for Sabah</li> <li>■ Implementation of SB, Grid Owner and GSO for Sabah</li> <li>■ Implementation of Ring-fencing of SB and GSO</li> </ul>
2015-2016	Enhancing industry performance monitoring programme	<ul style="list-style-type: none"> <li>■ Enhance online reporting by licensees (until July 2016)</li> <li>■ Coordination for Environmental Quality (Clean Air) Regulations 2014 compliance</li> </ul>
2016	Introduction of Incentive-Based Regulation (IBR) for SESB	<ul style="list-style-type: none"> <li>■ Implementation of regulatory account and data template</li> <li>■ Implementation of revenue requirement model</li> <li>■ Implementation of Regulatory Implementation Guidelines (RIGs)</li> <li>■ Development of ICPT Mechanism</li> </ul>





## Economic, Technical and Safety Regulation Enhancement Plan

Year	Initiative	Project / Programme
2016	National Electricity Supply and Demand Forecast Framework	<ul style="list-style-type: none"> <li>Development of National Electricity Supply and Demand Forecast Framework</li> </ul>
2016	Ensure fuel supply security	<ul style="list-style-type: none"> <li>National Gas Task Force operation</li> <li>Review of Minimum Gas Requirement for Power Sector</li> <li>Implementation of Gas Nomination Procedure for Sabah</li> </ul>
2016	Implementation of service standards monitoring	<ul style="list-style-type: none"> <li>Review of Guaranteed Service Levels (GSL) and Minimum Service Levels (MSL) for TNB</li> <li>Development of GSL &amp; MSL for GMB</li> <li>Development of Revised MSL for SESB</li> </ul>
2016	Implementation of Electricity Industry Fund	<ul style="list-style-type: none"> <li>Development and implementation of guidelines on industry contribution and utilisation of fund</li> </ul>
2016	Subsidy reduction programme towards market pricing	<ul style="list-style-type: none"> <li>Implementation of six-monthly revision in piped gas price for power and non-power sector</li> <li>Establishment of blended gas pricing for power and non-power sectors</li> </ul>
2016	Implementation of Gas Framework Agreement (GFA)	<ul style="list-style-type: none"> <li>Finalisation and implementation of GFA</li> </ul>
2016	Undertake industry studies	<ul style="list-style-type: none"> <li>Study on status of lightning protection system for buildings in Malaysia</li> <li>Review Grid Code for determining frequency response requirement for super critical coal fired power plants</li> <li>Review of Generation Reliability Standard</li> <li>Review of Sabah Capacity Requirement</li> <li>Review of TNB Cost of Service</li> </ul>

## Economic, Technical and Safety Regulation Enhancement Plan

Year	Initiative	Project / Programme
2016	Implementation of a new supply and safety legal framework for electricity and gas	<ul style="list-style-type: none"> <li>■ Amendment of the Electricity Regulations 1994</li> <li>■ Amendment of Licensee Supply Regulations 1990</li> <li>■ Amendment of Gas Supply Regulations 1997</li> <li>■ Finalisation of codes and guidelines for Third Party Access for gas</li> <li>■ Development of revised MEPS Regulations</li> <li>■ Development of guidelines related to electricity supply/licensed activities</li> </ul>
2016	Energy database upgrade	<ul style="list-style-type: none"> <li>■ Development of Malaysian Energy Industry Database (MEIH) forecast report</li> <li>■ Enhancement of energy usage database for commercial sector</li> </ul>
2016	Development of policy / legal framework	<ul style="list-style-type: none"> <li>■ Cross border power and gas supply-harmonisation of regulatory standards and technical aspects through ASEAN Energy Regulatory Network (AERN)</li> <li>■ Legal framework on energy service company (ESCO) registration</li> <li>■ Gas cooker labeling framework</li> </ul>
2016	Implementation of trial run for IBR (gas)	<ul style="list-style-type: none"> <li>■ Implementation of IBR for GMB</li> </ul>
2016	Implementation of programs under NEEAP	<ul style="list-style-type: none"> <li>■ Enhancing resources for NEEAP implementation</li> </ul>



## Economic, Technical and Safety Regulation Enhancement Plan

Year	Initiative	Project / Programme
2016	Industry competency improvement initiatives	<ul style="list-style-type: none"> <li>■ Study to review competent control requirements for the supply and use of electricity and gas</li> <li>■ Study to review contractor registration requirements</li> </ul>
2016	Household gas and electrical safety improvement initiatives	<ul style="list-style-type: none"> <li>■ Study to review safety regulatory framework for household gas/electrical appliances</li> </ul>
2016	Enforcement improvement plan	<ul style="list-style-type: none"> <li>■ Implementation of third party surveillance system</li> </ul>
2015-2017	Development of industry codes of practice, rules and guidelines	<ul style="list-style-type: none"> <li>■ Enforcement of Electrical Infrastructure Code</li> <li>■ Enforcement of Non-Domestic Electrical Installation Code</li> <li>■ Implementation of Guidelines /Rules for Promoting Co-generation</li> <li>■ Implementation of Guidelines for Net Energy Metering And Self Consumption For Solar PV</li> </ul>

