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STATISTIK INDUSTRI BEKALAN ELEKTRIK MALAYSIA / *STATISTICS OF ELECTRICITY SUPPLY INDUSTRY IN MALAYSIA*

EDISI / *EDITION 2006*

Suruhanjaya Tenaga

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STATISTICS OF ELECTRICITY SUPPLY INDUSTRY IN MALAYSIA

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Disediakan oleh:
Jabatan Pembekalan Elektrik
Suruhanjaya Tenaga

Prepared By:
Electricity Supply Department
Energy Commission

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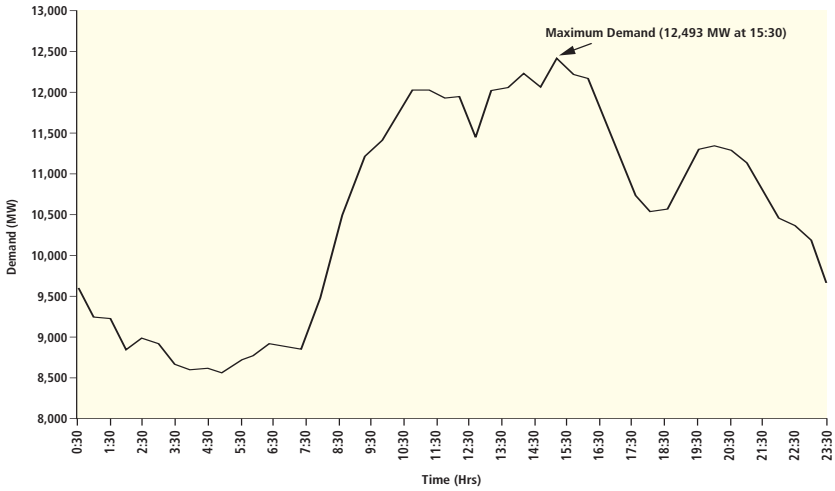
FORWARD

The industry structure in Malaysia remains relatively the same. The three main utilities, namely Tenaga Nasional Berhad (TNB), Sabah Electricity Supply Berhad (SESB) and Sarawak Electricity Supply Corporation (SESCO) undertake generation, transmission, distribution and supply activities in Peninsula, Sabah and Sarawak respectively. Nevertheless, beside generating electricity from their own power stations, they also purchase power from twenty four (24) independent power producers (IPPS) and from two co-generators. On a smaller scale, there are several distributors who buy electricity from the utilities or generate their own power, mostly by co-generation, and distribute to consumers within their licensed area.

With the 1st September 2003 power interruption in the northern part of Peninsular Malaysia still fresh in the mind of most peoples, security of supply has been ascending the political agenda for some time. In the year 2005, security of supply issues has risen a further notch on the back of major power interruption on 13th January 2005 in the Klang Valley and the Southern part of Peninsular Malaysia. The power blackout had caused a total load loss of 6,770MW, affecting almost 3 million consumers and took 4 hours for normal supply to be restored. Despite adequate generation and transmission capacity, coupled with a comfortable reserve margin, there were questions about robustness of the grid system. In response, TNB took several initiatives to re-examine at their mission critical processes.

In the Peninsula, 715 MW combined cycle block was commissioned at Tuanku Jaafar Power Station in Port Dickson. Nevertheless, 3 thermal units with a total capacity of 308 MW were decommissioned in Prai power station. The total installed capacity in the whole country for the year 2005 was 21,280 MW, inclusive of the generation capacities from co-generators and the small private licensee. The plant capacity mix stood at 60.1%(gas), 18.3%(coal), 9.7%(hydro), 7.7%(diesel) and the rest from biomass, distillate and oil. In the year 2005, the total electricity generated in the country was 98,750GWh of which 64.7% was by gas, 25.6% by coal, 6.1% by hydro, 2.6% by diesel and the remaining by biomass, oil and distillate.



Load Pattern for Peninsular Malaysia Grid - 5 May 2005

The maximum demand of the Peninsular Malaysia grid system in the year 2005 increased by 3.9% to 12,493 MW from 12,023MW in the previous year. Typical weekday load pattern for the Peninsula grid is a shown below. Likewise, the maximum demand of the Sarawak and Sabah grid systems in the year 2005 increased by 8.2% (from 685MW to 741MW) and 10.8% (from 481MW to 533MW) respectively, compared to the previous year.

At the end of 2005, the total number of consumers for the three major electricity utilities in the country increased by 4% from the previous year to 7.0 million, of which 83.4% was residential, 15.5% commercial, 0.4% industrial and 0.7% others. The industrial sector consumed the most electricity at 49.5%, followed by commercial sector (30.0%), residential sector (19.3%), public lighting (1.1%) and mining sector (0.1%).

On the distribution side, over the years the SAIDI of TNB had reduced significantly. However, for the year 2005, the supply interruption on 13th January 2005 caused the SAIDI to increase from 156 minutes in year 2004 to 166 minutes in year 2005. In Sabah, the tight electricity supply situation in term of supply and demand is reflected in the SAIDI of SESB, which increased from 2,594 minutes to 2,722 minutes in year 2005. In contrast, the SAIDI for SESCO had shown a steady reduction since the year 2000 and was 310 minutes in the year 2005.

Consumer expectation of high quality electricity supply at reasonable price pose challenges to the electricity supply industry. In order to assist industrial consumers with sensitive load in their processes mitigate the effect of power quality incidents, incentive such accelerated capital allowance for purchase of power quality mitigating equipments was introduced by the Government. The qualifying expenditures incurred in the year of assessment were given an initial allowance of 20% and an annual allowance equal to 40%. Hence, the qualifying expenditure can be written off within 2 years instead of the normal 4 to 8 years.

At the end of 2005, seven licences were issued under the Small Renewable Energy Programme (SREP), of which only 2 plants started operation and supplying electricity to the utilities. Nevertheless, the progress of RE projects under the programme is slow and need further re-look especially on factors such as the feed-in tariff, uncertainty in long term fuel supply, project financing, excess capacity etc.

Profil Negara
Country Profile

Area	329,733 sq.km
Climate	- Tropical Type - Average temperature between 20°C to 32°C - Average rainfall of about 3540 mm per annum
Population	26.7[P] million with a multi racial community comprising Malays, Chinese, Indians, Kadazans, Bajaus, Muruts, Kelabits, Dayaks, Ibans and others
Labour force	11.3 million[P]
Real GDP	RM262.0 billion[P] (+5.3%[P])
Per Capita Income	RM18,106[P]
Real GNP	RM248.0 billion[P] (+6.4%[P])
Nominal GNP	RM 473.1 billion[P] (+11.3%[P])
Current Account Balance	77.8 billion[P] (+16.4%[P] of GNP)*
Foreign Reserves	RM 70.5 billion[P] (7.8 months of retained imports)*
Gross National Savings	37.1[P] (as % of GNP)*
Total Electricity Generation	98,750 GWh
Total Electricity Consumption	85,260 GWh
Per Capita Electricity Consumption	3,193 kWh
Average Price of Electricity :	
Peninsular Malaysia	23.5 sen per kWh
Sabah	24.9 sen per kWh
Sarawak	26.6 sen per kWh

P : Preliminary **At end of December 2005*

Peta Malaysia

Map of Malaysia


THAILAND
Langkawi Island
Kangar
Alor Setar
Kota Bahru
George Town
Kuala Terengganu
Ipoh
Gunung Tahan
Kuantan
KUALA LUMPUR
Shah Alam
Klang
Seremban
Port Dickson
Melaka
Johor Bahru
SINGAPORE
KOREA
JAPAN
CHINA
TAIWAN
THAILAND
PHILIPPINES
MALAYSIA
INDONESIA
SOUTH CHINA SEA
Kudat
Kota Kinabalu
Gunung Kinabalu
Sandakan
BRUNEI
SABAH
Lahad Datu
Tawau
Miri
Bintulu
Sibu
SARAWAK
Kuching
KALIMANTAN (INDONESIA)

Kadar Tarif Di Malaysia

Tariff Rates in Malaysia

TARIFF RATES FOR TENAGA NASIONAL BERHAD

No	Tariff Category	Unit	Rates
1.	**Tariff A – Domestic Tariff**		
	First 200 kWh (1-200 kWh) per month	sen/kWh	21.8
	Next 800 kWh (201-1,000 kWh) per month	sen/kWh	28.9
	Over 1,000 kWh (1,001 kWh onwards) per month	sen/kWh	31.2
	The minimum monthly charge is RM3.00		
2.	**Tariff B – Low Voltage Commercial Tariff**		
	For all kWh	sen/kWh	32.3
	The minimum monthly charge is RM7.20		
3.	**Tariff C1 – Medium Voltage General Commercial Tariff**		
	For each kilowatt of maximum demand per month	RM/kW	19.50
	For all kWh	sen/kWh	23.4
	The minimum monthly charge is RM600.00		
4.	**Tariff C2 – Medium Voltage Peak/Off-Peak Commercial Tariff**		
	For each kilowatt of maximum demand per month during the peak period	RM/kW	29.00
	For all kWh during the peak period	sen/kWh	23.4
	For all kWh during the off-peak period	sen/kWh	14.4
	The minimum monthly charge is RM600.00		
5.	**Tariff D – Low Voltage Industrial Tariff**		
	For all kWh	sen/kWh	29.0
	The minimum monthly charge is RM7.20		
	Tariff Ds – Special Industries Tariff (for consumers who qualify only)		
	For all kWh	sen/kWh	27.2
	The minimum monthly charge is RM7.20		
6.	**Tariff E1 – Medium Voltage General Industrial Tariff**		
	For each kilowatt of maximum demand per month	RM/kW	19.50
	For all kWh	sen/kWh	22.2
	The minimum monthly charge is RM600.00		
	Tariff E1s – Special Industrial Tariff (for consumers who qualify only)		
	For each kilowatt of maximum demand per month	RM/kW	15.10
	For all kWh	sen/kWh	21.5
	The minimum monthly charge is RM600.00		
7.	**Tariff E2 – Medium Voltage Peak / Off-Peak Industrial Tariff**		
	For each kilowatt of maximum demand per month during the peak period	RM/kW	24.40
	For all kWh during the peak period	sen/kWh	23.4
	For all kWh during the off-peak period	sen/kWh	14.4
	The minimum monthly charge is RM600.00		
	Tariff E2s – Special Industrial Tariff (for consumers who qualify only)		
	For each kilowatt of maximum demand per month during the peak period	RM/kW	21.00
	For all kWh during the peak period	sen/kWh	21.5
	For all kWh during the off-peak period	sen/kWh	12.3
	The minimum monthly charge is RM600.00		

TARIFF RATES FOR TENAGA NASIONAL BERHAD

No	Tariff Category	Unit	Rates
8.	**Tariff E3 – High Voltage Peak / Off-Peak Industrial Tariff**		
	For each kilowatt of maximum demand per month during the peak period	RM/kW	23.40
	For all kWh during the peak period	sen/kWh	22.2
	For all kWh during the off-peak period	sen/kWh	13.3
	The minimum monthly charge is RM600.00		
	Tariff E3s – Special Industrial Tariff		
	(for consumers who qualify only)		
	For each kilowatt of maximum demand per month during the peak period	RM/kW	18.50
	For all kWh during the peak period	sen/kWh	20.3
	For all kWh during the off-peak period	sen/kWh	11.2
	The minimum monthly charge is RM600.00		
9.	**Tariff F – Low Voltage Mining Tariff**		
	For all kWh	sen/kWh	24.5
	The minimum monthly charge is RM120.00		
10.	**Tariff F1 – Medium Voltage General Mining Tariff**		
	For each kilowatt of maximum demand per month	RM/kW	13.60
	For all kWh	sen/kWh	20.1
	The minimum monthly charge is RM120.00		
11.	**Tariff F2 – Medium Voltage Peak / Off-Peak Mining Tariff**		
	For each kilowatt of maximum demand per month during the peak period	RM/kW	19.20
	For all kWh during the peak period	sen/kWh	20.1
	For all kWh during off-peak period	sen/kWh	11.1
	The minimum monthly charge is RM120.00		
12.	**Tariff G – Street Lighting Tariff**		
	For all kWh (including maintenance)	sen/kWh	19.6
	For all kWh (excluding maintenance)	sen/kWh	12.3
	The minimum monthly charge is 15% of the calculated bill in a month		
13.	**Tariff G1 – Neon & Floodlight Tariff**		
	For all kWh	sen/kWh	13.4
	The minimum monthly charge is 15% of the calculated bill in a month		
14.	**Tariff H – Low Voltage Specific Agriculture Tariff**		
	For all kWh	sen/kWh	30.3
	The minimum monthly charge is RM7.20		
15.	**Tariff H1 – Medium Voltage General Specific Agriculture Tariff**		
	For each kilowatt of maximum demand per month	RM/kW	19.50
	For all kWh	sen/kWh	22.6
	The minimum monthly charge is RM600.00		
16.	**Tariff H2 – Medium Voltage Peak / Off-Peak Specific Agriculture Tariff**		
	For each kilowatt of maximum demand per month during the peak period	RM/kW	26.20
	For all kWh during the peak period	sen/kWh	23.4
	For all kWh during the off-peak period	sen/kWh	14.4
	The minimum monthly charge is RM600.00		

TARIFF RATES FOR TOP-UP AND STANDBY SERVICES
(ONLY FOR C0-GENERATORS)

