



INTERNATIONAL DATA BASE FOR THE U.S. RENEWABLE ENERGY INDUSTRY

May 1986

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(CORECT)**

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1. INTRODUCTION

1. INTRODUCTION

Purpose of the Data Base

The International Data Base for the U.S. Renewable Energy Industry was developed to provide the U.S. renewable energy industry with background data for identifying and analyzing promising foreign market opportunities for their products and services. Specifically, the data base provides the following information for 161 developed and developing countries:

- General Country Data - consisting of general energy indicators
- Energy Demand Data - covering commercial primary energy consumption
- Energy Resource Data - identifying annual average insolation, wind power, and river flow data
- Power System Data - indicating a wide range of electrical parameters
- Business Data - including currency and credit worthiness data.

Background

This report is being prepared for the Subcommittee on Technical Competitiveness of the Committee on Renewable Energy Commerce and Trade (CORECT). The CORECT, which was created by the Renewable Energy Industries Development Act of 1983 (P.L. 98-370) and signed into law by President Reagan on July 18, 1984, was established to enhance the export potential of the U.S. renewable energy industry.

The CORECT Subcommittee on Technical Competitiveness focuses on those issues that affect the competitiveness of U.S. renewable energy products and on appropriate actions for Federal involvement. The Subcommittee has discussed methods for addressing several areas for assistance required by the U.S. renewable energy industry, such as financing availability, market identification, and local design requirements^[1]. The principle goal of the Subcommittee is to apply the combined expertise of public and private sectors to optimize the

technological and cost-competitiveness of U.S. renewable energy products. The International Data Base for the U.S. Renewable Energy Industry contributes to this goal by filling a gap for country-level economic, energy, and business data that the renewable energy industry requires for overseas marketing and sales activities.

Methodology

The following approach was used to develop this data base:

Step 1: The initial step in developing the data base was a country screening process. In order for a country to be considered for the data base, it must have positive diplomatic, security, and trade relationships with the United States. All territories (e.g., American Samoa) were excluded from consideration. Based on this criteria, 161 countries were included in the data base; these countries are listed in Exhibit 1-1.

Step 2: During the next step, data was collected from a number of secondary sources through literature reviews and data bases. Sources include U.S. and international organizations such as the: World Bank, United Nations, Solar Energy Research Institute, and Los Alamos Scientific Laboratory. The types of data collected were energy, economic, demographic, business, marketing, statistical, and product price information.

Step 3:

Data collected for the 161 countries were then organized into the following five files:

- General Data File: This file consists of general energy indicators for each country. These indicators include population, gross domestic product (GDP), GDP per capita, total country area (square km), population per square km, urban population distribution vs rural population distribution, and the total number of villages in a country; an historical growth rate is provided for 1979-1980, with an average growth rate included for the period 1975-1980.
- Energy Demand File: This file covers the commercial primary energy consumption of each country. Specifically, statistical information provided includes: total demand growth rate (average between 1970 and 1980); percent of use for liquid fuels, solid fuels, natural gas, and

Exhibit 1-1. COUNTRIES INCLUDED IN DATA BASE

Afghanistan	Germany, East	Netherlands, Antilles	United Arab Emirates
Algeria	Germany, West	New Zealand	United Kingdom
Antigua/Barbuda	Ghana	Nicaragua	Uruguay
Argentina	Greece	Niger	Vanuatu
Australia	Grenada	Nigeria	Venezuela
Austria	Guatemala	Niue	Western Samoa
Bahamas	Guinea	Norway	Yemen Arab Republic
Bahrain	Guinea Bissau	Oman	Yugoslavia
Bangladesh	Guyana	Pakistan	Zaire
Barbados	Haiti	Panama	Zambia
Belgium	Honduras	Papua New Guinea	Zimbabwe
Belize	Hong Kong	Paraguay	
Benin	Hungary	Peru	
Bermuda	Iceland	Philippines	
Bolivia	India	Portugal	
Botswana	Indonesia	Qatar	
Brazil	Iraq	Romania	
Brunei	Ireland	Rwanda	
Bulgaria	Israel	St. Christopher/Nevis	
Burkina Faso	Italy	Saint Lucia	
Burma	Ivory Coast	St. Vincent Grenadines	
Burundi	Jamaica	San Marino	
Cameroon	Japan	Sao Tome/Principe	
Canada	Jordan	Saudi Arabia	
Cape Verde	Kenya	Senegal	
Central African Republic	Kiribati	Seychelles	
Chad	Korea, South	Sierra Leone	
Chile	Kuwait	Singapore	
China	Laos	Solomon Islands	
Colombia	Lebanon	Somalia	
Comoros	Lesotho	South Africa	
Congo	Liberia	Soviet Union	
Cook Islands	Libya	Spain	
Costa Rica	Liechtenstein	Sri Lanka	
Cyprus	Luxembourg	Sudan	
Czechoslovakia	Madagascar	Suriname	
Denmark	Malawi	Swaziland	
Djibouti	Malaysia	Sweden	
Dominica	Maldives	Switzerland	
Dominican Republic	Mali	Syria	
Ecuador	Malta	Taiwan	
Egypt	Mauritania	Tanzania	
El Salvador	Mauritius	Thailand	
Equatorial Guinea	Mexico	Togo	
Ethiopia	Monaco	Tonga	
Fiji	Morocco	Trinidad/Tobago	
Finland	Mozambique	Tunisia	
France	Nauru	Turkey	
Gabon	Nepal	Tuvalu	
Gambia	Netherlands	Uganda	

