

**ELEKTRIK**



**ELECTRICITY**

## **ELEKTRIK**

### **Nota Keterangan**

1. Data yang diterbitkan menunjukkan jumlah penjanaan elektrik di dalam negara. Jumlah bekalan ditunjukkan secara berasingan bagi pemasangan perbadanan awam iaitu Tenaga Nasional Berhad (TNB), Sabah Electricity Sdn. Bhd. (SESB) dan Sarawak Energy Bhd. (SEB) dan juga pemasangan swasta.
2. Sumber data bagi tenaga elektrik diperoleh daripada TNB, SESB, SEB dan pengeluar tenaga bebas.

## ***ELECTRICITY***

### ***Explanatory Notes***

1. *The published data refer to total electricity generated in the country. Total supply is shown separately for public corporations which are Tenaga Nasional Berhad (TNB), Sabah Electricity Sdn. Bhd. (SESB) and Sarawak Energy Bhd (SEB) and also private installations.*
2. *The source of data for electricity are obtained from TNB, SESB, SEB and independent power producers.*

**JADUAL 17.1 : ELEKTRIK YANG DIJANAKAN, 1955 – 2015, MALAYSIA**

Table 17.1 : Electricity Generated, 1955 – 2015, Malaysia

(Juta/ Million) KWH

Jenis Type	1955	1956	1957	1958	1959	1960	1961
<b>1. Pemasangan Awam</b>							
<i>Public Installations</i>							
a. Stesen Wap <i>Steam Stations</i>	567	604	680	576	609	862	985
b. Stesen Diesel <i>Diesel Stations</i>	61	80	77	81	86	92	99
c. Stesen Hidro <i>Hydro Stations</i>	199	202	213	171	165	166	185
d. Turbin Gas <i>Gas Turbines</i>	..	..	..	..	..	..	..
e. Lain-lain <i>Others</i>	..	..	..	..	..	..	..
<b>Jumlah</b> <i>Total</i>	827	886	970	828	860	1,120	1,269
<b>2. Pemasangan Swasta</b>							
<i>Private Installations</i>							
a. Stesen Wap <i>Steam Stations</i>	44	35	21	3	..	..	..
b. Stesen Diesel <i>Diesel Stations</i>	41	45	43	34	33	40	46
c. Stesen Hidro <i>Hydro Stations</i>	36	36	36	29	26	29	30
d. Turbin Gas <i>Gas Turbines</i>	..	..	..	..	..	..	..
e. Lain-lain <i>Others</i>	..	..	..	..	..	..	..
<b>Jumlah</b> <i>Total</i>	121	116	100	66	59	69	76
<b>3. Jumlah Mengikut Jenis</b>							
<i>Total by Type</i>							
a. Stesen Wap <i>Steam Stations</i>	611	639	701	579	609	862	985
b. Stesen Diesel <i>Diesel Stations</i>	102	125	120	115	119	132	145
c. Stesen Hidro <i>Hydro Stations</i>	235	238	249	200	191	195	215
d. Turbin Gas <i>Gas Turbines</i>	..	..	..	..	..	..	..
e. Lain-lain <i>Others</i>	..	..	..	..	..	..	..
<b>JUMLAH</b> <i>TOTAL</i>	948	1,002	1,070	894	919	1,189	1,345

JADUAL 17.1 : ELEKTRIK YANG DIJANAKAN, 1955 – 2015, MALAYSIA (samb.)

Table 17.1 : Electricity Generated, 1955 – 2015, Malaysia (cont'd)