	Tariff Category	Unit	Rates		
			Top up	Standby	
				Firm	Non-Firm
1.	**Tariff C1 - Medium Voltage General Commercial Tariff** Maximum demand charge per month For all kWh	 RM/kW sen/kWh	 19.50 23.4	 28.00	 10.40
2.	**Tariff C2 - Medium Voltage Peak/Off-Peak Commercial Tariff** For each kilowatt of maximum demand per month during the peak period For all kWh during the peak period For all kWh during the off-peak period	 RM/kW sen/kWh sen/kWh	 29.00 23.4 14.4	 28.00	 11.80
3.	**Tariff E1 - Medium Voltage General Industrial Tariff** Maximum demand charge per month For all kWh	 RM/kW sen/kWh	 19.50 22.2	 28.00	 9.90
4.	**Tariff E2 - Medium Voltage Peak/Off-Peak Industrial Tariff** For each kilowatt of maximum demand per month during the peak period For all kWh during the peak period For all kWh during the off-peak period	 RM/kW sen/kWh sen/kWh	 24.40 23.4 14.4	 28.00	 9.70
5.	**Tariff E3 - High Voltage Peak/Off-Peak Industrial Tariff** For each kilowatt of maximum demand per month during the peak period For all kWh during the peak period For all kWh during the off-peak period	 RM/kW sen/kWh sen/kWh	 23.40 22.2 13.3	 28.00	 8.50
6.	**Tariff F1 - Medium Voltage General Mining Tariff** Maximum demand charge per month For all kWh	 RM/kW sen/kWh	 13.60 20.1	 28.00	 5.40
7.	**Tariff F2 - Medium Voltage Peak/Off-Peak Mining Tariff** For each kilowatt of maximum demand per month during the peak period For all kWh during the peak period For all kWh during the off-peak period	 RM/kW sen/kWh sen/kWh	 19.20 20.1 11.1	 28.00	 7.50

TARIFF RATES FOR
SABAH ELECTRICITY SENDIRIAN BERHAD (SESB)

No	Tariff Category	Unit	Rates
1.	**Domestic**		
	0-40 units per month	sen/kWh	24
	41-200 units per month	sen/kWh	16
	Above 200 units per month	sen/kWh	28
	Minimum monthly charge	RM	5.00
2.	**Commercial Class 1**		
	0-1,000 units per month	sen/kWh	32
	Above 1,000 units per month	sen/kWh	27
	Minimum monthly charge	RM	15.00
3.	**Commercial Class 2**		
	(For consumers with maximum demand above 500 kW)		
	Maximum demand charge per month	RM/kW	15.00
	All units per month	sen/kWh	25
	Minimum monthly charge	RM	1,000.00
4.	**Industrial Class 1**		
	0-2,000 units per month	sen/kWh	32
	Above 2,000 units per month	sen/kWh	26
	Minimum monthly charge	RM	15.00
5.	**Industrial Class 2**		
	(For consumers with maximum demand above 500 kW)		
	Maximum demand charge per month	RM/kW	15.00
	All units per month	sen/kWh	20
	Minimum monthly charge	RM	1,000.00
6.	**Public Lighting**		
	All units per month	sen/kWh	30

TARIFF RATES FOR WILAYAH PERSEKUTUAN LABUAN
TARIFF STRUCTURE AND RATES

No	Classifications	Unit	Rates
1.	**Domestic (DM)**		
	0-40 kWh per month	sen/kWh	24
	41-200 kWh per month	sen/kWh	16
	201- above kWh per month	sen/kWh	28
	Minimum charge	RM	5.00
2.	**Low Voltage Commercial (B)**		
	For all units	sen/kWh	24
	Minimum Charge	RM	6.00
3.	**Medium Voltage General Commercial (C1)**		
	For each kilowatt of maximum demand per month	RM/kW	12.00
	All units	sen/kWh	18
	Minimum charge	RM	500.00
4.	**Medium Voltage Peak/Off Peak Commercial (C2)**		
	For each kilowatt of maximum demand per month during the peak period	RM/kW	19.00
	All units during the peak period	sen/kWh	18
	All units during the off-peak period	sen/kWh	8
	Minimum charge	RM	500.00
5.	**Low Voltage Industrial Tariff (D)**		
	For all units	sen/kWh	21
	Minimum charge	RM	6.00
6.	**Medium Voltage General Industrial (E1)**		
	For each kilowatt of maximum demand per month	RM/kW	12.00
	All units	sen/kWh	16
	Minimum charge	RM	500.00
7.	**Medium Voltage Peak / Off-Peak Industrial (E2)**		
	For each kilowatt of maximum demand per month during the peak period	RM/kW	17.00
	All units during the peak period	sen/kWh	16
	All units during the off-peak period	sen/kWh	8
	Minimum charge	RM	500.00
8.	**Low Voltage Mining (F)**		
	For all units	sen/kWh	19
	Minimum charge	RM	100.00
9.	**Medium Voltage Mining (F1)**		
	For each kilowatt of maximum demand per month	RM/kW	12.00
	All units	sen/kWh	16
	Minimum charge	RM	100.00
10.	**Public Lighting**		
	All units	sen/kWh	30

TARIFF RATES FOR
SYARIKAT SESCO BERHAD

No	Tariff Category	Unit	Rates
	COMMERCIAL		
1.	**Tariff C1**		
	(Applicable to consumer taking commercial supply whose estimated monthly consumption does not exceeds 100,000 kWh)		
	0-100 units per month	sen/kWh	40
	101-5000 units per month	sen/kWh	34
	Above 5000 units per month	sen/kWh	30
	Minimum monthly charge	RM	10.00
2.	**Tariff C2**		
	(Generally available on application to consumer taking commercial supply whose estimated monthly consumption exceeds 100,000 kWh)		
	Maximum demand price	RM/kW	12.00
	Energy Price	sen/kWh	25
	Minimum monthly charge	RM/kW	12.00
3.	**Tariff C3**		
	(Generally available on application to consumer taking commercial supply whose estimated monthly consumption exceeds 100,000 kWh)		
	PEAK PERIOD (0700 hours-2400 hours)		
	Maximum demand price	RM/kW	20.00
	Energy Price	sen/kWh	25
	OFF-PEAK PERIOD (0000 hours-0700 hours)		
	Energy Price	sen/kWh	10
	Minimum monthly charge	RM/kWh	20.00
	INDUSTRIAL		
4.	**Tariff I1**		
	(Applicable to consumer taking industrial supply whose estimated monthly consumption does not exceeds 100,000 kWh)		
	0-100 units per month	sen/kWh	40
	101-3000 units per month	sen/kWh	30
	Above 3000 units per month	sen/kWh	21
	Minimum monthly charge	RM	10.00
5.	**Tariff I2**		
	(Industrial available on application to consumer taking industrial supply whose estimated monthly consumption exceeds 100,000 kWh)		
	Maximum demand price	RM/kW	12.00
	Energy Price	sen/kWh	17
	Minimum monthly charge	RM/kW	12.00

TARIFF RATES FOR
SYARIKAT SESCO BERHAD

No	Tariff Category	Unit	Rates
6.	**Tariff I3** (Generally available on application to consumer taking industrial supply whose estimated monthly consumption exceeds 100,000 kWh) PEAK PERIOD (0700 hours-2400 hours) Maximum demand Price Energy Price OFF-PEAK PERIOD (0000 hours-0700 hours) Energy Price Minimum monthly charge	 RM/kW sen/kWh sen/kWh RM/kW	 20.00 17 10 20.00
7.	**DOMESTIC** **Tariff D** (Applicable to consumer taking domestic supply) 0-100 units per month 101-400 units per month Above 400 units per month Minimum monthly charge	 sen/kWh sen/kWh sen/kWh RM	 34 29 33 5.00
8.	**PUBLIC LIGHTING** **Tariff PL** (Applicable to consumer taking lighting supply) Energy Price Minimum monthly charge	 sen/kWh RM	 47 10.00

Statistik Tenaga Nasional Berhad (TNB)

Statistics of Tenaga Nasional Berhad (TNB)

TENAGA NASIONAL BERHAD (TNB)

		2000	2001	2002	2003	2004	2005
A.	**Jualan Tenaga (GWj)** *(Sales of Energy (GWh))*						
(1)	Domestik *(Domestic)*	9,093	10,315	10,939	11,765	12,530	13,497
(2)	Komersial *(Commercial)*	14,747	16,196	17,032	18,367	19,967	21,675
(3)	Industri *(Industrial)*	29,818	30,754	31,371	33,440	35,732	37,115
(4)	Lampu Awam *(Public Lighting)*	527	590	629	663	682	767
(5)	Perlombongan *(Mining)*	69	67	64	56	54	48
(6)	Eksport *(Export)*	7	5	19	193	605	1,694
(7)	Lain-lain *(Others)*	-	-	-	-	-	-
	Jumlah *(Total)*	**54,261**	**57,927**	**60,054**	**64,484**	**69,570**	**74,796**

B.	**Campuran Penjanaan (GWj)** *(Generation Mix (GWh))*						
(1)	Hidro *(Hydro)*	5,971	4,992	4,444	4,032	4,656	4,908
(2)	*Gas Turbine & Combined Cycle*	23,223	22,826	& 21,636	16,719	15,859	18,569
(3)	Arangbatu *(Coal)*	4,038	6,238	8,953	7,599	6,129	-
(4)	*Conventional Thermal (Oil/Gas)*	1,424	1,600	3,573	330	185	5
(5)	Disel *(Diesel)*	-	-	-	-	-	-
(6)	Lain-lain *(Others)*	-	-	-	-	-	-
	Jumlah *(Total)*	**34,685**	**35,891**	**38,606**	**28,680**	**26,842**	**23,482**

		2000	2001	2002	2003	2004	2005
C.	**Bilangan Pengguna** *(No. of Consumers)*						
(1)	Domestik *(Domestic)*	4,186,799	4,354,125	4,569,628	4,788,255	5,009,377	5,210,747
(2)	Komersial *(Commercial)*	792,887	821,801	862,826	903,981	940,359	976,368
(3)	Industri *(Industrial)*	21,235	21,483	21,382	21,317	21,249	24,064
(4)	Lampu Awam *(Public Lighting)*	26,158	26,439	27,793	37,391	39,071	42,032
(5)	Perlombongan *(Mining)*	49	42	45	32	31	28
(6)	Lain-lain *(Others)*	-	-	-	-	-	-
	Jumlah *(Total)*	**5,027,128**	**5,223,890**	**5,481,674**	**5,750,976**	**6,010,087**	**6,253,239**

D.	**Kapasiti Penjanaan (MW)** *(Generation Capacity (MW))*						
(1)	Hidro *(Hydro)*	1,891	1,874	1,911	1,911	1,911	1,881
(2)	*Gas Turbine & Combined Cycle*	3,266	3,427	3,302	3,430	3,156	3,871
(3)	Arangbatu *(Coal)*	600	1,524	1,447	1,421	-	-
(4)	*Conventional Thermal (Oil/Gas)*	1,426	1,405	1,396	1,402	574	266
(5)	Disel *(Diesel)*	-	-	-	-	-	-
(6)	Lain-lain *(Others)*	-	-	-	-	-	-
(7)	Jumlah Penjanaan *(Total Generation)*	**7,183**	**8,230**	**8,056**	**8,164**	**5,641**	**6,018**
(8)	Kebolehdapatan Keseluruhan *(Overall Availability(%))*	86	N/A	N/A	85	83	86
(9)	Kos Penjanaan(sen/kWj) *(Cost Of Generation)(sen/kWh)*						
	a) Penjanaan Sendiri *(Own Generation)*	10.60	10.89	11.25	10.20	9.3	9.8
	b) Tenaga Dibeli *(Energy Purchased)*	15.55	14.84	15.26	14.95	N/A	17.78
	c) Kos Keseluruhan- (a) & (b) *(Overall Cost - (a) & (b))*	12.76	12.70	13.05	11.69	N/A	14.33

		2000	2001	2002	2003	2004	2005
E.	**Keupayaan Sistem Penghantaran** *(Transmission System Capacity)*						
(1)	**Talian/Kabel Sistem Penghantaran (km)** *(Transmission System Lines/Cables (km))*						
	i. 500 KV	* 715	* 890	* 890	* 890	* 890	* 890
	ii. 275 KV	5,425	5,574	5,736	6,103	6,180	6,248
	iii. 132 KV	8,420	9,576	9,164	9,943	10,161	10,672
	iv 66 KV	316	346	346	171	171	171
(2)	**Pencawang Penghantaran** *(Transmission Substations)*						
	i. Bilangan *(Number)*	366	374	349	@ 407	366	375
	ii. Keupayaan (MVA) *(Capacity (MVA))*	48,973	51,033	56,673	61,335	65,476	69,381
(3)	**Prestasi** *(Performance)*						
	a) Bilangan Kejadian Pelantikan *(Number of Incidents of Trippings)*	176	117	118	418	104	90
	b) Tenaga Yang Tidak Dibekal *(Unsupplied Energy (MWh))*	3,129	2,789	3,662	2,734	9,232	21,939
F.	**Keupayaan Sistem Pengagihan** *(Distribution System Capacity)*						
(1)	**Talian/Kabel Sistem Pengagihan (km)** *(Distribution System Lines/Cables)*						
	i. Talian *(Overhead Lines)*	# 6,371	174,479	199,920	168,731	218,282	155,281
	ii. Kabel *(Underground Cables)*	175,762	220,536	228,804	273,700	315,197	322,856
(2)	**Pencawang Pengagihan** *Distribution Substations)*						
	i. Bilangan *(Number)*	45,948	45,987	47,483	48,916	50,509	56,679
	ii. Keupayaan (MVA) *(Capacity (MVA))*	35,083	38,191	41,231	41,954	44,579	48,377
(3)	**Prestasi** *(Performance)*						
	Bilangan Gangguan Bekalan *(Number of Interruption of Supply)*	51,964	47,296	31,328	27,047	29,932	* 85,811

TENAGA NASIONAL BERHAD (TNB)

		2000	2001	2002	2003	2004	2005
G.	**Pencapaian Prestasi** *(Performance Highlights)*						
(1)	**Kehendak Maksimum (MW)** *Maximum Demand (MW)*	9,712	10,060	10,783	11,329	12,023	12,493
(2)	**Jumlah Unit Penjanaan (GWj)** *(Total Units Generated (GWh))*	34,685	35,891	38,606	28,680	26,842	23,482
(3)	**Jumlah Unit Jualan (GWj)** *(Total Units Sold (GWh))*	54,261	57,927	60,054	64,484	69,570	74,796
(4)	**Hasil Jualan Elektrik (RM Juta)** *(Sales of Electricity (RM million))*	12,751	13,453	14,097	15,050	16,224	17,009
(5)	**Kapasiti Penjanaan Terpasang (MW)**** *(Installed Generation Capacity (MW))*	7,183	8,230	8,055	8,163	5,641	6,018
(6)	**Jumlah Kakitangan** *(Total Number of Employee)*	22,301	23,063	23,589	24,124	24,887	24,259
(7)	**Hasil Jualan Setiap Kakitangan (RM/Kakitangan)** *(Revenue Per Employee (RM/Employee))*	0.57	0.58	0.60	0.62	0.65	0.70
(8)	**Unit Jualan Setiap Kakitangan (GWj/Kakitangan)** *(Units Sold Per Employee (GWh/Employee))*	2.43	2.51	2.55	2.67	2.80	3.08
(9)	**Kapasiti Penjanaan Setiap Kakitangan (MW/Kakitangan)** *(Generation Capacity Per Employee (MW/Employee))*	0.32	0.36	0.34	0.34	0.23	0.25
(10)	**Jumlah Unit Pembelian (GWj)** *(Total Units Purchased (GWh))*	27,740	28,817	31,391	43,200	54,755	60,409
(11)	**Jumlah Unit Eksport(GWj)** *(Total Units Exported (GWh))*	7	5	19	193	605	1,694
(12)	**Jumlah Unit Impot(GWj)** *(Total Units Imported (GWh))*	13	5	9	0.4	-	1.2
(13)	*Overall System Average Interruption Duration Index (SAIDI)(minutes/customer/year)*	351	281	149	114	156	166

N.B.

