

# WEC 國家別 에너지 統計

編輯者註：本 統計資料는 WEC 本部가 會員國에서 提出된 National Energy Data Profiles 를 分析하여 相互比較가 可能한 31個國의 Data 를 綜合 要約한 것을 이에 轉載한 것이다.

## ENERGY TRENDS IN WEC MEMBER COUNTRIES 1970/84

This summary covers thirty-two countries. Although over forty WEC Member Committees prepared National Energy Data Profiles, released at the 13th WEC Congress held in Cannes, October 1986, all Profiles did not permit aggregation and cross-country comparison in an international summary, and some Profiles were received after the present summary had been prepared.

The summary includes the major consuming countries of Western Europe, North and South America, Oceania, India and Mexico. Should the number of WEC Member Committees producing national energy profiles increase in the future, the usefulness of the data for evaluating energy developments and prospects will improve correspondingly.

For about a decade before the early 1970's world energy growth and overall economic growth had been rapid and of similar magnitude. In 1973, however, the first major oil price increase set in force powerful market forces which were to alter the structure of world energy supply/demand during the next decade. This is reflected in the data provided in this 32-country summary.

While economic growth fell from the annual rate of 5% or so, which had typified the 1960's, to some 3% p.a. in the 1970's, the annual growth of energy requirements dropped below 2%. It is generally accepted that this reflects a structural change in the former one-for-one relationship between economic growth and energy growth.

Given the relatively short period involved, the impact of higher energy prices on domestic energy production, overall requirements and net imports in the 1970/84 period was considerable.

The 32 countries increased the share of indigenous production in their total requirements from 72% to 80%. Oil producing countries such as Norway and the United Kingdom made a significant contribution to this change but many other countries also reduced their import dependence.

While the growth of energy requirements overall was low in relation to economic growth, electricity demand grew at 4.1% annually against GNP/GDP growth of 3%. Electricity's share in final energy demand rose from 10% in 1970 to 15% in 1984. Gas also grew during the period, increasing its share in final energy demand from 18% in 1970 to 19% in 1984.

Areas producing significant structural change on the demand side were the industrial sector (35% of final demand in 1984 against 40% in 1970) and transport (28% of final demand in 1984 against 24% in 1970).

These trends should be interpreted with prudence until confirmed during a period of economic and, particularly, industrial recovery.

Table 1 : GENERAL DATA

	Population Millions	
	1970	1984
Argentina	24	30
Australia	13	16
Austria	7	8
Belgium	10	10
Brazil	93	131
Canada	21	25
Denmark	5	5
Finland	5	5
France	51	55
Germany(Federal Republic)	61	61
Greece	9	10
Iceland	0	0
India	539	731
Ireland	3	4
Italy	54	57
Japan	104	120
Luxembourg	0	0
Mexico	49	78
Netherlands	13	14
New Zealand	3	3
Norway	4	4
Paraguay	2	4
Poland	33	37
Portugal	9	10
South Korea	32	41
Spain	34	38
Sweden	8	8
Switzerland	6	7
Turkey	36	49
United Kingdom	56	56
Uruguay	3	3
United States	205	237
TOTAL WEC*	1490	1857

NOTE : Data for 1985 is not included as it is not available for most non-OECD Countries.

\*Other WEC Countries not included due to data incompleteness

For Argentina and India GNP is in 1970 and 1975 prices respectively

	GNP / GDP Billion US \$ (1980)			GNP / GDP / Capita US \$ (1980)	
	1970	1984	% / a	1970	1984
Argentina	30	35	1.2	1238	1169
Australia	105	162	3.2	8169	10398
Austria	54	81	3.0	7182	10699
Belgium	86	120	2.4	8898	12158
Brazil	110	251	6.1	1183	1916
Canada	168	287	3.9	7898	11424
Denmark	53	72	2.2	10803	14053
Finland	36	57	3.3	7857	11725
France	459	685	2.9	9037	12475
Germany (Federal Rep.)	623	844	2.2	10276	13804
Greece	25	41	3.5	2883	4169
Iceland	2	3	4.5	8700	13500
India	68	113	3.7	126	155
Ireland	12	21	3.7	4186	5852
Italy	291	405	2.4	5417	7103
Japan	673	1225	4.4	6491	10210
Luxembourg	3	5	2.7	10088	13806
Mexico	98	189	4.8	2000	2423
Netherlands	127	172	2.2	9757	11936
New Zealand	19	26	2.3	6681	8003
Norway	36	64	4.2	9385	15568
Paraguay	1	5	16.8	258	1445
Poland	na	na	na	na	na
Portugal	16	26	3.6	1731	2522
South Korea	28	82	8.0	875	2000
Spain	147	222	3.0	4344	5787
Sweden	102	133	1.9	12723	15947
Switzerland	90	104	1.1	14345	16068
Turkey	33	69	5.4	925	1413
United Kingdom	442	565	1.8	7946	9999
Uruguay	8	9	1.1	2669	2910
United States	2059	2949	2.6	10042	12443
TOTAL WEC*	6004	9023	3.0	4030	4858