(Juta Million) KWH

Jenis Type	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
<b>1. Pemasangan Awam</b>										
<i>Public Installations</i>										
a. Stesen Wap <i>Steam Stations</i>	1,076	1,109	1,078	1,304	1,458	1,713	1,951	1,878	1,944	2,347
b. Stesen Diesel <i>Diesel Stations</i>	115	136	153	156	148	112	82	92	113	339
c. Stesen Hidro <i>Hydro Stations</i>	209	299	531	575	677	711	790	1,000	1,189	1,033
d. Turbin Gas <i>Gas Turbines</i>	..	..	..	..	..	..	..	..	..	..
e. Lain-lain <i>Others</i>	..	..	..	..	..	..	..	..	..	..
<b>Jumlah</b> <i>Total</i>	1,400	1,544	1,762	2,035	2,283	2,536	2,823	2,970	3,246	3,719
<b>2. Pemasangan Swasta</b>										
<i>Private Installations</i>										
a. Stesen Wap <i>Steam Stations</i>	..	..	..	..	..	..	..	..	..	..
b. Stesen Diesel <i>Diesel Stations</i>	48	60	79	81	89	92	83	84	88	54
c. Stesen Hidro <i>Hydro Stations</i>	26	18	12	12	15	15	15	14	13	13
d. Turbin Gas <i>Gas Turbines</i>	..	..	..	..	..	..	..	..	..	..
e. Lain-lain <i>Others</i>	..	..	..	..	..	..	..	..	..	..
<b>Jumlah</b> <i>Total</i>	74	78	91	93	104	107	98	98	101	67
<b>3. Jumlah Mengikut Jenis</b>										
<i>Total by Type</i>										
a. Stesen Wap <i>Steam Stations</i>	1,076	1,109	1,078	1,304	1,458	1,713	1,951	1,878	1,944	2,347
b. Stesen Diesel <i>Diesel Stations</i>	163	196	232	237	237	204	165	176	201	393
c. Stesen Hidro <i>Hydro Stations</i>	235	317	543	587	692	726	805	1,014	1,202	1,046
d. Turbin Gas <i>Gas Turbines</i>	..	..	..	..	..	..	..	..	..	..
e. Lain-lain <i>Others</i>	..	..	..	..	..	..	..	..	..	..
<b>JUMLAH</b> <i>TOTAL</i>	1,474	1,622	1,853	2,128	2,387	2,643	2,921	3,068	3,347	3,786

JADUAL 17.1 : ELEKTRIK YANG DIJANAKAN, 1955 – 2015, MALAYSIA (samb.)

Table 17.1 : Electricity Generated, 1955 – 2015, Malaysia (cont'd)

(Juta/ Million) KWH

Jenis Type	1972	1973	1974	1975	1976	1977	1978	1979
<b>1. Pemasangan Awam</b>								
<i>Public Installations</i>								
a. Stesen Wap <i>Steam Stations</i>	2,704	3,157	3,765	4,176	4,848	5,690	6,242	6,330
b. Stesen Diesel <i>Diesel Stations</i>	396	450	504	572	643	691	858	1,012
c. Stesen Hidro <i>Hydro Stations</i>	1,142	1,108	996	994	907	759	819	1,119
d. Turbin Gas <i>Gas Turbines</i>	..	..	..	..	..	..	17	327
e. Lain-lain <i>Others</i>	..	..	..	..	..	..	..	..
<b>Jumlah</b> <i>Total</i>	4,242	4,715	5,265	5,742	6,398	7,140	7,936	8,788
<b>2. Pemasangan Swasta</b>								
<i>Private Installations</i>								
a. Stesen Wap <i>Steam Stations</i>	..	..	..	..	..	..	..	..
b. Stesen Diesel <i>Diesel Stations</i>	56	224	210	233	315	346	407	411
c. Stesen Hidro <i>Hydro Stations</i>	13	10	10	11	11	10	10	9
d. Turbin Gas <i>Gas Turbines</i>	..	21	22	24	25	26	24	26
e. Lain-lain <i>Others</i>	..	..	..	..	..	..	..	..
<b>Jumlah</b> <i>Total</i>	69	255	242	268	351	382	441	446
<b>3. Jumlah Mengikut Jenis</b>								
<i>Total by Type</i>								
a. Stesen Wap <i>Steam Stations</i>	2,704	3,157	3,765	4,176	4,848	5,690	6,242	6,330
b. Stesen Diesel <i>Diesel Stations</i>	452	674	714	805	958	1,037	1,265	1,423
c. Stesen Hidro <i>Hydro Stations</i>	1,155	1,118	1,006	1,005	918	769	829	1,128
d. Turbin Gas <i>Gas Turbines</i>	..	21	22	24	25	26	41	353
e. Lain-lain <i>Others</i>	..	..	..	..	..	..	..	..
<b>JUMLAH</b> <i>TOTAL</i>	4,311	4,970	5,507	6,010	6,749	7,522	8,377	9,234

JADUAL 17.1 : ELEKTRIK YANG DIJANAKAN, 1955 – 2015, MALAYSIA (samb.)