1. & Termasuk penjanaan menggunakan distillate
   Inclusion of generation using distillate
2. * 693.6km dikendalikan pada voltan 275kV
   693.6km operated at 275kV
3. ** Kapasiti penjanaan TNB Generation Sdn. Bhd. dan TNB Hidro Sdn. Bhd.
   Generation capacities of TNB Generation Sdn. Bhd. and TNB Hidro Sdn. Bhd.
4. # Tidak termasuk talian atas voltan rendah
   Excluding LV overhead lines
5. @ Termasuk 43 Pencawang Pengguna
   Including 43 Consumer's Substation
6. Tahun yang ditunjukan adalah tahun kewangan
   Years indicated are financial years
7. ✱ Angka ini meliputi pengguna tunggal yang mengalami gangguan melebihi 1 minit
   This figure includes interruptions experienced by single consumer for a period more than 1 minute

Data di atas adalah data untuk tempoh tahun kewangan syarikat. Data untuk tahun kalendar berbeza sedikit daripada data di atas.
The data shown above is for financial year of the company. The data for calendar year differs slightly from the above data.

Statistik Sabah Electricity Sdn. Bhd. (SESB)

Statistics of Sabah Electricity Sdn. Bhd. (SESB)

SABAH ELECTRICITY SDN. BHD. (SESB)

		2000	2001	2002	2003	2004	2005
A.	**Jualan Tenaga (GWj)** *(Sales of Energy (GWh))*						
(1)	Domestik *(Domestic)*	643	646	691	725	801	899
(2)	Komersial *(Commercial)*	740	766	839	874	950	1,034
(3)	Industri *(Industrial)*	499	564	622	699	771	797
(4)	Lampu Awam *(Public Lighting)*	31	29	30	34	35	39
(5)	Perlombongan *(Mining)*	-	-	-	-	-	-
(6)	Eksport *(Export)*	-	-	-	-	-	-
(7)	Lain-lain *(Others)*	-	-	-	-	-	-
	Jumlah *(Total)*	**1,913**	**2,005**	**2,182**	**2,332**	**2,557**	**2,769**

B.	**Campuran Penjanaan (GWj)** *Generation Mix (GWh))*						
(1)	Hidro *(Hydro)*	491	461	437	453	450	469
(2)	Gas *(Gas)*	159	258	388	471	466	539
(3)	Arangbatu *(Coal)*	-	-	-	-	-	-
(4)	Minyak *(Oil)*	-	-	-	-	-	-
(5)	Distillate *(Distillate)*	-	-	-	-	-	-
(6)	Disel *(Diesel)*	414	420	427	477	478	131
(7)	Lain-lain *(Others)*	-	-	-	-	-	-
	Jumlah *(Total)*	**1,064**	**1,139**	**1,252**	**1,401**	**1,394**	**1,139**

		2000	2001	2002	2003	2004	2005
C.	**Bilangan Pengguna** *(No. of Consumers)*						
(1)	Domestik *(Domestic)*	242,309	252,869	261,447	265,795	280,325	292,025
(2)	Komersial *(Commercial)*	43,198	45,142	46,797	47,550	49,888	52,010
(3)	Industri *(Industrial)*	2,681	2,628	2,613	2,598	2,628	2,634
(4)	Lampu Awam *(Public Lighting)*	2,224	2,342	2,524	2,672	2,959	3,088
(5)	Perlombongan *(Mining)*	-	-	-	-	-	-
(6)	Lain-lain *(Others)*	-	-	-	-	-	-
	Jumlah *(Total)*	**290,412**	**302,981**	**313,381**	**318,585**	**335,800**	**349,757**

D.	**Kapasiti Penjanaan (MW)** *(Generation Capacity (MW))*						
(1)	Hidro *(Hydro)*	66	66	66	66	66	51
(2)	Gas *(Gas)*	104	104	104	104	104	104
(3)	Arangbatu *(Coal)*	-	-	-	-	-	-
(4)	Minyak *(Oil)*	-	-	-	-	-	-
(5)	Distillate *(Distillate)*	-	-	-	-	-	-
(6)	Disel *(Diesel)*	300	311	302	290	290	194
(7)	Lain-lain[Bekalan Elektrik Luar Bandar - Disel & Hidro-Mini] (*Others[Rural Electrifications - Diesel & Mini-Hydro]*)	*2	*6	*6	*6	*6	-
(8)	Jumlah Penjanaan *(Total Generation)*	**472**	**487**	**478**	**466**	**466**	**349**
(9)	Kebolehdapatan Keseluruhan *(Overall Availability(%))*	N/A	N/A	82.32	83.50	78.4	77.6
(10)	Kos Penjanaan(sen/kWj) *(Cost Of Generation)(sen/kWh)*						
	a) Penjanaan Sendiri *(Own Generation)*	16.50	13.90	18.10	17.62	21.02	24.30
	b) Tenaga Dibeli *(Energy Purchased)*	30.78	26.70	26.70	23.35	25.79	25.80
	c) Kos Keseluruhan- (a) & (b) *(Overall Cost - (a) & (b))*	24.16	21.04	21.04	20.9	39.15	25.20

*Hidro-mini *(Mini-hydro)*

SABAH ELECTRICITY SDN. BHD. (SESB)

		2000	2001	2002	2003	2004	2005
E.	**Keupayaan Sistem Penghantaran** *(Transmission System Capacity)*						
(1)	**Talian/Kabel Sistem Penghantaran (km)** *(Transmission System Lines/Cables (km))*						
	i. 500 KV	-	-	-	-	-	-
	ii. 275 KV	-	-	-	-	-	-
	iii. 132 KV	497	542	542	1,870	1,227	1,552
	iv. 66 KV	123	123	123	122	123	123
(2)	**Pencawang Penghantaran** *(Transmission Substations)*						
	i. Bilangan *(Number)*	17	17	17	23	26	31
	ii. Keupayaan (MVA) *(Capacity (MVA))*	1,005	1,005	1,005	1,410	2,258	2,332
(3)	**Prestasi** *(Performance)*						
	a) Bilangan Kejadian Pelantikan *(Number of Incidents of Trippings)*	46	N/A	31	22	25	18
	b) Tenaga Yang Tidak Dibekal *(Unsupplied Energy (MWh))*	1,000	2,153	548	660	573	476

F.	**Keupayaan Sistem Pengagihan** *(Distribution System Capacity)*						
(1)	**Talian/Kabel Sistem Pengagihan (km)** *(Distribution System Lines/Cables)*						
	i. Talian *(Overhead Lines)*	11,593	12,056	13,020	13,500	*4,987	*5167
	ii. Kabel *(Underground Cables)*	1,184	1,220	1,281	1,400	*455	*471
(2)	**Pencawang Pengagihan** *(Distribution Substations)*						
	i. Bilangan *(Number)*	4,012	4,411	4,453	4,196	4,687	4,727
	ii. Keupayaan (MVA) *(Capacity (MVA))*	1,496	1,433	2,296	2,265	2,500	2,803
(3)	**Prestasi** *(Performance)*						
	Bilangan Gangguan Bekalan *(Number of Interruption of Supply)*	10,361	10,442	9,457	10,083	14,308	23,441

* 33 dan 11kV Sistem sahaja *(Only 33 and 11kV)*

SABAH ELECTRICITY SDN. BHD. (SESB)

		2000	2001	2002	2003	2004	2005
G.	**Pencapaian Prestasi** *(Performance Highlights)*						
(1)	**Kehendak Maksimum (MW)** *(Maximum Demand (MW))*	373	366	391	448	481	548
(2)	**Jumlah Unit Penjanaan (GWj)** *(Total Units Generated (GWh))*	1,064	1,139	1,252	1,401	1,394	1,139
(3)	**Jumlah Unit Jualan (GWj)** *(Total Units Sold (GWh))*	1,913	2,005	2,182	2,332	2,557	2,769
(4)	**Hasil Jualan Elektrik (RM Juta)** *(Sales of Electricity (RM million))*	474	496	598	591	640	697
(5)	**Kapasiti Penjanaan Terpasang (MW)** *(Installed Generation Capacity (MW))*	472	487	478	466	466	349
(6)	**Jumlah Kakitangan** *(Total Number of Employee)*	2,033	2,062	2,097	2,096	2,084	2,058
(7)	**Hasil Jualan Setiap Kakitangan (RM/Kakitangan)** *(Revenue Per Employee (RM/Employee))*	0.23	0.24	0.29	0.28	0.31	0.34
(8)	**Unit Jualan Setiap Kakitangan (GWj/Kakitangan)** *(Units Sold Per Employee (GWh/Employee))*	0.94	0.97	1.04	1.11	1.23	1.35
(9)	**Kapasiti Penjanaan Setiap Kakitangan (MW/Kakitangan)** *(Generation Capacity Per Employee (MW/Employee))*	0.23	0.24	0.23	0.22	0.22	0.17
(10)	**Jumlah Unit Pembelian (GWj)** *(Total Units Purchased (GWh))*	1,235	1,365	1,457	1,583	1,863	1,999
(11)	**Jumlah Unit Eksport(GWj)** *(Total Units Exported (GWh))*	-	-	-	-	-	-
(12)	**Jumlah Unit Impot(GWj)** *(Total Units Imported (GWh))*	-	-	-	-	-	-
(13)	*Overall System Average Interruption Duration Index (SAIDI) (Minutes/Customer/Year)*	2,048	2,279	1,779	1,729	2,594	2,722

Statistik Syarikat SESCO Berhad

Statistics of Syarikat SESCO BERHAD

		2000	2001	2002	2003	2004	2005
A.	**Jualan Tenaga (GWj)** *(Sales of Energy (GWh))*						
(1)	Domestik *(Domestic)*	669	742	805	864	919	992
(2)	Komersial *(Commercial)*	918	972	1,025	1,107	1,165	1,242
(3)	Industri *(Industrial)*	1,257	1,321	1,381	1,463	1,553	1,661
(4)	Lampu Awam *(Public Lighting)*	30	32	37	37	41	47
(5)	Perlombongan *(Mining)*	-	-	-	-	-	-
(6)	Eksport *(Export)*	-	-	-	-	-	-
(7)	Lain-lain *(Others)*	-	-	-	-	-	-
	Jumlah *(Total)*	**2,874**	**3,067**	**3,248**	**3,471**	**3,678**	**3,942**

B.	**Campuran Penjanaan (GWj)** *(Generation Mix (GWh))*						
(1)	Hidro *(Hydro)*	479	503	388	454	371	527
(2)	Gas *(Gas)*	1,249	1,175	1,460	1,449	1,438	1,466
(3)	Arangbatu *(Coal)*	-	-	-	-	-	-
(4)	Minyak *(Oil)*	266	249	124	-	-	-
(5)	Distillate *(Distillate)*	-	-	-	-	-	-
(6)	Disel *(Diesel)*	109	176	319	499	251	217
(7)	Lain-lain *(Others)*	-	-	-	-	-	-
	Jumlah *(Total)*	**2,103**	**2,103**	**2,291**	**2,402**	**2,060**	**2,210**

N.B. Tahun yang ditunjukkan adalah tahun kewangan
Years indicated are financial years

		2000	2001	2002	2003	2004	2005
C.	**Bilangan Pengguna** *(No. of Consumers)*						
(1)	Domestik *(Domestic)*	270,299	284,711	302,571	323,659	336,439	348,377
(2)	Komersial *(Commercial)*	49,631	51,899	53,993	56,069	58,259	60,336
(3)	Industri *(Industrial)*	775	814	831	838	867	879
(4)	Lampu Awam *(Public Lighting)*	3,468	3,800	4,150	4,437	4,783	5,175
(5)	Perlombongan *(Mining)*	-	-	-	-	-	-
(6)	Lain-lain (Others)	-	-	-	-	-	-
	Jumlah *(Total)*	**324,173**	**341,224**	**361,545**	**385,003**	**400,348**	**414,767**

D.	**Kapasiti Penjanaan (MW)** *(Generation Capacity (MW))*						
(1)	Hidro *(Hydro)*	101	101	101	101	101	101
(2)	Gas *(Gas)*	291	291	289	288	274	271
(3)	Arangbatu *(Coal)*	-	-	-	-	-	-
(4)	Minyak *(Oil)*	68	75	50	-	-	-
(5)	Distillate *(Distillate)*	-	-	-	-	-	-
(6)	Disel *(Diesel)*	91	92	117	171	170	174
(7)	Lain-lain (*Others)*	-	-	-	-	-	-
(8)	Jumlah Penjanaan *(Total Generation)*	**551**	**559**	**557**	**560**	**545**	**546**
(9)	Kebolehdapatan Keseluruhan *(Overall Availability(%))*	N/A	N/A	N/A	N/A	N/A	N/A
(10)	Kos Penjanaan(sen/kWj) *(Cost Of Generation)(sen/kWh)*						
	a) Penjanaan Sendiri *(Own Generation)*	12.08	13.02	11.48	12.16	14.0	14.5
	b) Tenaga Dibeli *(Energy Purchased)*	12.83	12.2	15.83	11.81	10.7	12.9
	c) Kos Keseluruhan- (a) & (b) *(Overall Cost - (a) & (b))*	12.36	12.68	13.2	12.02	12.3	13.7