## Economic, Technical and Safety Regulation Enhancement Plan

Year	Initiative	Project / Programme
2015-2017	Development of industry codes of practice, rules and guidelines	<ul style="list-style-type: none"> <li>■ Development and implementation of Guidelines for Competition</li> <li>■ Enforcement of Guidelines for Water Heater Installation</li> <li>■ Implementation of Regulatory Implementation Guidelines for Sabah</li> <li>■ Approval and implementation of Codes and Guidelines Under Gas Third Party Access Framework</li> <li>■ Review Guidelines On Enforcement of Electricity Theft</li> <li>■ Development of Guidelines On Claim Due to Negligence of Licensees</li> <li>■ Development and enforcement of Guidelines on C200 kg LPG Cylinders Installation</li> <li>■ Development and enforcement of Guidelines on Disconnection Due to Theft</li> <li>■ Guidelines on Use of Power Line for Communication</li> </ul>
2015-2017	Enhance sustainability of the electricity supply industry in Sabah	<ul style="list-style-type: none"> <li>■ Implementation of short term, medium term and long term initiatives</li> </ul>
2016-2017	Industry Award programme	<ul style="list-style-type: none"> <li>■ Implementation of Industry Award programme</li> </ul>
2016-2017	Operationalisation of gas open access network regulatory framework	<ul style="list-style-type: none"> <li>■ Operationalisation of legal and regulatory framework for open access to gas supply network</li> <li>■ Account unbundling of GMB</li> </ul>



## Economic, Technical and Safety Regulation Enhancement Plan

Year	Initiative	Project / Programme
2017	Tariff review (electricity)	<ul style="list-style-type: none"> <li>■ First regulatory period base tariff review for TNB</li> <li>■ Implementation of cost reflective tariff</li> </ul>
2016-2020	Demand response initiatives	<ul style="list-style-type: none"> <li>■ Implementation of Enhanced Time of Use Tariff (EToU) tariff</li> <li>■ Study on implementation of EToU for domestic consumers</li> <li>■ Phasing out of Special Industrial Tariff</li> <li>■ Introduction of Interruptible Load Tariff</li> <li>■ Development of smart metering regulatory framework</li> </ul>
2016-2020	Development of Competitive Energy Market, Legal and Regulatory Framework	<ul style="list-style-type: none"> <li>■ Operationalise NEDA</li> <li>■ Develop Legal and Regulatory Framework to Enhance Competition in Peninsular</li> <li>■ Establishment of Electricity Market Authority</li> <li>■ Operationalisation of a liberalised electricity market</li> </ul>

# Corporate Development Plan

## **FOCUS AREA: HUMAN RESOURCE DEVELOPMENT**

Year	Initiative	Project / Programme
2015-2016	Job rotation planning	<ul style="list-style-type: none"> <li>Development of job rotation policy and programme</li> </ul>
2015-2016	Succession planning	<ul style="list-style-type: none"> <li>Development of succession planning framework</li> </ul>
2015- 2016	Review of manpower requirements	<ul style="list-style-type: none"> <li>Approval of additional manpower</li> <li>Allocation of manpower based on need analysis</li> </ul>
2015-2016	Knowledge management	<ul style="list-style-type: none"> <li>Implement knowledge sharing sessions</li> <li>Establish repositories for studies and research,</li> <li>Enhance usage of ST library</li> </ul>
2016	Review of Terms and Conditions of Service	<ul style="list-style-type: none"> <li>Benchmarking with other regulatory bodies and market practices</li> </ul>
2016	Training and development processing and monitoring	<ul style="list-style-type: none"> <li>Operationalisation of training module in Performance Management System (PMS)</li> </ul>
2015-2017	Talent management and development	<ul style="list-style-type: none"> <li>Development of Job Descriptions, Job Specifications, Job SKA Profiles</li> <li>Development of competency requirements framework</li> <li>Development and implementation of Career Progression Mechanism Policy</li> <li>Development of Training and Development Plan</li> </ul>
2016-2017	ST Learning Centre	<ul style="list-style-type: none"> <li>Develop training areas and programs</li> </ul>



## Corporate Development Plan

### **FOCUS AREA: BUSINESS PROCESS RE-ENGINEERING**

Year	Initiative	Project / Programme
2015-2016	Review of Client Charter	<ul style="list-style-type: none"> <li>Client Charter review</li> </ul>
2015-2016	Development of ICT Masterplan	<ul style="list-style-type: none"> <li>Review ICT Masterplan</li> </ul>
2015-2016	Computerisation of processes	<ul style="list-style-type: none"> <li>Implementation of ECOS II</li> <li>Enhancing online services for e-Gas, e-Electricity</li> <li>Enhancing e-Aduan system</li> <li>Integration of ST's e-Kelengkapan system with U-Kastam</li> <li>Development of Computerized Investment System</li> </ul>
2015-2016	Enhancement of ICT Security System	<ul style="list-style-type: none"> <li>Managed services by third party - Disaster Recovery site</li> </ul>
2015-2016	Upgrading of IT system	<ul style="list-style-type: none"> <li>Email system upgrade for high availability and archiving</li> <li>Upgrading of SAGA system</li> <li>Upgrading of project monitoring system</li> </ul>
2015-2016	Implementation of Internet Banking and Online Payment	<ul style="list-style-type: none"> <li>Operationalisation of internet banking</li> <li>Implementation of online payment</li> </ul>
2015-2016	Improvement in procurement process	<ul style="list-style-type: none"> <li>Review procurement procedure and evaluation</li> </ul>
2015-2016	ISO certification	<ul style="list-style-type: none"> <li>Certification for processing of public licence and issuing of Certificate of Approval for electrical appliance</li> </ul>
2015-2016	Development of Emergency Preparedness Plan	<ul style="list-style-type: none"> <li>ST Business Continuation Management Plan</li> <li>Industry Emergency Response Plan</li> </ul>
2016	Improvement of competent person identification	<ul style="list-style-type: none"> <li>Development of identification card system for registration of electrical competent system</li> </ul>
2015-2017	Development of mobile applications	<ul style="list-style-type: none"> <li>Development of mobile applications for Malaysia Energy Statistics and Energy Balance</li> </ul>

# Corporate Development Plan

## **FOCUS AREA: FINANCIAL SUSTAINABILITY ENHANCEMENT**

Year	Initiative	Project / Programme
2016	Review of financial outlook/status	<ul style="list-style-type: none"> <li>■ ST revenue and expenses study</li> </ul>
2016-2017	Review of fees and charges for licensing and certification	<ul style="list-style-type: none"> <li>■ Review of need for new processing fees</li> </ul>