Table 17.1 : Electricity Generated, 1955 – 2015, Malaysia (cont'd)

(Juta/ Million) KWH

Jenis Type	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
<b>1. Pemasangan Awam</b>													
<i>Public Installations</i>													
a. Stesen Wap <i>Steam Stations</i>	6,903	7,312	7,905	8,545	7,895	6,818	7,437	7,504	7,855	10,424	12,456	14,022	14,568
b. Stesen Diesel <i>Diesel Stations</i>	1,102	1,172	1,288	1,399	1,197	1,127	841	812	821	888	1,019	1,053	907
c. Stesen Hidro <i>Hydro Stations</i>	1,388	1,564	1,275	1,674	3,384	3,757	4,050	4,880	5,580	5,266	3,943	4,405	4,331
d. Turbin Gas <i>Gas Turbines</i>	297	312	354	467	631	2,478	3,085	3,520	4,225	4,111	6,131	7,150	10,556
e. Lain-lain <i>Others</i>	..	..	..	..	..	..	..	..	..	..	..	..	..
<b>Jumlah</b> <i>Total</i>	9,690	10,360	10,822	12,085	13,107	14,180	15,413	16,716	18,481	20,689	23,549	26,630	30,362
<b>2. Pemasangan Swasta</b>													
<i>Private Installations</i>													
a. Stesen Wap <i>Steam Stations</i>	..	..	..	3	3	71	135	138	121	378	441	285	303
b. Stesen Diesel <i>Diesel Stations</i>	458	491	630	423	410	478	424	454	450	472	496	532	461
c. Stesen Hidro <i>Hydro Stations</i>	10	14	15	11	13	18	19	24	23	27	39	39	26
d. Turbin Gas <i>Gas Turbines</i>	28	30	31	133	119	249	298	284	287	323	738	849	734
e. Lain-lain <i>Others</i>	..	..	..	..	..	..	..	..	..	..	..	..	..
<b>Jumlah</b> <i>Total</i>	496	535	676	570	545	816	876	900	881	1,200	1,714	1,705	1,524
<b>3. Jumlah Mengikut Jenis</b>													
<i>Total by Type</i>													
a. Stesen Wap <i>Steam Stations</i>	6,903	7,312	7,905	8,548	7,898	6,889	7,572	7,642	7,976	10,802	12,897	14,307	14,871
b. Stesen Diesel <i>Diesel Stations</i>	1,560	1,663	1,918	1,822	1,607	1,605	1,265	1,266	1,271	1,360	1,515	1,585	1,368
c. Stesen Hidro <i>Hydro Stations</i>	1,398	1,578	1,290	1,685	3,397	3,775	4,069	4,904	5,603	5,293	3,982	4,444	4,357
d. Turbin Gas <i>Gas Turbines</i>	325	342	385	600	750	2,727	3,383	3,804	4,512	4,434	6,869	7,999	11,290
e. Lain-lain <i>Others</i>	..	..	..	..	..	..	..	..	..	..	..	..	..
<b>JUMLAH</b> <b>TOTAL</b>	10,186	10,895	11,498	12,655	13,651	14,996	16,289	17,616	19,362	21,889	25,263	28,335	31,886

JADUAL 17.1 : ELEKTRIK YANG DIJANAKAN, 1955 – 2015, MALAYSIA (samb.)

Table 17.1 : Electricity Generated, 1955 – 2015, Malaysia (cont'd)