		2000	2001	2002	2003	2004	2005
E.	**Keupayaan Sistem Penghantaran** *(Transmission System Capacity)*						
(1)	**Talian/Kabel Sistem Penghantaran (km)** *(Transmission System Lines/Cables (km))*						
	i. 500 KV	-	-	-	-	-	-
	ii. 275 KV	765	765	765	765	765	765
	iii. 132 KV	128	135	136	136	138	138
	iv. 66 KV	-	-	-	-	-	-
(2)	**Pencawang Penghantaran** *(Transmission Substations)*						
	i. Bilangan *(Number)*	15	17	17	17	18	20
	ii. Keupayaan (MVA) *(Capacity (MVA))*	3,240	3,251	3,251	3,251	3,491	3,811
(3)	**Prestasi** *(Performance)*						
	a) Sistem Minit (*System Minutes)*	N/A	26	37	2	21	8
	b) Bilangan Kejadian Pelantikan *(Number of Incidents of Trippings)*	53	30	34	21	9	3
	c) Tenaga Yang Tidak Dibekal *(Unsupplied Energy (MWh))*	N/A	225	517	17.5	269	103

F.	**Keupayaan Sistem Pengagihan** *(Distribution System Capacity)*						
(1)	**Talian/Kabel Sistem Pengagihan (km)** *(Distribution System Lines/Cables)*						
	i. Talian *(Overhead Lines)*	13,958	14,525	15,208	16,072	16,790	16,470
	ii. Kabel *(Underground Cables)*	3,111	3,353	3,553	3,757	4,173	4,426
(2)	**Pencawang Pengagihan** *(Distribution Substations)*						
	i. Bilangan *(Number)*	5,256	5,532	5,554	6,249	6,893	7,508
	ii. Keupayaan (MVA) *(Capacity (MVA))*	3,596	3,855	3,933	4,200	4,668	5,329
(3)	**Prestasi** *(Performance)*						
	Bilangan Gangguan Bekalan *(Number of Interruption of Supply)*	N/A	6,004	4,167	6,590	4,244	4,489

		2000	2001	2002	2003	2004	2005
G.	**Pencapaian Prestasi** *(Performance Highlights)*						
(1)	**Kehendak Maksimum (MW)** *(Maximum Demand (MW))*	554	574	604	643	685	743
(2)	**Jumlah Unit Penjanaan (GWj)** *(Total Units Generated (GWh))*	2,103	2,103	2,291	2,402	2,060	2,210
(3)	**Jumlah Unit Jualan (GWj)** *(Total Units Sold (GWh))*	2,874	3,067	3,248	3,471	3,678	3,942
(4)	**Hasil Jualan Elektrik (RM Juta)** *(Sales of Electricity (RM million))*	759	812	864	927	977	1,047
(5)	**Kapasiti Penjanaan Terpasang (MW)** *(Installed Generation Capacity (MW))*	551	559	557	560	545	546
(6)	**Jumlah Kakitangan** *(Total Number of Employee)*	2,046	2,029	2,025	2,028	2,058	2,042
(7)	**Hasil Jualan Setiap Kakitangan (RM/Kakitangan)** *(Revenue Per Employee (RM/Employee))*	0.37	0.40	0.43	0.46	0.47	0.51
(8)	**Unit Jualan Setiap Kakitangan (GWj/Kakitangan)** *(Units Sold Per Employee (GWh/Employee))*	1.40	1.51	1.60	1.71	1.79	1.92
(9)	**Kapasiti Penjanaan Setiap Kakitangan (MW/Kakitangan)** *(Generation Capacity Per Employee (MW/Employee))*	0.27	0.28	0.28	0.28	0.26	0.27
(10)	**Jumlah Unit Pembelian (GWj)** *(Total Units Purchased (GWh))*	1,245	1,451	1,506	1,657	1,840	2,400
(11)	**Jumlah Unit Eksport(GWj)** *(Total Units Exported (GWh))*	-	-	-	-	-	-
(12)	**Jumlah Unit Impot(GWj)** *(Total Units Imported (GWh))*	-	-	-	-	-	-
(13)	*Overall System Average Interruption Duration Index (SAIDI) (Minutes/Customer/Year)*	859	731	611	421	327	310

Senarai Penjana Kuasa Bebas

List of Independent Power Producers (IPPs)

PENJANA KUASA BEBAS
INDEPENDENT POWER PRODUCERS (IPPs)

Bil *(No.)*	**Nama Pelesen** *(Licensee)*	**Jenis Loji** *(Type of Plant)*	**Kapasiti Berlesen (MW)** *(Licensed Capacity (MW))*	**Unit Penjanaan (GWj)** *(Units Generated (GWh))*	**Unit Jualan (GWj)** *(Units Sold (GWh))*	**Tarikh Lesen Dikeluarkan** *(Date of Issue of Licence)*
1.	**YTL Power Generation Sdn. Bhd.** (a) Paka, Terengganu.	2x404MW *(Combined Cycle)*	808	7,775	7,526	07-04-1993
	(b) Pasir Gudang, Johor.	1x404MW *(Combined Cycle)*	404			
2.	**Genting Sanyen Power Sdn. Bhd.** Kuala Langat, Selangor	1x762MW *(Combined Cycle)*	762	4,790	4,632	01-07-1993
3.	**Segari Energy Ventures Sdn. Bhd.** Lumut, Perak	2x651.5MW *(Combined Cycle)*	1,303	6,649	6,528	15-07-1993
4.	**Powertek Bhd.** Alor Gajah, Melaka	4x110MW *(Gas Turbines)*	440	328	325	01-12-1993
5.	**Port Dickson Power Bhd.** Tanjung Gemuk, Port Dickson	4x110MW *(Gas Turbines)*	440	606	601	01-12-1993
6.	**Projass Engineering Sdn. Bhd.**	17MW *(Mini Hydro)*	17	-	-	01-04-1994
7.	**ARL Tenaga Sdn. Bhd.** Melawa, Sabah	4x12.5MW *(Diesel Engines)*	50	149	140	14-06-1994
8.	**Musteq Hydro Sdn. Bhd.** Sg. Kenerong, Kelantan	2x10MW *(Mini Hydro)*	20	103	103	18-11-1994
9.	**Serudong Power Sdn. Bhd.** Tawau, Sabah	3x12MW *(Diesel Engines)*	36	261	251	31-03-1995
10.	**Stratavest Sdn. Bhd.** Sandakan, Sabah	4x16MW *(Diesel Engines)*	64	433	419	01-10-1996

PENJANA KUASA BEBAS
INDEPENDENT POWER PRODUCERS (IPPs)

Bil *(No.)*	Nama Pelesen *(Licensee)*	Jenis Loji *(Type of Plant)*	Kapasiti Berlesen (MW) *(Licensed Capacity (MW))*	Unit Penjanaan (GWj) *(Units Generated (GWh))*	Unit Jualan (GWj) *(Units Sold (GWh))*	Tarikh Lesen Dikeluarkan *(Date of Issue of Licence)*
11.	**Powertron Resources Sdn. Bhd.** Karambunai, Sabah	4x30MW *(Gas Turbines)*	120	950	942	06-02-1997
12.	**TNB Generation Sdn. Bhd. ****	6,145MW *(Various types of thermal plants)*	6,145	19,664	19,181	01-09-1997
13.	**Sandakan Power Corporation Sdn. Bhd.** Sandakan, Sabah	4x8.5MW *(Diesel Engines)*	34	200	192	29-11-1997
14.	**TNB Janamanjung Sdn. Bhd. ****	3x700MW *(Coal)*	2100	11,638	10,912	21-5-1998
15.	**Teknologi Tenaga Perlis Consortium Sdn. Bhd.** Kuala Sungai Baru, Perlis	1x650MW *(Combined Cycle)*	650	4,905	4,858	26-08-1998
16.	**Nur Generation Sdn. Bhd.** Kulim High-Tech Industrial Park, Kedah	2x110MW *(Combined Cycle)*	440	*	*	17-09-1998
17.	**Pahlawan Power Sdn. Bhd.** Stesen Janakuasa Melaka, Tanjung Keling, Melaka.	1x334MW *(Combined Cycle)*	334	2,310	2,282	26-05-1999
18.	**TNB Hidro Sdn. Bhd. ****	1910MW *(Hydro)*	1,910	4,256	4,137	01-09-2000
19.	**Prai Power Sdn. Bhd.** Daerah Seberang Perai Tengah Pulau Pinang	1x350MW *(Combined Cycle)*	350	2,202	2,136	19-02-2001

PENJANA KUASA BEBAS
INDEPENDENT POWER PRODUCERS (IPPs)

Bil *(No.)*	Nama Pelesen *(Licensee)*	Jenis Loji *(Type of Plant)*	Kapasiti Berlesen (MW) *(Licensed Capacity (MW))*	Unit Penjanaan (GWj) *(Units Generated (GWh))*	Unit Jualan (GWj) *(Units Sold (GWh))*	Tarikh Lesen Dikeluarkan *(Date of Issue of Licence)*
20.	**GB3 Sdn. Bhd.** Lumut, Perak	1x640MW *(Combined Cycle)*	640	4,085	4,011	07-08-2001
21.	**Panglima Power Sdn. Bhd.** Alor Gajah, Melaka	1x720MW *(Combined Cycle)*	720	4,972	4,858	07-08-2001
22.	**Tanjung Bin Power Sdn. Bhd.** Tanjung Bin, Mukim Serkat, Daerah Pontian, Johor	3x700MW *(Coal)*	2,100	*	*	26-09-2003
23.	**Kapar Energy Ventures Sdn Bhd** Mukim Kapar, Daerah Klang, Selangor	2x300MW *(Thermal) 2x300MW, 2x500MW (Coal)* 2x110MW *(Gas Turbines)*	2,420	12,443	11,637	01-07-2004
24.	**Jimah Energy Ventures Sdn. Bhd.** Mukim Jimah, Port Dickson, Negeri Sembilan	2x700MW *(Coal)*	1,400	*	*	22-03-2005
25.	**Sejingkat Power Corporation Sdn. Bhd.** Kuching, Sarawak ***	200MW *(Coal)*	200	640	N/A	N/A
26.	**Sarawak Power Generation Sdn. Bhd.** Bintulu, Sarawak ***	2x110MW *(Combined Cycle)*	220	1,200	N/A	N/A

* Dalam Pembinaan *(Under Construction)*
** Anak Syarikat TNB *(Wholely Owned Subsidiaries of TNB)*
*** Anak Syarikat SESCO *(Wholely Owned Subsidiaries of SESCO)*

Senarai Penjana Kuasa Menggunakan Sumber Tenaga Yang Boleh Diperbaharui

List of Small Renewable Energy Power Producers (SREP)

SENARAI PENJANA KUASA MENGGUNAKAN SUMBER TENAGA YANG BOLEH DIPERBAHARUI

LIST OF SMALL RENEWABLE ENERGY POWER PRODUCERS (SREP)

Bil *(No.)*	Nama Pelesen dan Lokasi *(Licensee and Location)*	Jenis Loji *(Type of Plant)*	Kapasiti Berlesen (MW) *(Licensed Capacity (MW))*	Jenis Bahan Api *(Energy Sources)*	Unit Penjanaan (GWj) *(Units Generated (GWh))*	Unit Jualan (GWj) *(Units Sold (GWh))*	Tarikh Lesen Dikeluarkan *(Date of Issue of Licence)*
1.	**Bumibiopower Sdn. Bhd.** Pantai Remis, Perak	Turbin Stim *(Steam Turbines)*	6	Tangkai Buah Sawit *(Empty Fruit Bunch)*	*	*	13-10-2001
2.	**Jana Landfill Sdn. Bhd.** Air Hitam Sanitary Landfill Seri Kembangan, Selangor.	Turbin Gas *(Gas Turbines)*	2	*Landfill Gas*	3,139	3,139	13-10-2001
3.	**Palm Energy Sdn. Bhd.** Kwantas Oil Sdn Bhd Jalan Kwantas, Lahat Datu, Sabah.	Turbin Stim *(Steam Turbines)*	8	Sisa Sawit *(Waste from Palm Oil)*	*	*	06-09-2003
4.	**TSH Bio Energy Sdn. Bhd.** Km 65, Jalan Tawau-Kunak, Tawau, Sabah.	Turbin Stim *(Steam Turbines)*	10	Sisa Sawit *(Waste from Palm Oil)*	33,691	23,490	14-10-2003
5.	**Potensi Gaya Sdn. Bhd.** Sungai Burong Palm Oil Mill, Km 44, Tawau-Lahad Datu Highway,Tawau, Sabah.	Turbin Stim *(Steam Turbines)*	7	Tangkai Buah Sawit *(Empty Fruit Bunch)*	*	*	14-10-2003
6.	**Alaf Ekspresi Sdn. Bhd.** Apas Balung Mill, Tawau-Lahat Datu Highway, Km 35, Locked Bag 28, Borneo Samudra, 91009 Tawau, Sabah.	Turbin Stim *(Steam Turbines)*	7	Sisa Sawit *(Waste from Palm Oil)*	*	*	14-10-2003
7.	**Naluri Ventures Sdn. Bhd.** PLO 808, Jalan Keluli 11, Kawasan Perindustrian pasir Gudang, Mukin Plentong, Daerah Johor Bahru, 81700 Pasir Gudang, Johor.	Turbin Stim *(Steam Turbines)*	9	Sisa Sawit *(Waste from Palm Oil)*	*	*	17-03-2005