## **FOCUS AREA: COMMUNICATION/OUTREACH**

Year	Initiative	Project / Programme
2016	Development of strategic communication plan	<ul style="list-style-type: none"> <li>■ Establish media plan</li> <li>■ Establish crisis communication plan</li> </ul>
2016	Communication and public engagement	<ul style="list-style-type: none"> <li>■ Industry-focused Seminar/Workshop/Campaign on safety and efficiency</li> <li>■ Media publicly and promotions</li> <li>■ Outdoor advertising</li> <li>■ EE Challenge</li> <li>■ Touch point and Corporate Social Responsibility</li> </ul>
2015-2016	Establishment of collaborative framework with other relevant agencies and associations in regulatory activities	<p>Regional level</p> <ul style="list-style-type: none"> <li>■ ASEAN Energy Regulatory Forum (AERN)</li> <li>■ ASEAN JSC EEE Association level</li> <li>■ ST – Industry working committees Agency / Organisations in other countries / state</li> <li>■ Memorandum of Understanding (MOUs) – CEC</li> <li>■ Memorandum of Understanding – Electrical Inspectorate Unit, Sarawak (EIU)</li> <li>■ Establishment of Panel Perunding Tenaga for Sabah</li> </ul>

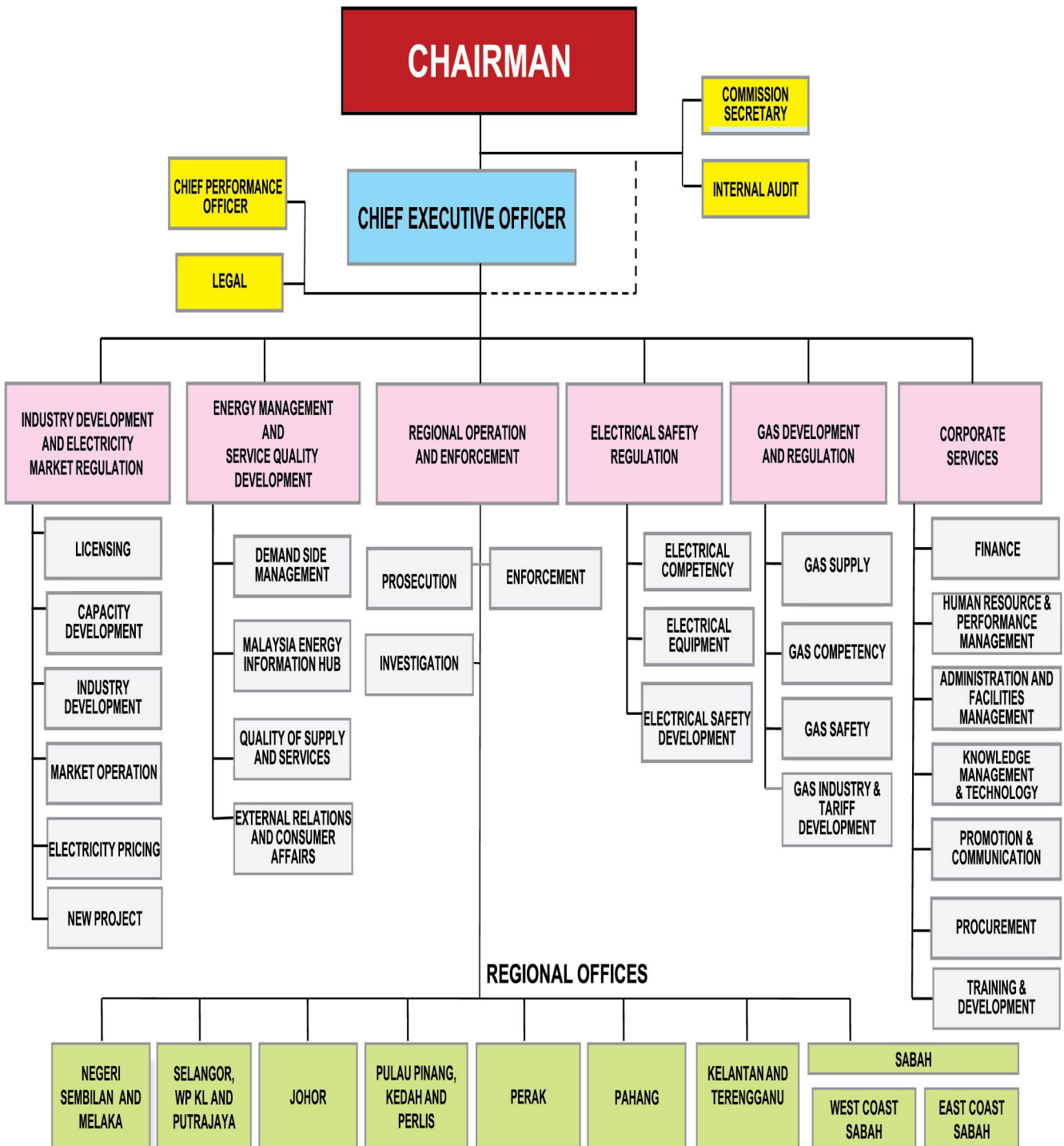




## Regulatory Framework Rationalisation Plan

Year	Initiative	Project / Programme
2015	Activities to be undertaken by institutions / industry under Suruhanjaya Tenaga monitoring	<ul style="list-style-type: none"> <li>■ Implementation of Electrical competency examinations by institutions</li> <li>■ Implementation of Electrical Appliance Test Report Verification by SIRIM</li> <li>■ Implementation of Electrical appliance market surveillance by SIRIM</li> </ul>
2015	Functions to be coordinated with other relevant regulatory agencies	<ul style="list-style-type: none"> <li>■ RE incentive processing by SEDA</li> <li>■ RE activities by SEDA</li> <li>■ Contractor registration by CIDB</li> </ul>