(Juta/ Million) KWH

Jenis Type	1993	1994	1995	1996	1997	1998	1999	2000
<b>1. Pemasangan Awam</b>								
<i>Public Installations</i>								
<b>a. Stesen Wap</b>	15,336	13,787	14,096	14,753	14,699	13,819	13,312	12,241
<i>Steam Stations</i>								
<b>b. Stesen Diesel</b>	966	1,027	1,083	1,135	1,401	1,865	1,809	2,048
<i>Diesel Stations</i>								
<b>c. Stesen Hidro</b>	4,921	6,521	6,166	5,139	3,917	4,799	7,460	6,835
<i>Hydro Stations</i>								
<b>d. Turbin Gas</b>	12,886	17,207	23,019	29,314	37,038	37,986	37,946	43,574
<i>Gas Turbines</i>								
<b>e. Lain-lain</b>	..	..	..	..	..	395	481	503
<i>Others</i>								
<b>Jumlah</b>								
<i>Total</i>	34,109	38,542	44,364	50,341	57,055	58,864	61,008	65,201
<b>2. Pemasangan Swasta</b>								
<i>Private Installations</i>								
<b>a. Stesen Wap</b>	273	343	277	247	266	275	274	290
<i>Steam Stations</i>								
<b>b. Stesen Diesel</b>	588	511	926	999	259	228	186	161
<i>Diesel Stations</i>								
<b>c. Stesen Hidro</b>	4	..	..	..	..	..	..	..
<i>Hydro Stations</i>								
<b>d. Turbin Gas</b>	605	538	696	824	833	893	928	870
<i>Gas Turbines</i>								
<b>e. Lain-lain</b>	..	123	369	408	262	211	157	164
<i>Others</i>								
<b>Jumlah</b>								
<i>Total</i>	1,470	1,515	2,268	2,478	1,620	1,607	1,545	1,485
<b>3. Jumlah Mengikut Jenis</b>								
<i>Total by Type</i>								
<b>a. Stesen Wap</b>	15,609	14,130	14,373	15,000	14,965	14,094	13,586	12,531
<i>Steam Stations</i>								
<b>b. Stesen Diesel</b>	1,554	1,538	2,009	2,134	1,660	2,093	1,995	2,209
<i>Diesel Stations</i>								
<b>c. Stesen Hidro</b>	4,925	6,521	6,166	5,139	3,917	4,799	7,460	6,835
<i>Hydro Stations</i>								
<b>d. Turbin Gas</b>	13,491	17,745	23,715	30,138	37,871	38,879	38,874	44,444
<i>Gas Turbines</i>								
<b>e. Lain-lain</b>	..	123	369	408	262	606	638	667
<i>Others</i>								
<b>JUMLAH</b>								
<i>TOTAL</i>	35,579	40,057	46,632	52,819	58,675	60,471	62,553	66,686

JADUAL 17.1 : ELEKTRIK YANG DIJANAKAN, 1955 – 2015, MALAYSIA (samb.)

Table 17.1 : Electricity Generated, 1955 – 2015, Malaysia (cont'd)

(Juta/ Million) KWH

Jenis Type	2001	2002	2003	2004	2005	2006	2007	2008
<b>1. Pemasangan Awam</b> <i>Public Installations</i>								
a. Stesen Wap <i>Steam Stations</i>	11,943	16,322	20,936	19,339	22,936	24,075	24,954	25,350
b. Stesen Diesel <i>Diesel Stations</i>	2,217	2,352	2,758	2,613	2,837	2,997	1,996	1,790
c. Stesen Hidro <i>Hydro Stations</i>	6,039	5,271	4,971	5,926	6,601	6,779	7,010	7,190
d. Stesen Turbin Gas <i>Gas Turbines Stations</i>	49,983	49,328	53,130	60,412	60,946	63,841	67,694	69,194
e. Stesen Arang Batu <i>Coal Stations</i>	634	601	732	913	960	1,213	1,209	1,333
f. Lain-lain <i>Others</i>	0	0	0	0	0	0	63	66
<b>Jumlah</b> <i>Total</i>	70,816	73,874	82,526	89,202	94,280	98,906	102,927	104,923
<b>2. Pemasangan Swasta</b> <i>Private Installations</i>								
a. Stesen Wap <i>Steam Stations</i>	251	277	255	286	275	223	239	287
b. Stesen Diesel <i>Diesel Stations</i>	197	194	198	193	178	189	174	179
c. Stesen Hidro <i>Hydro Stations</i>	..	..	..	1	..	..	1	..
d. Turbin Gas <i>Gas Turbines</i>	852	819	878	811	1,316	1,357	1,444	1,371
e. Stesen Arang Batu <i>Coal Stations</i>	0	0	0	0	0	0	0	0
f. Lain-lain <i>Others</i>	164	164	164	169	166	166	166	166
<b>Jumlah</b> <i>Total</i>	1,464	1,454	1,495	1,459	1,934	1,935	2,023	2,004
<b>3. Jumlah Mengikut Jenis</b> <i>Total by Type</i>								
a. Stesen Wap <i>Steam Stations</i>	12,194	16,599	21,191	19,624	23,211	24,298	25,193	25,638
b. Stesen Diesel <i>Diesel Stations</i>	2,414	2,546	2,955	2,805	3,015	3,187	2,170	1,969
c. Stesen Hidro <i>Hydro Stations</i>	6,039	5,271	4,971	5,926	6,601	6,779	7,011	7,190
d. Turbin Gas <i>Gas Turbines</i>	50,835	50,147	54,009	61,222	62,262	65,198	69,138	70,565
e. Stesen Arang Batu <i>Coal Stations</i>	634	601	732	913	960	1,213	1,209	1,333
f. Lain-lain <i>Others</i>	164	164	164	169	166	166	229	232
<b>JUMLAH</b> <b>TOTAL</b>	72,280	75,328	84,022	90,661	96,214	100,841	104,950	106,927