* Belum Beroperasi
Not Operated Yet

Senarai Pengagih Elektrik

List of Electricity Distributors

SENARAI PENGAGIH ELEKTRIK
LIST OF ELECTRICITY DISTRIBUTORS

Bil *(No.)*	Nama Pelesen Dan Alamat Perhubungan *(Licensee and Contact Address)*	Kawasan Bekalan *(Area of Supply)*	Kapasiti Dilesen (MW) *(Licensed Capacity (MW))*	Tarikh Lesen Dikeluarkan *(Date of Issue of Licence)*
1.	**Syarikat Elektrik Pulau Ketam** 62-K, Jalan Dua, Pulau Ketam, 42490 Port Klang, Selangor	Bagan Teo Chew, Pulau Ketam, Selangor	1.2 ⊗	30-10-1985
2.	**Sabah Forest Industries Sdn. Bhd.** No. 10, Jalan Jeti, Kompleks SFI, WDT 31, 89859 Sipitang, Sabah.	Sabah Forest Industries Complex, Sabah.	57.7 *	12-05-1993
3.	**Kuantan Port Consortium Sdn. Bhd.** Wisma KPC, KM 25, Tanjung Gelang, Peti Surat 199, 25720 Kuantan, Pahang.	Kuantan Port Authority Area, Pahang.	3.5	10-06-1994
4.	**MTBE Malaysia Sdn. Bhd.** Lot 111, Kawasan Perindustrial Gebeng, Peti Surat 1,Balok, 26080 Kuantan, Pahang	Supply to Polypropylene Malaysia Sdn. Bhd. Gebeng Industrial Estate, Pahang.	5.6	15-06-1995
5.	**Berjuntai Tin Dredging Berhad** P.O. Box 208, 45600 Batang Berjuntai, Selangor.	Tin Mine Area	2.2	18-08-1995
6.	**Sunway Pyramid Sdn. Bhd.** Lot LL1.10 Sunway Pyramid, No. 3, Jalan PJS 11/15, Bandar Sunway, 46150 Petaling Jaya, Selangor.	Sunway Pyramid Shopping Complex, Selangor.	9.5 @	01-11-1995
7.	**Gas District Cooling (KLIA) Sdn. Bhd.** Level 46, Tower 1, Petronas Twin Tower, Kuala Lumpur City Centre, 50088 Kuala Lumpur.	KLIA, Sepang, Selangor	60.0 *	03-01-1996
8.	**Ranhill Power Distribution Sdn. Bhd.** 32nd Floor, Empire Tower, No. 182, Jalan Tun Razak, 50400 Kuala Lumpur.	Putra LRT Corridor, Kuala Lumpur.	100.0	27-03-1996
9.	**Seseni Energy Services Sdn. Bhd.** 76, Lorong Mamanda 1, Ampang Point, 68000 Ampang, Selangor.	Stadium Merdeka Redevelopment Area Kuala Lumpur.	40.0 #	27-06-1996
10.	**Profound Heritage Sdn. Bhd.** Lot 2, 1st Floor, Lorong Grace Square, Jalan Pantai Sembulan, 88100 Kota Kinabalu, Sabah.	Sutera Harbour Resort, Sabah.	38.0 *	01-10-1996

SENARAI PENGAGIH ELEKTRIK
LIST OF ELECTRICITY DISTRIBUTORS

Bil *(No.)*	Nama Pelesen Dan Alamat Perhubungan *(Licensee and Contact Address)*	Kawasan Bekalan *(Area of Supply)*	Kapasiti Dilesen (MW) *(Licensed Capacity (MW))*	Tarikh Lesen Dikeluarkan *(Date of Issue of Licence)*
11.	**Wirazone Sdn. Bhd.** Level 13A, Block 3B, Plaza Sentral, Jalan Stesen Sentral 5, 50470 Kuala Lumpur.	KL Sentral Development Area, Kuala Lumpur.	60.0 @	09-10-1996
12.	**Bandar Utama City Corporation Sdn. Bhd.** 1, Persiaran Bandar Utama, Bandar Utama, 47800 Petaling Jaya, Selangor	1 Utama Shopping Complex, Selangor	100.0 @	01-03-1997
13.	**Petronas Methanol (Labuan) Sdn. Bhd.** Kawasan Perindustrian Rancha-Rancha, P.O.Box 80079, 87010 W.P. Labuan, Sabah.	Kompleks Petronas Methanol (Labuan) Kawasan Perindustrian Rancha-Rancha	12.8 *	01-03-1997
14.	**Kelang Port Authority** Beg Berkunci 202, Jalan Pelabuhan Utara,42005 Pelabuhan Klang, Selangor.	Klang Port Authority Area, Port Klang, Selangor	5.8	25-03-1997
15.	**Jaya Jusco Stores Bhd. (Daerah Kinta, Perak)** 4th & 5th Floor, Menara Kaushar, Jalan 3/27A, Seksyen 1, Bandar Baru Wangsa Maju, 53300 Kuala Lumpur.	Jaya Jusco Shopping Complex, Ipoh, Perak.	2.0	01-08-1997
16.	**Pengkalan Bekalan Kemaman Sdn. Bhd.** Peti Surat 64, 24007 Kemaman, Terengganu.	Pengkalan Bekalan Kemaman Area, Terengganu.	0.4	03-12-1997
17.	**See Sen Chemical Bhd.** PT 3940, Kawasan Perindustrian Teluk Kalong, 24000 Kemaman, Terengganu.	Kawasan Perindustrian Telok Kalong, Kemaman, Terengganu.	6.0 *	03-12-1997
18.	**Cryovac (M) Sdn. Bhd.** Lot 115, Gebeng Industrial Estate, Peti Surat 30, Balok, 26080 Kuantan, Pahang.	Gebeng Industrial Estates, Pahang.	3.5	04-02-1998
19.	**Malaysia Airports (Sepang) Sdn. Bhd.** 3rd & 4th Floor, Airport Management Centre, KL International Airport, 64000 KLIA, Selangor.	KLIA, Sepang, Selangor.	46.0	14-02-1998
20.	**Petronas Gas Bhd.** Centralized Utility Facilities(CUF), Integrated Petrochemical Complex, KM 105, Jalan Kuantan/Kuala Terengganu, 24300 Kertih, Kemaman, Terengganu.	Integrated Petrochemical Complex, Kerteh, Terengganu.	210.0 *	28-05-1998

SENARAI PENGAGIH ELEKTRIK
LIST OF ELECTRICITY DISTRIBUTORS

Bil *(No.)*	Nama Pelesen Dan Alamat Perhubungan *(Licensee and Contact Address)*	Kawasan Bekalan *(Area of Supply)*	Kapasiti Dilesen (MW) *(Licensed Capacity (MW))*	Tarikh Lesen Dikeluarkan *(Date of Issue of Licence)*
21.	**Petronas Gas Bhd. - CUF Gebeng** Centralized Utility Facilities(CUF), Integrated Petrochemical Complex, Lot 139A, Gebeng Industrial Area, Phase 111, 26080 Kuantan, Pahang.	Integrated Petrochemical Complex, Gebeng Industrial Area, Pahang.	105.0 *	28-05-1998
22.	**K.K.I.P. Power Sdn. Bhd.** No. G21 & G22, KKIP Amenity Centre, Lot 11B, Export Oriented Industrial Zone Phase 1, Kota Kinabalu Industrial Park, Jalan Sepangar, Menggatal, 88450 Kota Kinabalu, Sabah.	Kota Kinabalu Industrial Park, Sabah.	20.0 - 210.0	15-06-1998
23.	**Nur Distribution Sdn. Bhd.** Receivers and Managers Appointed, Central Control Building(CCB), Lot 30, Jalan Hi-Tech 4, Kulim Hi-Tech Park, 09000 Kulim, Kedah.	Kulim Hi-Tech Park, Kedah.	440.0	17-09-1998
24.	**C3 Power Sdn. Bhd.** Block F, Lot 51, Ground Floor, Jati Commercial Centre, P.O. Box 80737, 87017 F.T. Labuan, Sabah	*Temporary Settlement in some areas in Labuan, Sandakan and Semporna.*	5.9	13-07-1999
25.	**Shell Refining Company (FOM) Berhad Sdn. Bhd.** Batu 1, Jalan Pantai, 71000 Port Dickson, Negeri Sembilan.	Integrated Petrochemical Complex, Port Dickson.	35.0 *	10-08-1999
26.	**Gas District Cooling (KLCC) Sdn. Bhd.** Level 46, Tower 1, Petronas Twin Tower, Kuala Lumpur City Centre, 50088 Kuala Lumpur.	KLCC DCS/Co Generation Plant, Persiaran KLCC, Jalan Ampang	40.0 *	30-08-2000
27.	**Jaya Jusco Stores Sdn. Bhd.** Taman Maluri Cheras, 55100 Cheras, Kuala Lumpur.	Taman Jaya Maluri, Cheras, Kuala Lumpur.	3.4	02-10-2000
28.	**Genting Utilities & Services Sdn. Bhd.** Tingkat 24, Wisma Genting, Jalan Sultan Ismail, 50250 Kuala Lumpur.	Genting Highlands Area, Pahang.	48.0	17-10-2000
29.	**Gas District Cooling (UTP) Sdn. Bhd.** Level 46, Tower 1, Petronas Twin Towers, Kuala Lumpur City Centre, 50088 Kuala Lumpur.	Kampus University Technology Petronas Ipoh, Perak.	8.4 *	10-03-2001
30.	**TCL Industries (M) Sdn. Bhd.** Plot No: 4248, Teluk Kalong Industrial Estate, 24007 Kemaman, Terengganu.	Teluk Kalong Industrial Estate, Kemaman, Terengganu.	7.0 *	15-09-2003

SENARAI PENGAGIH ELEKTRIK
LIST OF ELECTRICITY DISTRIBUTORS

Bil *(No.)*	**Nama Pelesen Dan Alamat Perhubungan** *(Licensee and Contact Address)*	**Kawasan Bekalan** *(Area of Supply)*	**Kapasiti Dilesen (MW)** *(Licensed Capacity (MW))*	**Tarikh Lesen Dikeluarkan** *(Date of Issue of Licence)*
31.	**Ikano Corporation Sdn. Bhd.** No. 2, Jalan PJU 7/2, Mutiara Damansara, 47800 Petaling Jaya, Selangor.	Mutiara Damansara, Selangor.	7.9	23-12-2003
32.	**Jaya Jusco Stores Sdn. Bhd.** **Mukim Pulai, Johor** No. 4, Jalan Pendidikan, Taman Universiti, 81300 Skudai, Johor	Jaya Jusco Shopping Complex, Mukim Pulai, Johor.	3.1	28-02-2004
33.	**Makmuran Sdn. Bhd.** Mile 2 1/2, Jalan Ulu Patikang, P.O. Box 1520, 89008 Keningau, Sabah.	*Supply to Veracity Corporation Sdn Bhd (for wood processing activities)*	1.8 *	27-03-2004

NB # Projek Pembangunan Belum Mula
Project Development Not Commenced Yet

* Menjana Elektrik Secara Co-Gen
Generate Electricity by Co-Generation

@ Loji Co-Generation Belum Beroperasi
Co-Generation Plant Not Opeationed Yet

⊗ Menjana Elektrik
Generate Electricity

Senarai *Co-Generators* Utama

List of Major Co-Generators

SENARAI CO-GENERATORS UTAMA
LIST OF MAJOR CO-GENERATORS

Bil *(No.)*	Nama Pelesen dan Lokasi Pepasangan *(Licensee and Location)*	Kapasiti (MW) *(Capacity (MW))*	Jenis Lesen *(Type of Licence)*	Bahanapi *(Fuels)*	Penjanaan (MWj) *(Generation (MWh))*
1.	**Sabah Forest Industries Sdn. Bhd.** Sipitang, Sabah.	57.7	Awam *(Public)*	Sisa Kayu/Disel *(Wood/Diesel)*	299,325
2.	**Perwaja Steel Sdn. Bhd.** Tanjung Berhala, Kemaman, Terengganu.	9.5	Persendirian *(Private)*	Haba Buangan Proses Perindustrian *(Waste Heat From Industrial Process)*	35,268
3.	**Bernas Production Sdn. Bhd.** Sekinchan, Selangor.	0.2	Persendirian *(Private)*	Bahan Buangan Pertanian (*Agriculture Waste)*	Tiada Aktiviti Penjanaan *(No Generation Activitites)*
4.	**Lembaga Padi Dan Beras Negara,** Sg. Ranggam (Ulu Dedap), Kg. Gajah, Perak.	0.7	Persendirian *(Private)*	Bahan Buangan Pertanian *(Agriculture Waste)*	788
5.	**Padiberas Nasional Bhd** Changkat Lada, Kg. Gajah, Perak.	0.7	Persendirian *(Private)*	Bahan Buangan Pertanian *(Agriculture Waste)*	365
6.	**Consolidated Plantations Bhd.** Tennamaran Palm Oil Mill, Batang Berjuntai, Selangor	4.7	Persendirian *(Private)*	Bahan Buangan Pertanian *(Agriculture Waste)*	3,803
7.	**Consolidated Plantations Bhd.** Nova Scotia Palm Oil Mill, Batu 5, Jalan Maharaja Lela, Teluk Intan, Perak.	3.4	Persendirian *(Private)*	Bahan Buangan Pertanian *(Agriculture Waste)*	3,213
8.	**Gas District Cooling (KLCC) Sdn. Bhd.** Bangunan DCC 1/DCC 2, KLCC DCS/Cogeneration Plant, Persiaran KLCC, Jalan Ampang, Kuala Lumpur	40.0	Awam *(Public)*	Gas Asli *(Natural Gas)*	65,547
9.	**Gas District Cooling (KLIA) Sdn. Bhd.** Kuala Lumpur International Airport, Sepang, Selangor.	60.0	Awam *(Public)*	Gas Asli *(Natural Gas)*	253,850
10.	**See Sen Chemical Bhd.** Kawasan Perindustrian Telok Kalong, Kemaman, Terengganu.	6.0	Awam *(Public)*	Haba Buangan Proses Perindustrian *(Waste Heat From Industrial Process)*	32,864