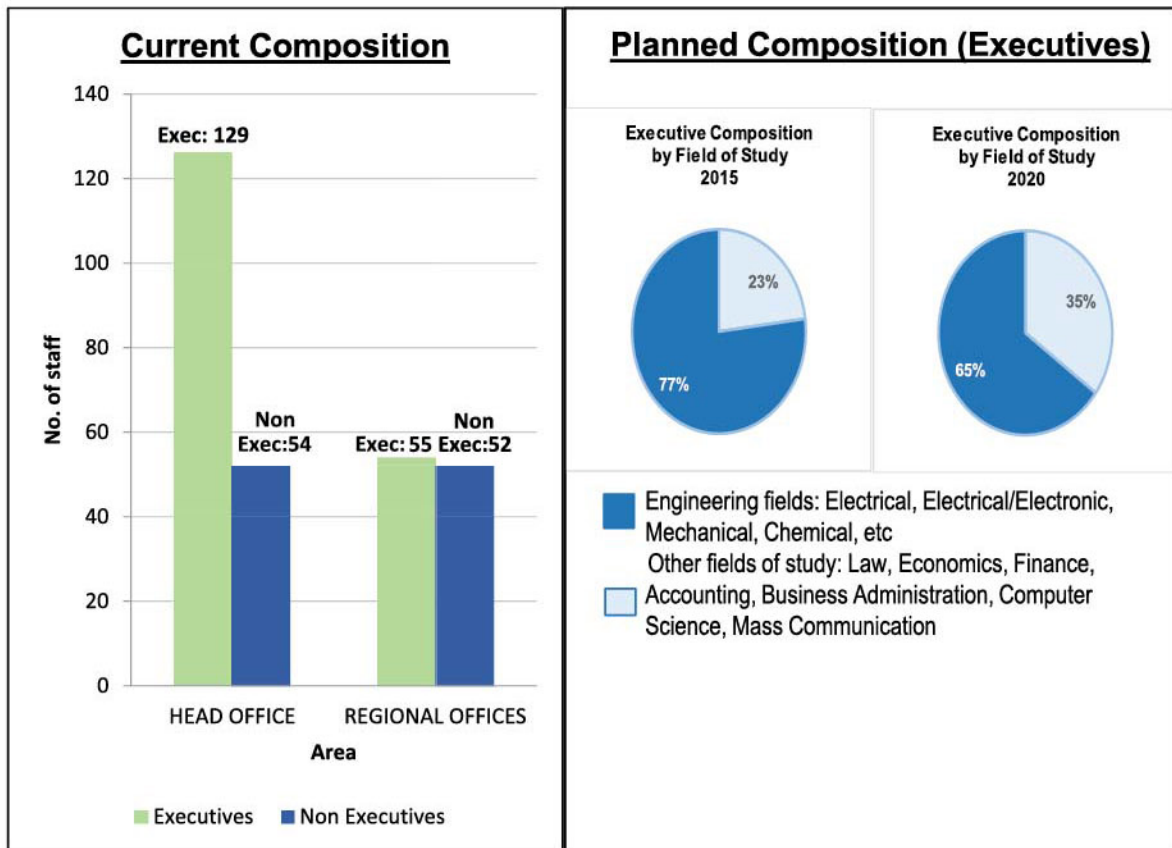
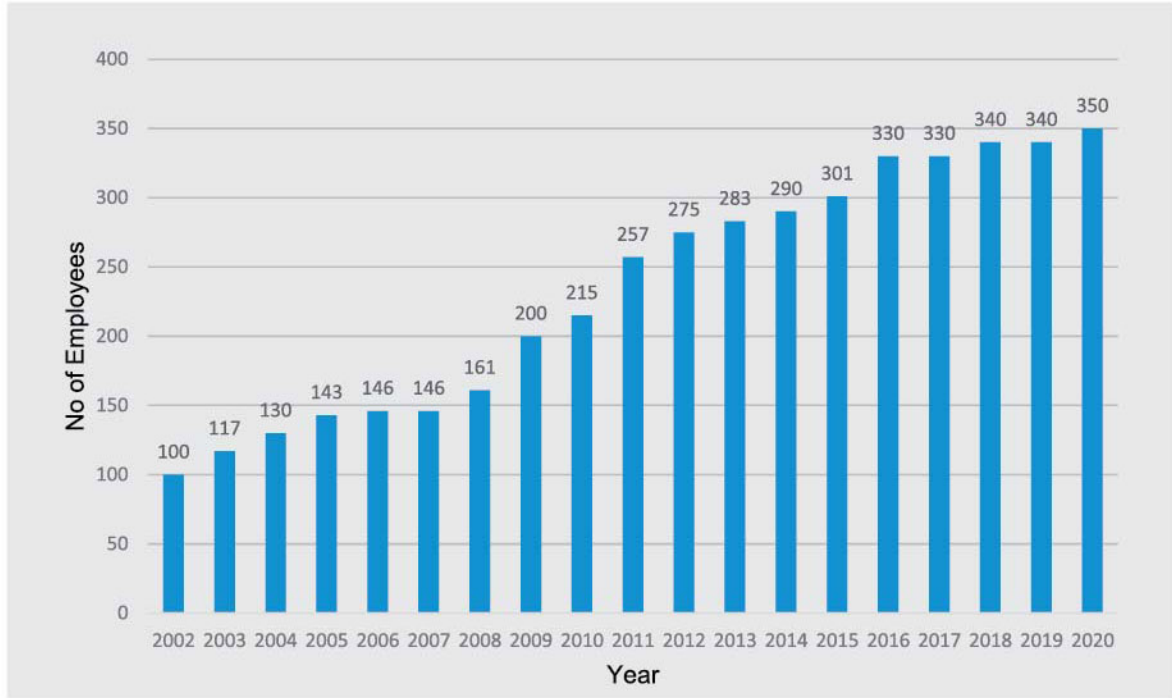
# ORGANISATION STRUCTURE