JADUAL 17.1 : ELEKTRIK YANG DIJANAKAN, 1955 – 2015, MALAYSIA (samb.)

Table 17.1 : Electricity Generated, 1955 – 2015, Malaysia (cont'd)

(Juta/ Million) KWH

Jenis Type	2009	2010	2011	2012	2013	2014	2015
<b>1. Pemasangan Awam</b>							
<i>Public Installations</i>							
a. Stesen Wap <i>Steam Stations</i>	32,150	..	..	..	..	..	..
b. Stesen Diesel <i>Diesel Stations</i>	1,776	1,859	4,867	3,703	2,640	2,155	943
c. Stesen Hidro <i>Hydro Stations</i>	6,625	6,251	7,648	9,069	11,619	13,244	15,732
d. Turbin Gas <i>Gas Turbines</i>	61,899	60,172	50,720	55,432	62,915	66,966	63,367
e. Stesen Arang Batu <i>Coal Stations</i>	2,648	45,805	49,413	52,435	50,779	51,365	57,953
f. Lain-lain <i>Others</i>	105	832	4,042	2,259	1,635	1,246	828
<b>Jumlah</b> <i>Total</i>	105,203	114,919	116,690	122,898	129,588	134,977	138,822
<b>2. Pemasangan Swasta</b>							
<i>Private Installations</i>							
a. Stesen Wap <i>Steam Stations</i>	233	259	261	366	368	363	313
b. Stesen Diesel <i>Diesel Stations</i>	182	185	189	166	159	157	154
c. Stesen Hidro <i>Hydro Stations</i>	0	0	0	0	0	0	0
d. Turbin Gas <i>Gas Turbines</i>	1,333	1,278	1,482	1,649	1,766	1,737	1,693
e. Stesen Arang Batu <i>Coal Stations</i>	0	0	0	0	0	0	0
f. Lain-lain <i>Others</i>	166	166	166	166	166	166	166
<b>Jumlah</b> <i>Total</i>	1,913	1,888	2,098	2,348	2,459	2,423	2,326
<b>3. Jumlah Mengikut Jenis</b>							
<i>Total by Type</i>							
a. Stesen Wap <i>Steam Stations</i>	32,382	259	261	366	368	363	313
b. Stesen Diesel <i>Diesel Stations</i>	1,958	2,044	5,057	3,869	2,799	2,312	1,097
c. Stesen Hidro <i>Hydro Stations</i>	6,625	6,251	7,648	9,069	11,619	13,244	15,732
d. Turbin Gas <i>Gas Turbines</i>	63,231	61,450	52,202	57,082	64,680	68,703	65,060
e. Stesen Arang Batu <i>Coal Stations</i>	2,648	45,805	49,413	52,435	50,779	51,365	57,953
f. Lain-lain <i>Others</i>	271	998	4,208	2,425	1,801	1,412	994
<b>JUMLAH</b> <i>TOTAL</i>	107,116	116,808	118,788	125,245	132,047	137,400	141,147