SENARAI CO-GENERATORS UTAMA
LIST OF MAJOR CO-GENERATORS

Bil *(No.)*	Nama Pelesen dan Lokasi Pepasangan *(Licensee and Location)*	Kapasiti (MW) *(Capacity (MW))*	Jenis Lesen *(Type of Licence)*	Bahan Api *(Fuels)*	Penjanaan (MWj) *(Generation (MWh))*
11.	**Public Holdings Sdn. Bhd.** Jalan Ayer Hitam, Mukim Dengkil, Sepang, Selangor.	1.8	Persendirian *(Private)*	Gas Asli *(Natural Gas)*	N/A
12.	**Tractors Malaysia (1982) Sdn. Bhd.** Kampung Puchong, Daerah Petaling, Selangor.	1.3	Persendirian *(Private)*	Gas Asli *(Natural Gas)*	1,647
13.	**Profound Heritage Sdn. Bhd.** Sutera Harbour Resort, Kota Kinabalu, Sabah.	38.0	Awam *(Public)*	Disel/Gas Asli *(Diesel/ Natural Gas)*	38,424
14.	**TCL Industries (M) Sdn. Bhd.** K-156, Jalan Sulaimani, Cukai, Kemaman, Terengganu.	7.0	Awam *(Public)*	Haba Buangan Proses Perindustrian *(Waste Heat From Industrial Process)*	6,819
15.	**Malaysian Mosaics Bhd.** Batu 3, Mukim Kluang, Jalan Batu Pahat, Kluang, Johor.	4.2	Persendirian *(Private)*	Gas Asli *(Natural Gas)*	23
16.	**Malaysian Newsprint Industries Sdn. Bhd.** Lot 3771, Jalan Lencongan Mentakab-Temerloh, Temerloh Industrial Park, Mentakab, Pahang.	79.2	Persendirian *(Private)*	Minyak *(Oil)*	292,408
17.	**Titan Petrochemicals (M) Sdn. Bhd.** Plo 312, Jalan Tembaga 4, Pasir Gudang Industrial Estate, Pasir Gudang, Johor.	56.0	Persendirian *(Private)*	Gas Buangan Proses Perindustrian *(Waste Gas From Industrial Process)*	141,279
18.	**Titan Petrochemicals (M) Sdn. Bhd.** PLO 8, Tanjung Langsat Industrial Park, Mukim Sg. Tiram, Johor Bharu, Johor.	42.6	Persendirian *(Private)*	Gas Asli *(Natural Gas)*	100,250
19.	**Shell Refining Company (FOM) Bhd.** Batu 1, Jalan Pantai, Port Dickson, Negeri Sembilan.	35.0	Awam *(Public)*	Gas Buangan Proses Perindustrian *(Waste Gas from Industrial Process)*	101,037
20.	**Bandar Utama City Corp. Sdn. Bhd.** Kawasan Pembangunan Bandar Utama Township, Petaling Jaya, Selangor	50.0	Awam *(Public)*	Gas Asli *(Natural Gas)*	Belum Beroperasi *(Not In Operation)*

SENARAI CO-GENERATORS UTAMA
LIST OF MAJOR CO-GENERATORS

Bil *(No.)*	Nama Pelesen dan Lokasi Pepasangan *(Licensee and Location)*	Kapasiti (MW) *(Capacity (MW))*	Jenis Lesen *(Type of Licence)*	Bahan Api *(Fuels)*	Penjanaan (MWj) *(Generation (MWh))*
21.	**Wirazone Sdn. Bhd.** Kuala Lumpur Sentral Development, Brickfields Kuala Lumpur.	12.0	Awam *(Public)*	Gas Asli *(Natural Gas)*	Belum Beroperasi *(Not In Operation)*
22.	**CCM Chemicals Sdn. Bhd.** Pasir Gudang Works, Plot 411, Kaw. 4, Jalan Perak Satu, Pasir Gudang, Johor.	15.0	Persendirian *(Private)*	Gas Asli *(Natural Gas)*	Belum Beroperasi *(Not In Operation)*
23.	**Amoco Chemical (Malaysia) Sdn. Bhd.** Lot 116, Gebeng Industrial Estate, Balok, Kuantan, Pahang.	21.6	Persendirian *(Private)*	Gas Asli *(Natural Gas)*	Belum Beroperasi *(Not In Operation)*
24.	**Seseni Energy Services Sdn. Bhd.** Plaza Merdeka, Jalan Stadium,Kuala Lumpur.	8.8	Awam *(Public)*	Gas Asli *(Natural Gas)*	Belum Beroperasi *(Not In Operation)*
25.	**Petronas Methanol (Labuan) Sdn. Bhd.** Kompleks Petronas Methanol (Labuan), Kawasan Perindustrian Ranca-Ranca, Bersebelahan Stesen Janakuasa SESB, Patau-Patau, Sabah.	12.8	Awam *(Public)*	Gas Asli *(Natural Gas)*	58,084
26.	**Petronas Gas Bhd.** Petrochemical Complex, Kerteh Industrial Area, Terengganu	210.0	Awam *(Public)*	Gas Asli *(Natural Gas)*	1,263,560
27.	**Petronas Gas Bhd.** Petrochemical Complex, Gebeng Industrial Area, Kuantan, Pahang.	105.0	Awam *(Public)*	Gas Asli *(Natural Gas)*	643,288
28.	**Tian Siang Oil Mill (Perak) Sdn. Bhd.** Lot 2161, Batu 21, Jalan Beruas, Padang Gajah, Beruas, Perak.	1.8	Persendirian *(Private)*	Bahan Buangan Pertanian *(Agriculture Waste)*	Tiada Aktiviti Penjanaan *(No Generation Activities)*
29.	**Central Sugars Refinery Sdn. Bhd.** Batu Tiga, 40000 Shah Alam, Selangor	9.2	Persendirian *(Private)*	Disel/MFO *(Diesel/MFO)*	22,649
30.	**BASF Petronas Chemicals Sdn. Bhd.** Lot 139, Kawasan Perindustrian Gebeng, Kuantan, Pahang	27.4	Persendirian *(Private)*	Gas Asli *(Natural Gas)*	42,255

SENARAI CO-GENERATORS UTAMA
LIST OF MAJOR CO-GENERATORS

Bil *(No.)*	**Nama Pelesen** *(Licensee)*	**Kapasiti (MW)** *(Capacity (MW))*	**Jenis Lesen** *(Type of Licence)*	**Bahan Api** *(Fuels)*	**Penjanaan (MWj)** *(Generation (MWh))*
31.	**Gas District Cooling (UTP) Sdn. Bhd.** Kampus Universiti Teknologi Petronas, Bandar Sri Iskandar, Tronoh, Perak	8.4	Awam *(Public)*	Gas Asli *(Natural Gas)*	32,308
32.	**Penfibre Sdn. Bhd.** Lot 109-114 Kawasan Perindustrian Bebas Prai Zon 1, Prai, Pulau Pinang	35.4	Persendirian *(Private)*	Gas Asli *(Natural Gas)*	Belum Beroperasi *(Not In Operation)*
33.	**Nibong Tebal Paper Mill Sdn Bhd.** 886, Jalan Bandar Baru, Sg. Kecil, Nibong, Pulau Pinang.	0.8	Persendirian *(Private)*	Habuk Kayu *(Wood Dust)*	2
34.	**Gas District Cooling (Putrajaya) Sdn. Bhd.** Plot 2U1, Putrajaya Precint 2, Wilayah Persekutuan, Putrajaya.	10.7	Persendirian *(Private)*	Gas Asli *(Natural Gas)*	22,316
35.	**Makmuran Sdn. Bhd.** Batu 2 1/2, Jalan Ulu Patikang Keningau, Sabah.	1.8	Awam *(Public)*	Sisa Kayu *(Wood Waste)*	6,952
36.	**Petronas penapisan (Melaka) Sdn. Bhd.** Kompleks Petronas Penapisan Melaka, Mukim Sungai Udang, Melaka	120	Persendirian *(Private)*	Gas Asli *(Natural Gas)*	Belum Beroperasi *(Not In Operation)*

SENARAI CO-GENERATORS UTAMA
LIST OF MAJOR CO-GENERATORS

N.B.

1. a) Jumlah kapasiti projek utama dilesen
(Total capacity of major projects licensed)

- Awam *(Public)*	652.5 MW
- Persendirian *(Private)*	446.2MW
Jumlah *(Total)*	**1,098.7 MW**

b) Jumlah kapasiti projek utama dalam perancangan
(Total capacity of major projects Planned)

- Awam *(Public)*	70.8 MW
- Persendirian *(Private)*	192.0 MW
Jumlah *(Total)*	**262.8 MW**

c) Jumlah kapasiti projek dalam operasi
(Total capacity of major projects in Operation)

- Awam *(Public)*	581.7 MW
- Persendirian *(Private)*	254.2 MW
Jumlah *(Total)*	**835.9 MW**

2. a) Lesen Awam - Pemegang lesen menjana elektrik untuk kegunaan sendiri dan membekal kepada orang lain.
Public Licence - The licensee generates for his own use and for supply to other persons
b) Lesen Persendirian - Pemegang lesen menjana elektrik untuk kegunaan sendiri.
Private Licence - The licensee generates for his own use only.

Statistik Penjanaan Persendirian

Statistics of Self-Generation

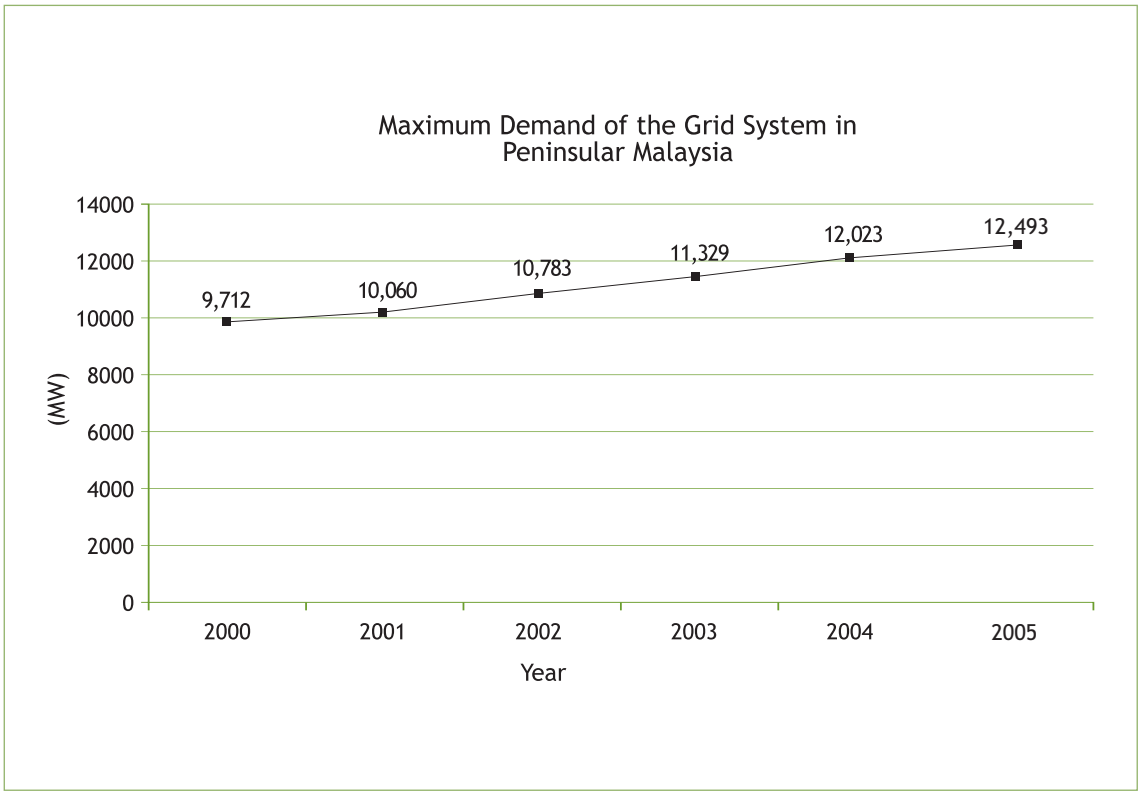
Bilangan Lesen Penjanaan Persendirian *(No. of Self-Generation Licences)*	**Kapasiti Janakuasa Mengikut Jenis Loji (MW)** *(Generation Plant Mix (MW))*				
	Gas *(Gas)*	Disel *(Diesel)*	Biomass *(Biomass)*	Lain-lain *(Others)*	Jumlah *(Total)*
1,527	19	958	384	34	1,395

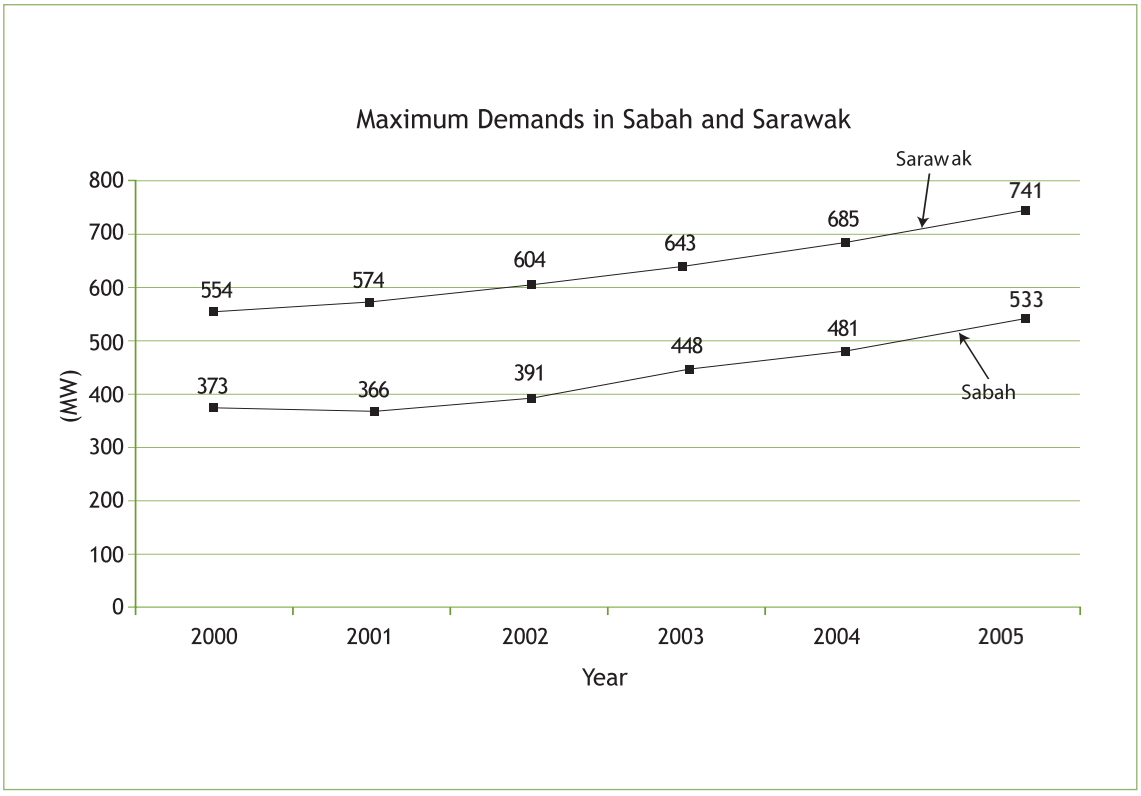
Statistik Dan Maklumat Lain Yang Penting Untuk Industri Bekalan Elektrik