# HUMAN RESOURCE CAPACITY PLAN

## Manpower Planning





## TALENT MANAGEMENT FRAMEWORK

Objective

**HIGHLY COMPETENT, DEVELOPED AND  
MOTIVATED TALENT**

**Talent Identification and  
Procurement**

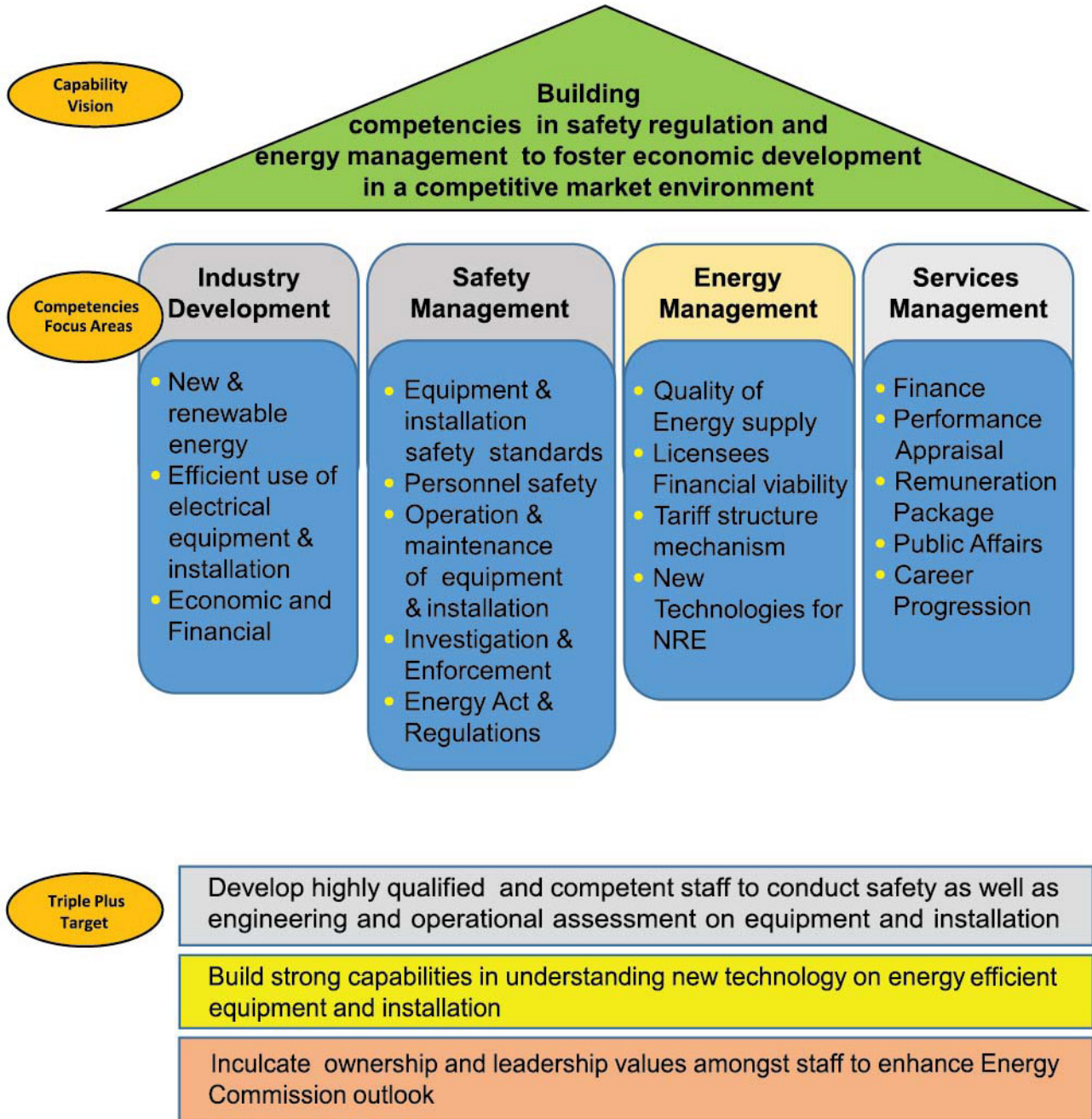
**Talent Building  
and Development**

**Motivation**

**Organisational Environment and Dynamics  
(structure, systems and processes)**



**Suruhanjaya Tenaga Capability Agenda is to support its vision to become a highly effective regulator as well as the authority on energy matters**





## REVENUE AND EXPENDITURE OUTLOOK 2015-2020

The Energy Commission is a not-for-profit organisation. Its revenues are mainly generated by licensing and certification fees in regulated areas and the Energy Commission is financially self-sustaining.