Table 2: PRIMARY ENERGY SUPPLY (Requirements)

	Total PJ		% / a
	1970	1984	
Argentina	1369	2040	2.9
Australia	2210	3158	2.6
Austria	879	1129	1.8
Belgium	1674	1737	.3
Brazil	2868	6605	6.1
Canada	6420	9353	2.7
Denmark	837	721	-1.1
Finland	810	1064	2.0
France	6338	8006	1.7
Germany(Federal Republic)	9912	10988	.7
Greece	351	733	5.4
Iceland	35	63	4.2
India	2631	5424	5.3
Ireland	267	366	2.3
Italy	4710	5799	1.5
Japan	11453	15653	2.3
Luxembourg	182	132	-2.2
Mexico	2029	5225	7.0
Netherlands	2095	2557	1.4
New Zealand	323	531	3.6
Norway	732	1106	3.0
Paraguay	42	84	5.1
Poland	3481	4945	2.5
Portugal	283	534	4.7
South Korea	808	2141	7.2
Spain	1742	3079	4.2
Sweden	1822	2142	1.2
Switzerland	864	1061	1.5
Turkey	522	1585	8.3
United Kingdom	8692	8058	-.5
Uruguay	108	137	1.7
United States	66248	74512	.8
TOTAL WEC*	142733	180665	1.7

NOTE : Data for 1985 is not included as it is not available for most non-OECD countries.

\*Other WEC countries not included due to data incompleteness

	Per Capita GJ		Indigenous Production as a % of TPER	
	1970	1984	1970	1984
Argentina	57	68	92	99
Australia	172	203	93	152
Austria	118	150	52	43
Belgium	173	176	18	27
Brazil	31	50	71	80
Canada	301	372	104	118
Denmark	170	141	1	18
Finland	176	218	32	46
France	125	146	32	41
Germany(Federal Republic)	163	180	52	49
Greece	40	74	24	39
Iceland	177	261	38	59
India	5	7	82	93
Ireland	90	104	24	44
Italy	88	102	22	20
Japan	110	130	19	17
Luxembourg	534	367	5	4
Mexico	41	67	105	173
Netherlands	161	177	59	105
New Zealand	114	163	54	79
Norway	189	267	52	289
Paraguay	18	24	75	71
Poland	107	133	115	104
Portugal	31	53	33	25
South Korea	25	52	56	30
Spain	51	80	32	39
Swden	227	257	28	62
Switzerland	138	163	37	46
Turkey	15	32	67	57
United Kingdom	156	143	49	106
Uruguay	38	46	30	121
United States	323	314	93	91
TOTAL WEC*	96	97	72	80

Table 3 : FINAL ENERGY DEMAND

	Percentage shares of								
	Total (PJ)			Solid Fuels		Ref. Pet. Prod.		Gas	
	1970	1984	%/a	1970	1984	1970	1984	1970	1984
Argentina	907	1276	2.5	10	6	70	59	13	25
Australia	1543	2087	2.2	28	18	60	53	3	13
Austria	637	829	1.9	28	23	53	45	8	15
Belgium	1360	1306	-.3	27	16	58	48	8	22
Brazil	2356	4669	5.0	52	45	42	41	1	2
Canada	4601	6049	2.0	7	8	61	45	17	25
Denmark	680	589	-1.0	4	8	88	71	1	1
Finland	674	822	1.4	31	26	58	46	-	3
France	5074	5552	.6	19	9	66	59	6	17
Germany (Federal Rep.)	7378	8072	.6	24	12	61	54	5	17
Greece	277	524	4.7	14	13	75	71	-	-
Iceland	26	38	2.8	-	7	81	59	-	-
India	1960	3590	4.4	55	44	35	41	1	3
Ireland	203	271	2.1	27	24	63	55	2	9
Italy	3658	4407	1.3	8	6	71	60	11	20
Japan	8342	10544	1.7	18	14	65	60	3	5
Luxembourg	162	122	-2.0	61	45	33	35	1	10
Mexico	1361	3178	6.2	21	15	55	62	18	15
Netherlands	1587	2074	1.9	7	4	56	39	29	46
New Zealand	221	353	3.4	16	16	63	44	2	16
Norway	540	730	2.2	8	11	57	45	-	-
Paraguay	40	76	4.7	74	68	25	28	-	-
Poland	2421	3318	2.3	74	66	10	12	10	12
Portugal	212	385	4.4	22	12	67	72	1	1
South Korea	749	1875	6.8	55	43	41	48	-	-
Spain	1344	2077	3.2	17	10	70	69	1	3
Sweden	1413	1338	-.4	13	19	73	48	-	-
Switzerland	637	739	1.1	5	5	80	68	1	6
Turkey	398	1269	8.6	29	45	65	47	-	-
United Kingdom	6065	5608	-.6	28	10	51	46	9	29
Uruguay	77	76	-.1	21	29	70	57	-	-
United States	51003	54072	.4	12	10	51	51	28	23
TOTAL WEC*	107903	127914	1.2	18	15	55	51	17	18