Other Important Statistics and Information of the Electricity Supply Industry

STATISTIK DAN MAKLUMAT LAIN YANG PENTING UNTUK INDUSTRI BEKALAN ELEKTRIK

OTHER IMPORTANT STATISTICS AND INFORMATION OF THE ELECTRICITY SUPPLY INDUSTRY



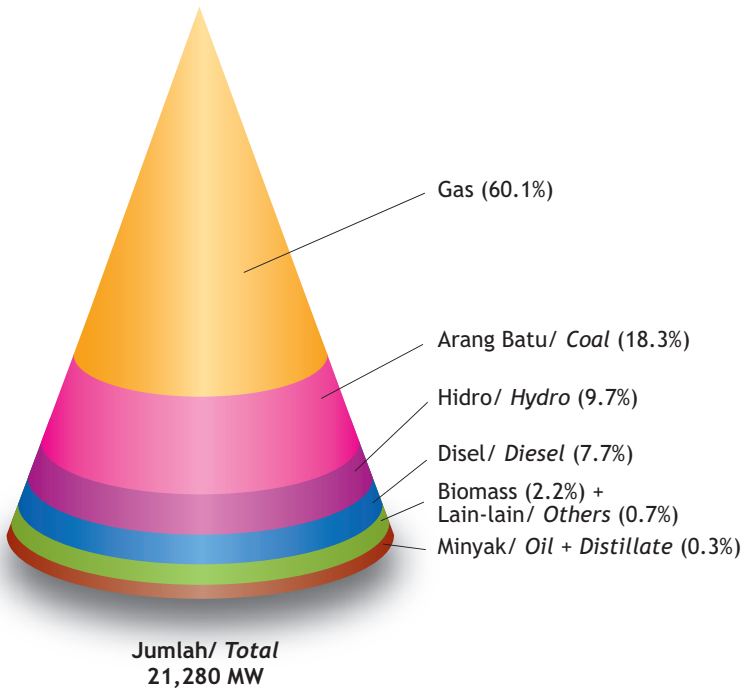


STATISTIK PROJEK YANG TELAH DILULUSKAN OLEH SCORE MENGIKUT SUMBER TENAGA

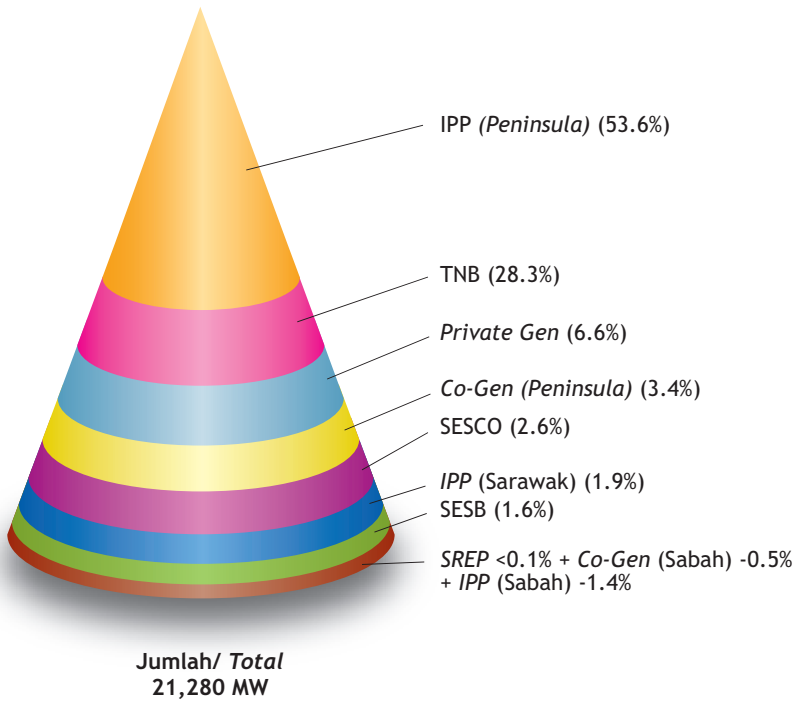
STATISTICS OF APPROVED PROJECTS BY SCORE ACCORDING TO ENERGY SOURCES

Bil *(No.)*	**Jenis-Jenis Sumber Tenaga** *(Energy Sources)*		**Permohonan Diluluskan** *(Application Appoved)*	**Kapasiti Penjanaan (MW)** *(Generation Capacity (MW))*	**Kapasiti Disambung Ke Grid (MW)** *(Grid Connected Capacity (MW))*	**Peratus Disambung Ke Grid (%)** *(Percentage Connected to Grid)(%)*
1.	**Biomass**	Tangkai Sawit *(Empty Fruit Bunch)*	19	155.5	133.2	46.6
		Sisa Kayu *(Wood Chips)*	1	6.6	6.6	2.3
		Sekam Padi *(Rice Husk)*	1	10.0	10	3.5
		Sisa Pepejal *(Municipal Solid Waste)*	4	25.0	25.0	8.8
2.	**Gas Landfill** *(Landfill Gas)*		4	9.0	9.0	3.2
3.	**Hidro Mini** *(Mini Hydro)*		26	103.2	101.9	35.6
4.	**Angin & Solar** *(Wind & Solar)*		0	0.0	0.0	0.0
	Jumlah *(Total)*		55	309.3	285.7	100%

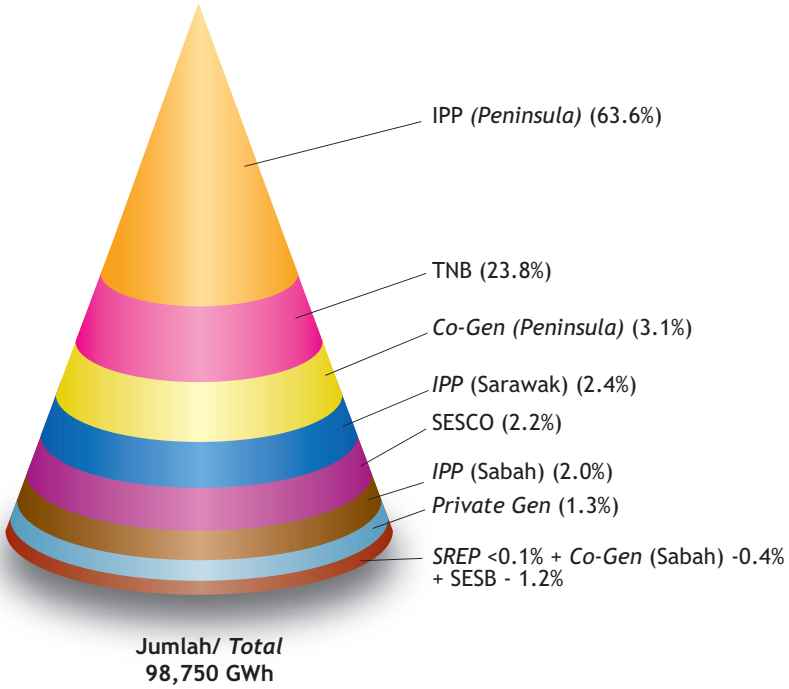
Note : SCORE - Special Committee on Renewable Energy



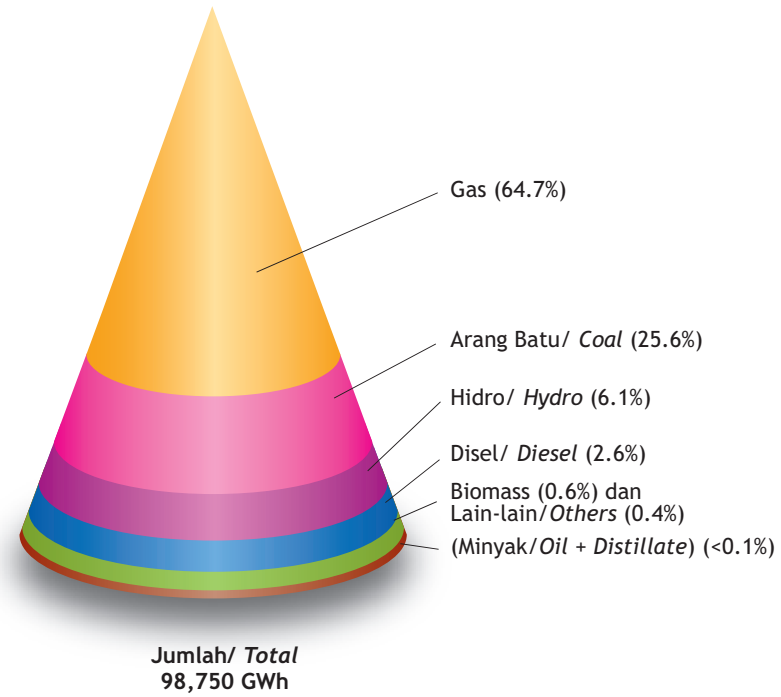
Kapasiti Penjanaan Mengikut Jenis Loji Di Malaysia
Generation Plant Mix in Malaysia



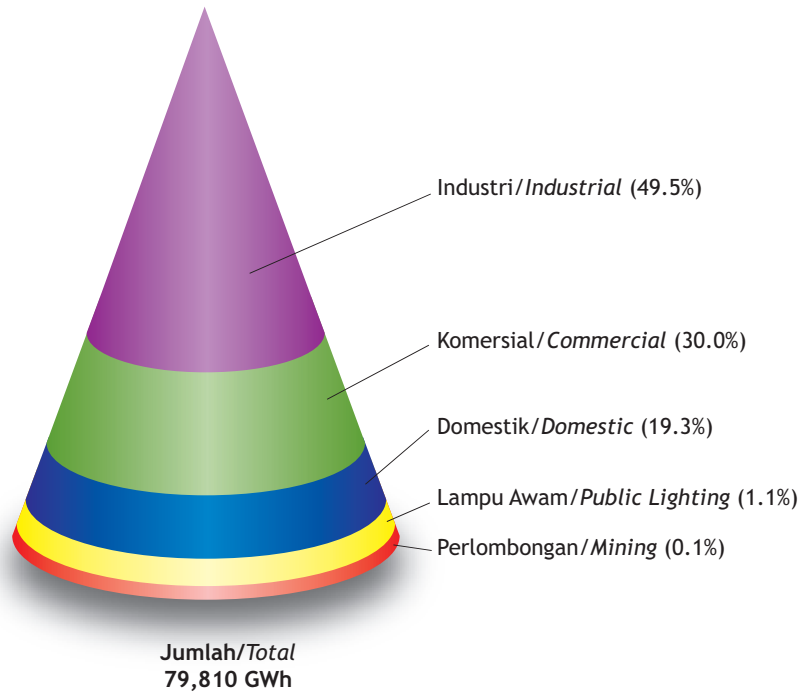
Kapasiti Penjanaan Penjana-Penjana Utama Di Malaysia
Generation Capacity of Major Power Producers in Malaysia



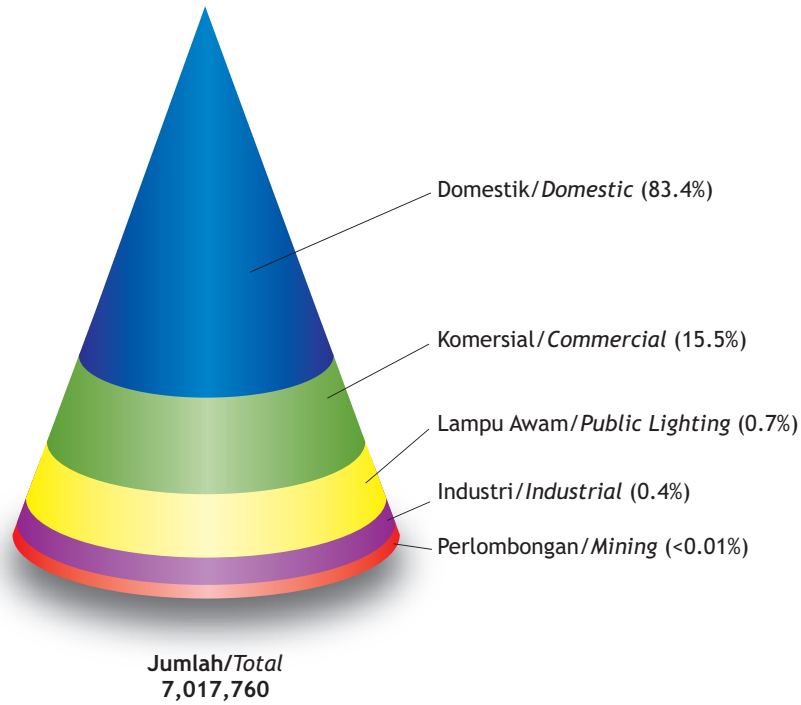
Penjanaan Penjana-Penjana Utama di Malaysia
Generation by Major Power Producers in Malaysia