	2015*	2016	2017	2018	2019	2020
Revenue (RM million)	81.70	86.84	101.72	106.75	113.85	125.52
Expenditure (RM million)	64.17	79.38	94.53	102.25	122.19	121.49

\*As at 31 January 2016:

Income: RM87.80 million

Expenditure: RM59.61 million



## **KEY PERFORMANCE INDICATORS (KPIs) FOR YEAR 2016**

## KEY PERFORMANCE INDICATORS (KPIs) AND WEIGHTAGE

KPI	WEIGHTAGE (%)
<b>KPI 1:</b> <u>Reliability</u> and <u>service quality</u> of electricity and piped gas supply industry	25%
<b>KPI 2:</b> <u>Safety</u> in the supply and utilisation of electricity and piped gas	20%
<b>KPI 3:</b> <u>Energy efficiency</u> in the utilisation of electricity	15%
<b>KPI 4:</b> <u>Economic efficiency</u> in electricity and piped gas industry	20%
<b>KPI 5:</b> <u>Organisational capacity</u> and ST <u>service quality</u>	20%





## KPI 2016

KPI	OUTCOME TARGETS (Weightage: 20%)	INITIATIVES	OUTPUT TARGETS (Weightage: 80%)
<p><b>KPI 1:</b> <u>Reliability and service quality</u> of electricity and piped gas supply industry  (Weightage: 25%)</p>	<p>Electricity:</p> <ul style="list-style-type: none"> <li>• SAIDI (Peninsula) 55 minutes</li> <li>• SAIDI (Sabah) 250 minutes (Weightage: 4%)</li> </ul> <p>Piped gas:</p> <ul style="list-style-type: none"> <li>• SAIDI (Peninsula) 0.17 minutes</li> <li>• SAIDI (Sabah) 0 minutes (Weightage: 2%)</li> <li>• Reserve margin not less than 25% (Weightage: 3%)</li> <li>• No under frequency load shedding incidents (Weightage: 3%)</li> <li>• High-impact generation infrastructure development and transmission projects implemented within schedule (Weightage: 6%)</li> </ul>	<p>1) Generation capacity development plan</p> <p>2) Grid system operation monitoring</p> <p>3) Fuel and electricity supply monitoring</p> <p>4) Sabah SAIDI reduction action plan monitoring</p>	<p>1) JPPPET working committee conducts meeting every quarter and development plan updated two times a year (Weightage: 10%)</p> <p>2) Grid code, distribution code, SB, SO committees conduct meeting every quarter and high-impact operational issues resolved (Weightage: 10%)</p> <p>3) Coal and Gas committees conduct meeting every quarter and high-impact supply issues resolved (Weightage: 10%)</p> <p>4) Action plan monitoring committee conducts meeting every month and high-impact implementation issues resolved (Weightage: 30%)</p>

## KPI 2016

KPI	OUTCOME TARGETS (Weightage: 20%)	INITIATIVES	OUTPUT TARGETS (Weightage: 80%)
<p><b>KPI 1 (cont.):</b>  <u>Reliability and service quality</u> of electricity and piped gas supply industry</p>	<ul style="list-style-type: none"> <li>• Compliance to guaranteed service level (GSL) and minimum service level (MSL) increased and consumer complaints decreased  <span style="color: #0056b3;">(Weightage: 2%)</span></li> </ul>	<p>5) Generation and transmission projects implementation monitoring</p> <p>6) Electricity and gas supply licensees service quality monitoring</p>	<p>5) At least 1 progress audit conducted on every 6 generation projects and 10 transmission projects endorsed by JPPPET and high-impact implementation issues resolved  <span style="color: #0056b3;">(Weightage: 10%)</span></p> <p>6) Licensees service provisions complies to licence condition and stated KPIs  <span style="color: #0056b3;">(Weightage: 10%)</span></p>



## KPI 2016

KPI	OUTCOME TARGETS (Weightage: 20%)	INITIATIVES	OUTPUT TARGETS (Weightage: 80%)
<p><b>KPI 2:</b>  <u>Safety</u> in the supply and utilisation of electricity and piped gas            (Weightage: 20%)</p>	<p>Electrical:</p> <ul style="list-style-type: none"> <li>● Total number of accidents reduced by at least 10% from 48 cases to 43 cases (Weightage: 6%)</li> <li>● Minimum compliance rate to electrical and gas safety regulations increased by at least 13% from 66% to 75% (Weightage: 3%)</li> </ul> <p>Piped gas:</p> <ul style="list-style-type: none"> <li>● No gas accident cases (Weightage: 3%)</li> </ul>	<p>1) Review of criteria and process to enable increase in the number of competent electrical and gas workforce with quality</p> <p>2) Enforcement activities increased</p>	<p>1) At least 17 training institutions audited and high-impact issues resolved (Weightage: 5%)</p> <p>Increase in the number of theory examinations from once a year to twice a year and practical examination backlog issue resolved (Weightage: 15%)</p> <p>2) At least 80 installation inspected/audited every month according to safety management checklist. (Weightage: 20%)</p>

## KPI 2016

KPI	OUTCOME TARGETS (Weightage: 20%)	INITIATIVES	OUTPUT TARGETS (Weightage: 80%)
<p><b>KPI 2 (cont.):</b>  <u>Safety</u> in the supply and utilisation of electricity and piped gas</p>	<ul style="list-style-type: none"> <li>• Number of electrical high voltage competent persons increased by at least 5% from 9,583 persons to 10,060 persons (Weightage: 3%)</li>   <li>• Number of gas competent persons increased by at least 10% from 835 persons to 920 persons (Weightage: 2%)</li>   <li>• Safety management plan and program requirements implemented by licensees (Weightage: 3%)</li> </ul>	<p>2) Enforcement activities increased (cont.)</p>	<p>2) All accident cases investigated in accordance to client charter, and control measures on high-impact risks are enforced at organizational and industry levels (Weightage: 25%)</p> <p>Legal action taken on all non-compliance cases (Weightage: 15%)</p>