NOTE :Data for 1985 is not included as it is not available for most non-OECD countries

\* Other WEC countries not included due to data incompleteness

Mexico - Electricity includes public utilities only.

Gas in the industry sector includes fuel input for electricity generation.

	Percentage shares of									
	Electricity		Other		Industrial		Transport		Non an,use	
	1970	1984	1970	1984	1970	1984	1970	1984	1970	1984
Argentina	7	10	24	31	41	37	35	33	-	-
Australia	10	16	18	21	48	39	31	38	3	3
Austria	12	17	41	38	35	35	18	23	6	4
Belgium	7	14	36	36	48	43	13	19	3	2
Brazil	6	12	10	19	16	21	24	20	-	-
Canada	14	21	38	33	32	37	26	26	4	3
Denmark	7	20	55	52	23	17	19	27	3	4
Finland	11	25	39	33	45	48	13	16	2	3
France	8	15	30	37	46	33	17	27	6	3
Germany(Federal Rep.)	10	17	40	40	39	35	17	22	5	3
Greece	11	16	34	29	34	31	29	37	3	3
Iceland	18	34	25	13	22	41	50	44	2	2
India	9	13	18	21	49	50	27	21	6	12
Ireland	9	12	41	39	32	34	24	24	4	3
Italy	10	14	30	34	48	37	19	26	4	3
Japan	14	20	19	26	61	47	17	22	3	3
Luxembourg	5	11	12	19	82	60	5	20	1	1
Mexico	6	7	27	25	38	36	35	39	-	-
Netherlands	8	11	41	39	38	41	16	18	4	2
New Zealand	19	24	31	25	28	39	35	32	5	3
Norway	34	44	30	30	45	47	20	19	5	4
Paraguay	1	4	7	7	4	6	15	17	-	-
Poland	7	10	39	49	48	44	13	7	-	-
Portugal	11	16	26	22	43	46	28	29	3	3
South Korea	4	9	38	39	25	42	13	13	-	-
Spain	12	17	20	21	49	43	26	33	5	3
Sweden	15	32	41	39	41	38	15	20	3	2
Switzerland	14	21	47	47	26	22	24	28	4	2
Turkey	6	8	35	49	27	28	34	21	3	3
United Kingdom	12	15	34	40	44	31	19	27	3	2
Uruguay	9	15	37	44	31	29	29	24	3	2
United States	10	15	31	31	37	31	29	34	3	3
TOTAL WEC*	10	15	31	32	40	35	24	28	3	3

Table 4 : ELECTRICITY SUPPLY

	Total GW		% / a
	1970	1984	
Argentina	21730	44920	5.3
Australia	49618	112308	6.0
Austria	24622	41058	3.7
Belgium	30899	54966	4.2
Brazil	48000	181000	9.9
Canada	207265	398006	4.8
Denmark	15830	27504	4.0
Finland	22519	50502	5.9
France	146331	299742	5.3
Germany(Federal Republic)	250355	398930	3.4
Greece	9842	27365	7.6
Iceland	1488	3977	7.3
India	61000	169000	7.6
Ireland	5791	11593	5.1
Italy	121388	203559	3.8
Japan	359500	648671	4.3
Luxembourg	3693	4349	1.2
Mexico	29000	87000	8.2
Netherlands	40517	66262	3.6
New Zealand	13983	27064	4.8
Norway	57366	98396	3.9
Paraguay	180	1115	13.9
Poland	60000	120000	5.1
Portugal	7506	19958	7.2
South Korea	9167	53808	13.5
Spain	54976	122357	5.9
Sweden	64704	124229	4.8
Switzerland	29427	45871	3.2
Turkey	8617	33266	10.1
United Kingdom	249744	282469	.9
Uruguay	2250	3810	3.8
United States	1625851	2602434	3.4
TOTAL WEC*	3633159	6365489	4.1

NOTE : Data for 1985 is not included as it is not available for most non-OECD countries.

\*Other WEC countries not included due to data incompleteness

Poland - Data includes district heating

S. Korea - Data not available for autoproduction of electricity in 1970