Penjanaan Mengikut Sumber Bahanapi Di Malaysia
Generation Mix in Malaysia

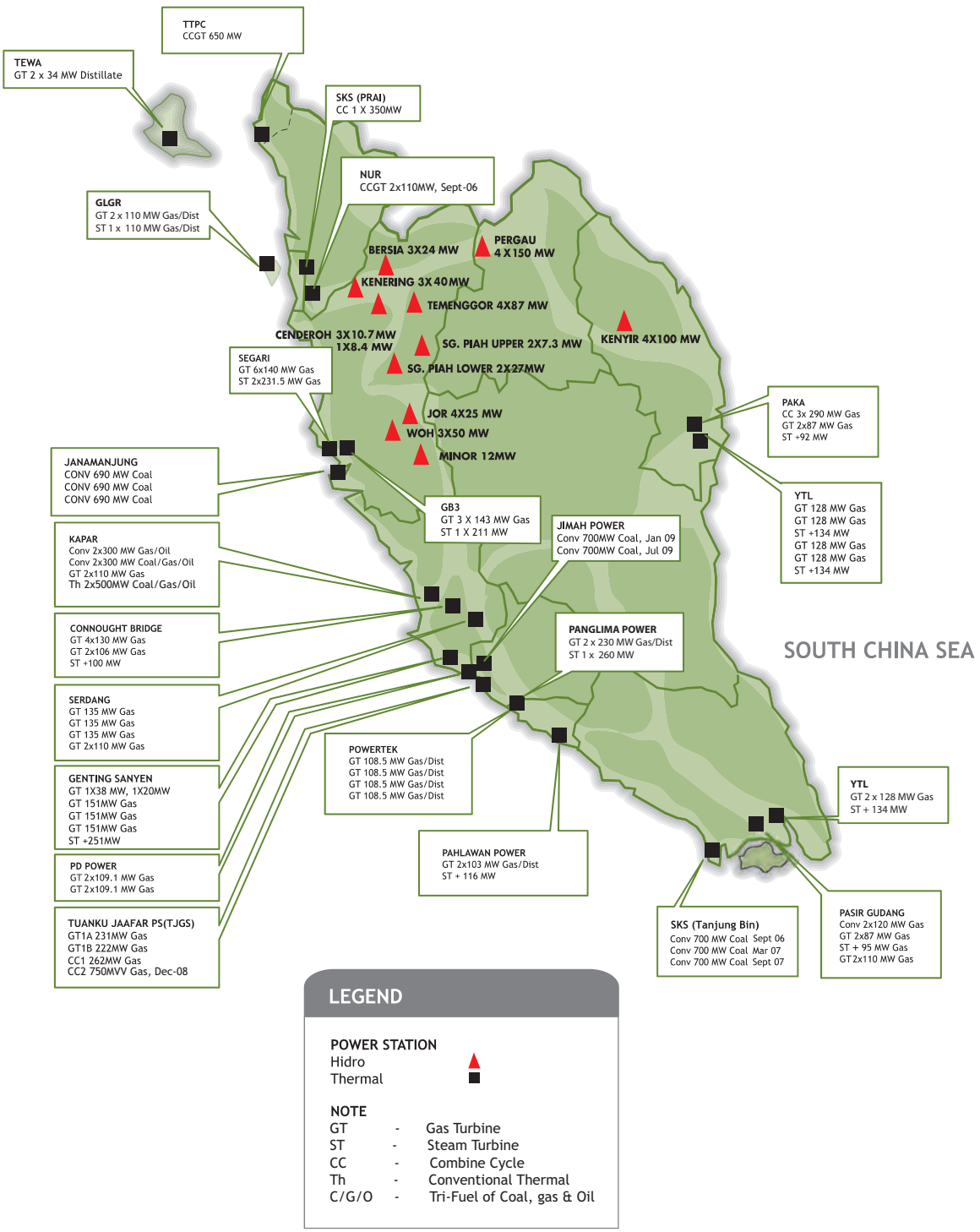


Jualan Tenaga TNB, SESB dan Syarikat SESCO Mengikut Sektor
Sales of Electricity of TNB, SESB and Syarikat SESCO According to Sectors



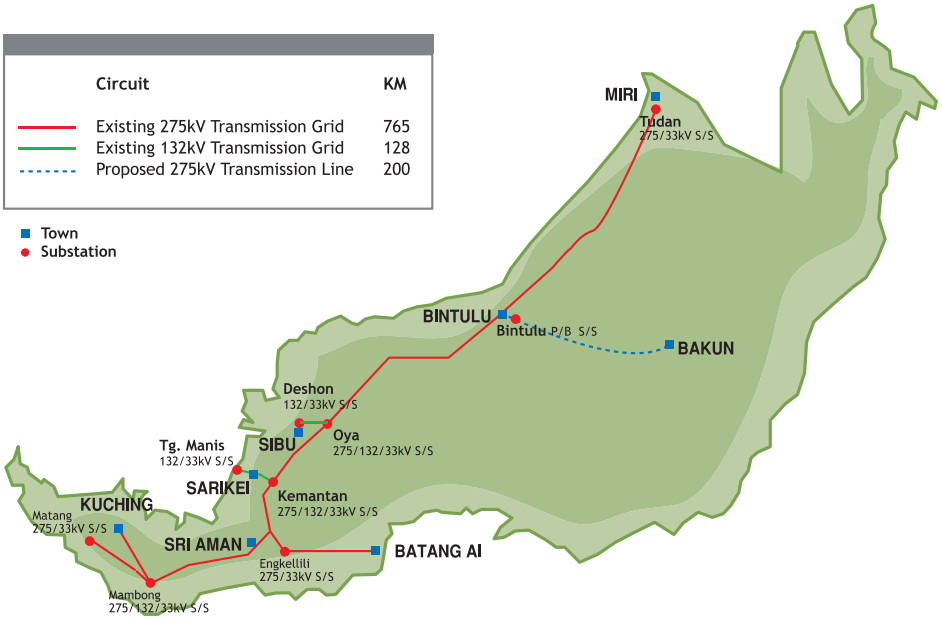
Bilangan Pengguna TNB, SESB dan Syarikat SESCO Mengikut Sektor
Electricity Consumer of TNB, SESB and Syarikat SESCO According to Sectors

STESEN JANAKUASA UTAMA DI SEMENANJUNG MALAYSIA
MAJOR GENERATION STATIONS IN PENINSULAR MALAYSIA

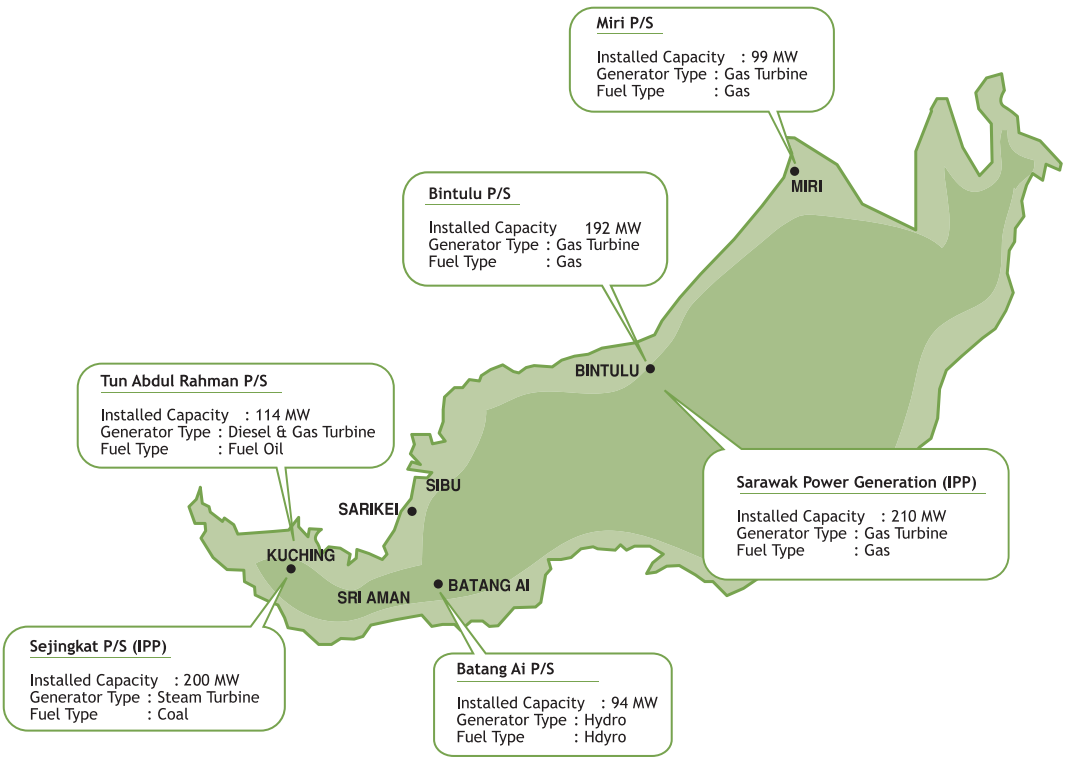


SISTEM GRID UTAMA DI SEMENANJUNG MALAYSIA
MAIN GRID SYSTEM IN PENINSULAR MALAYSIA

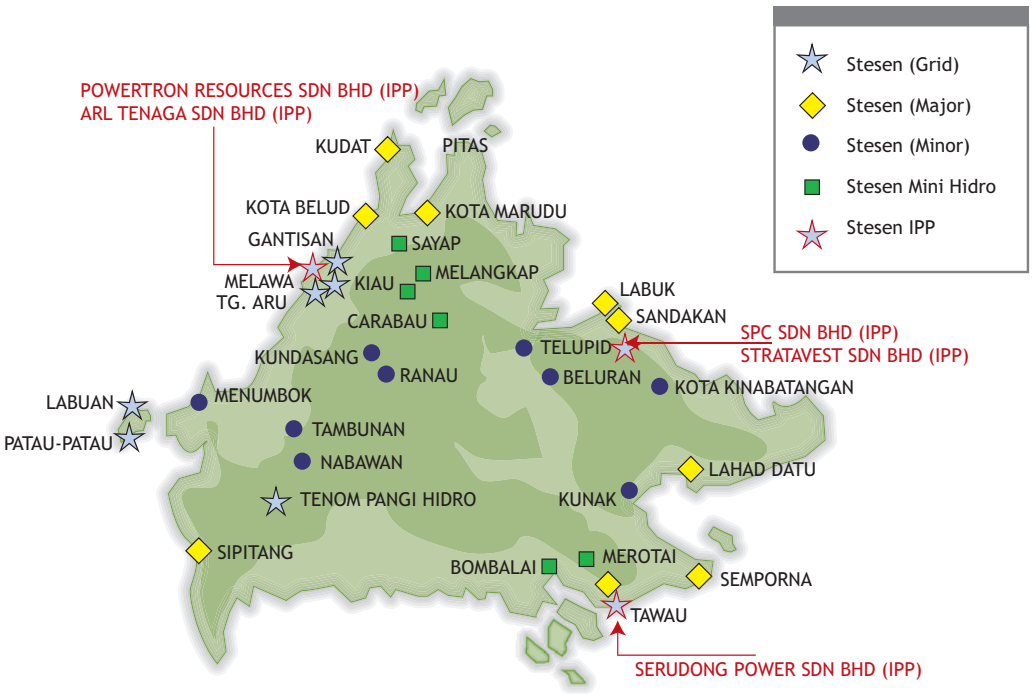
SISTEM GRID DI SARAWAK
GRID SYSTEM IN SARAWAK



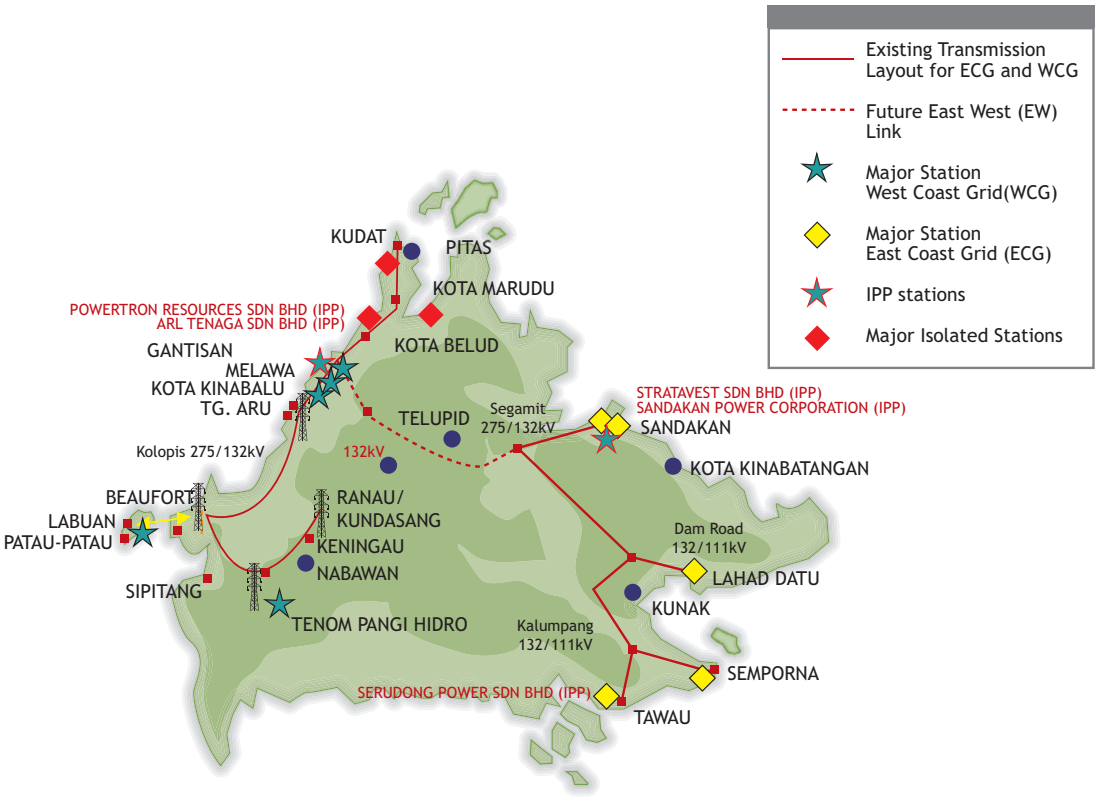
STESEN JANAKUASA UTAMA DI SARAWAK
MAJOR GENERATION STATIONS IN SARAWAK



SISTEM JANAKUASA UTAMA DI SABAH
MAJOR GENERATION STATION IN SABAH



SISTEM GRID DI SABAH
GRID SYSTEM IN SABAH



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