## KPI 2016

KPI	OUTCOME TARGETS (Weightage: 20%)	INITIATIVES	OUTPUT TARGETS (Weightage: 80%)
<p><b>KPI 3:</b> <u>Energy efficiency</u> in the utilisation of electricity</p> <p>(Weightage: 15%)</p>	<ul style="list-style-type: none"> <li>• Energy intensity decreased at least 2% from 0.127 GWh/ GDP to 0.124 GWh/ GDP (Weightage: 3%)</li> <li>• Electricity usage under EMEER decreased at least 5% from 45,343 GWh to 43,076 GWh (Weightage: 6%)</li> <li>• Market penetration rate for energy efficient electrical equipment is at least 50% (Weightage: 5%)</li> <li>• Compliance rate on energy efficiency regulation increased 48% from 52% to 100% (Weightage: 6%)</li> </ul>	<p>1) Enforcement of EMEER 2008 increased</p> <p>2) NEEAP - RMK11 implemented</p>	<p>1) 10 premises are imposed with energy management audit every month and reparation steps implemented (Weightage: 20%)</p> <p>2) 77 industrial premises, 30 commercial premises and 14 government premises are imposed with energy audit (Weightage: 10%)</p> <p>14 government premises retrofitted with energy efficient equipment (Weightage: 10%)</p> <p>Guidelines on promotion of co-generation finalized before April 2016 (Weightage: 5%)</p>

## KPI 2016

KPI	OUTCOME TARGETS (Weightage: 20%)	INITIATIVES	OUTPUT TARGETS (Weightage: 80%)
<p><b>KPI 3 (cont.):</b> <u>Energy efficiency</u> in the utilisation of electricity</p>		<p>3) Number of energy management work force with quality increased</p> <p>4) Implementation of energy efficiency promotion campaign</p>	<p>3) At least one new institution for energy management training recognised (Weightage: 5%)</p> <p>Number of registered Electrical Energy Manager increased at least 20% from 647 persons to 800 persons (Weightage: 10%)</p> <p>4) 13 EE roadshow programs held throughout the country according to schedule (Weightage: 15%)</p> <p>Implementation of EE Challenge for secondary schools in the peninsula according to schedule (Weightage: 5%)</p>



## KPI 2016

KPI	OUTCOME TARGETS (Weightage: 20%)	INITIATIVES	OUTPUT TARGETS (Weightage: 80%)
<p><b>KPI 4:</b> <u>Economic efficiency in electricity and piped gas industry</u>  (Weightage: 20%)</p>	<ul style="list-style-type: none"> <li>• Efficient electricity supply and Piped gas tariff in line with government policy is enforced (Weightage: 10%)</li> <li>• Competition in electricity and piped gas market increased (Weightage: 4%)</li> <li>• Overall performance of electricity supply and piped gas industry increased (Weightage: 6%)</li> </ul>	<ol style="list-style-type: none"> <li>1) Operationalisation of Electricity Industry Fund (EIF)</li> <li>2) Implementation of IBR regulatory mechanism for electricity and piped gas tariff</li> </ol>	<ol style="list-style-type: none"> <li>1) EIF begins operation in June 2016 (Weightage: 5%)</li> <li>2) Trial-run IBR for GMB implemented from Jan 2016 and implementation issues resolved (Weightage: 5%)</li> </ol> <p>ICPT TNB and GCPT for GMB approved for implementation in July 2016 and January 2017 (Weightage: 10%)</p> <p>SESB tariff proposal based on IBR approved by government for implementation in January 2017 (Weightage: 5%)</p> <p>Cost reflective tariff implementation study finalized in December 2016 (Weightage: 5%)</p>

## KPI 2016

KPI	OUTCOME TARGETS (Weightage: 20%)	INITIATIVES	OUTPUT TARGETS (Weightage: 80%)
<p><b>KPI 4 (cont.):</b> <u>Economic efficiency</u> in electricity and piped gas industry</p>		<p>3) Implementation of 'no-regrets' liberalisation initiatives and strengthening of governance for electricity supply and piped gas industry</p>	<p>3) Phase 2 of NEDA begins operation in Jun 2016 (Weightage: 10%)</p> <p>Third-party access regulatory framework for piped gas presented in Parliament in March 2016 (Weightage: 10%)</p> <p>Gas Framework Agreement (GFA) issues resolved and GFA signed in June 2016 (Weightage: 5%)</p> <p>Competition guidelines for piped gas industry approved in May 2016 and for electricity industry in August 2016 (Weightage: 5%)</p>





## KPI 2016

KPI	OUTCOME TARGETS (Weightage: 20%)	INITIATIVES	OUTPUT TARGETS (Weightage: 80%)
<p><b>KPI 4 (cont.):</b> <u>Economic efficiency</u> in electricity and piped gas industry</p>		<p>4) Implementation of competitive process for procurement of new generation capacity</p> <p>5) Implementation of initiative to decrease non-technical losses</p>	<p>4) Guidelines for approval of Large Scale Solar (LSS) projects (Total capacity 250 MW) and Net Energy Metering (NEM) (Total capacity 100 MW) approved by minister and implemented beginning March 2016 (Weightage: 5%)</p> <p>Offer for 4 new capacity development projects with total 390MW in Sabah finalized according to schedule through competitive process (Weightage: 10%)</p> <p>5) 10 high-impact dishonest usage of electricity cases investigated and legal action taken (Weightage: 5%)</p>

## KPI 2016

KPI	OUTCOME TARGETS (Weightage: 20%)	INITIATIVES	OUTPUT TARGETS (Weightage: 80%)
<p><b>KPI 5:</b> <u>Organisational capacity and ST service quality</u>  (Weightage: 20%)</p>	<ul style="list-style-type: none"> <li>• ST revenue increased at least 5% from RM 79.5 million to RM 83.5 million (Weightage: 8%)</li> <li>• The number and expertise of ST work force increased according to the current requirement (Weightage: 6%)</li> <li>• ST customer satisfaction index increased at least 8% from 0.82 to 0.88 (Weightage: 6%)</li> </ul>	<p>1) Increased licensing and certification activities</p> <p>2) Implementation of planned training and development</p>	<p>1) Total fees collected from each licence type and certification increased at least 5% and investment profit increased from 6.8% in 2015 to 8% (Weightage: 5%)</p> <p>2) All executive and non-executive staff attend training and development programs based on ST work force training needs guide (Weightage: 3%)</p> <p>Training calendar program based on core competency requirements implemented from February 2016 (Weightage: 10%)</p>



## KPI 2016

KPI	OUTCOME TARGETS (Weightage: 20%)	INITIATIVES	OUTPUT TARGETS (Weightage: 80%)
<b>KPI 5 (cont.):</b> <u>Organisational capacity and ST service quality</u>		2) Implementation of planned training and development (cont.)  3) Implementation of program of workforce recruitment according to expertise requirement  4) Implementation of Business Process Re-engineering (BPR) initiative	Scholarship offer to staff for further study in related fields (Weightage: 2%)  3) Candidates interview according to schedule and all 29 vacancies filled before Jun 2016 (Weightage: 2%)  4) Process of issuance of public licenses and electrical equipment certifications receive ISO 9001 certification in June 2016 (Weightage: 2%)  ST Service Recovery Centre created in September and no service interruptions on ST online system (Weightage: 2%)





## KPI 2016

KPI	OUTCOME TARGETS (Weightage: 20%)	INITIATIVES	OUTPUT TARGETS (Weightage: 80%)
<p><b>KPI 5 (cont.):</b> <u>Organisational capacity and ST service quality</u></p>		<p>6) Implementation of outreach program and consultation for industry players and consumers</p>	<p>6) Number of media spots on energy smart practice in mass media increased 5% from 522 spots to 550 spots (Weightage: 5%)</p> <p>Number of seminars, workshop, dialog with industry and consumer associations for purpose of consultation, promotion of good practices and legal compliance increased by 5% from 182 to 191 sessions (Weightage: 10%)</p> <p>Energy Malaysia magazine published quarterly (Weightage: 3%)</p>

## KPI 2016

KPI	OUTCOME TARGETS (Weightage: 20%)	INITIATIVES	OUTPUT TARGETS (Weightage: 80%)
<b>KPI 5 (cont.):</b> <u>Organisational capacity and ST service quality</u>		6) Implementation of outreach program and consultation for industry players and consumers (cont.)  7) Implementation of budget for 2016 programs monitoring	A total of 24 codes and guidelines, and 12 statistical and energy industry outlook reports published (Weightage: 8%)  10 CSR projects implemented in Peninsula and Sabah according to schedule (Weightage: 3%)  7) Implementation of budget programs according to schedule and approved allocations (Weightage: 4%)



## Client Charter

Appendix 1

### 1. LICENSES

<b>Electricity</b>	<b>Working Days</b>
- Private Licenses less than 5MW	15
- Renewal of Private Licenses less than 5MW	3
- Amendment to Installation Capacity less than 5MW	3
- Private Licenses 5MW and above	60
- Public Licenses less than 30MW	60
- Provisional Licenses	30
<b>Piped Gas</b>	<b>Working Days</b>
- Private Gas Licenses	1
- Renewal of Private Gas Licenses	1
- Gas Utility Licenses	60

### 2. COMPETENCY CERTIFICATION

<b>Electrical Competency (Private Candidates)</b>	<b>Working Days</b>
- Public Notice on Written Examination Application	30 ■
- Notice on Eligibility to Sit for Written Examination	21 ■
- Notification of Written Examination Result	30 ■
- Issuance of Certificate of Competency	30 ■
- Replacement of Damaged or Lost Certificate	14
- New Registration as Competent Person	1
- Renewal or Cancellation of Registration as Competent Person	1
<b>Gas Competency</b>	<b>Working Days</b>
- Notice on Written Examination	30 ■
- Notice on Eligibility to Sit for Written Examination	30 ■
- Notification of Written Examination Result	21 ■
- New Registration and Renewal of Registration	1
■ working days before application closing date	
■ working days after application closing date	
■ working days after the examination	
■ working days after notification of practical examination result	

### 3. ACCREDITATION OF TRAINING INSTITUTION FOR ELECTRICAL AND GAS COMPETENCY

<b>Accreditation</b>	<b>Working Days</b>
- Approval as an Accredited Institution	60

## Client Charter

### 4. EQUIPMENT APPROVAL

<b>Electrical Equipment</b>	<b>Working Days</b>
- Certificate of Approval (COA) to Import, Manufacture, Display, Sell or Advertise	5
- Renewal of COA	1
- Transfer of COA	5
- Change of Name or Business Address in COA	1

<b>Gas Equipment</b>	<b>Working Days</b>
- Approval to Manufacture of Import	5
- Approval of Equipment	5
- Renewal to Manufacture or Import	1
- Change of Name or Business Address	1

### 5. REGISTRATION OF INSTALLATIONS

<b>Electrical Installations</b>	<b>Working Days</b>
- New Registration	15
- Renewal of Registration	3
- Capacity Amendment and Transfer of Certificate of Registration	3
- Cancellation of Registration	1

<b>Piped Gas Installations</b>	<b>Working Days</b>
- Approval to Install	5
- Approval to Operate	7

### 6. REGISTRATION OF CONTRACTORS

<b>Electrical Contractors</b>	<b>Working Days</b>
- New Registration, Cancellation and Reinstatement to the Register	3
- Renewal of Registration	1
- Changes in Class of Registration and Relevant Information	3

<b>Piped Gas Contractors</b>	<b>Working Days</b>
- New Registration	2
- Renewal of Registration	2

### 7. REGISTRATION OF ELECTRICAL ENERGY MANAGER

<b>Registration</b>	<b>Working Days</b>
- New Registration	45



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Perak

**Pejabat Kawasan Negeri Pulau Pinang,  
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**Pejabat Kawasan Negeri Kelantan &  
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