electricity; net import dependency (net energy imports); and prices for diesel fuel, regular gas, and kerosene. This data file also covers electricity sales by sector and electricity generation capacity, including hydro, steam, gas turbine, diesel, and other (geothermal, nuclear, and combined cycle). The electricity-generating capacity growth rate is also indicated, as are net imports, energy consumption, electrical capacity, energy per capita, electricity per capita, percent of population with access to electricity, and the number of villages with electricity.

- Energy Resource File: This file identifies annual average insolation, wind power, and river flow data for various climate regions within the specified country. Geothermal, ocean thermal, and potential annual biomass energy resources are cited for each country.
- Power System File: This file indicates such parameters as revenue meters, average revenue (\$/kWh), rate of return to the utility, system frequency (in hertz), voltage of power system, transmission and distribution losses, overall system capacity factor and load factor, major electric utility companies, other countries interconnected with the grid, and electricity tariffs. Also included in this file is electricity produced.
- Business Data File: This file includes currency data and credit worthiness data (based on conditions for medium-term guarantees and insurance by the U.S. Export-Import Bank). The top companies in the Third World, their sales volume, and their nature of business are listed. Also included is a listing of the principal types of banks in each country and their assets or deposits.

Uses of the Data Base

The data base may be used for a number of purposes. Examples of specific uses include:

- Identifying preliminary target markets
- Preparing initial project briefing reports
- Determining power compatibility for equipment
- Specifying local design and siting requirements
- Conducting energy trade-off studies in select countries
- Characterizing investment and financing requirements
- Providing a reference source for in-country discussions
- Calculating initial project life-cycle cost calculations.

Availability of the Data Base

The data base is available in the following formats:

- Hard Copy Report Form - The data base can be obtained in hard copy report form for either the full data base (e.g., all 161 countries), or for individual regions (e.g., Africa, Asia, Australia, Caribbean, Europe, North America, Oceania, and South America).
- Personal Computer Disk - The data base is also available on personal computer (PC) disks compatible with a IBM-PC. The data are stored on LOTUS files and can be easily manipulated by LOTUS commands. As with the hard copy form, the data are provided for all 161 countries, or can be classified by individual region.

Both hard copy and computer disk data bases can be obtained by contacting:

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(703) 998-0922

Limitations of the Data Base

The sources used in this data base were selected because they contain the latest and most consistent data available for all five files. Although more current data may exist for some of the data files in selected countries, it was believed that inclusion of the most current data available across the various countries and files would be most useful to the U.S. renewable energy industry as it allows cross-country comparison and ensures data consistency. Care should be taken when interpreting these data since statistical methods, coverage, and definitions vary significantly from country to country.

2. GENERAL DATA FILE

2. GENERAL DATA FILE

The General Data File provides economic and technical indicators of the status of the power sector in a country. Unless otherwise noted, the latest data available for each country is from 1982.

The following data sets are included in the General Data File:

- Population
 - In thousands, '000
 - 5-year growth rate, percent
 - 1-year growth rate, percent
- Gross Domestic Product (GDP)
 - U.S. million dollars
 - 5-year growth rate, percent
 - 1-year growth rate, percent
- GDP per Capita
 - U.S. dollars
 - 5-year growth rate, percent
 - 1-year growth rate, percent
- Total Area (square km)
- Population per square km
- Population
 - Urban, percent
 - Rural, percent
- Number of Villages
 - Total.

Chapter Notes

Note 1: The GDP data measure the total final output of all goods and services produced in an economy, including payments made to foreign nationals.

Note 2: GDP per capita figures were obtained by dividing the GDP at market prices in U.S. dollars by the population in mid-1982. Growth rates are given for the previous year, as well as for an average over the past 5 years.

Note 3: Due to the differences in national definitions of "urban" and "rural," cross-country comparisons should be interpreted with caution.

Note 4: Cross-country comparisons of the number of villages in a country should be interpreted with caution since the definition and size of villages differ substantially in each country.

GENERAL DATA FILE /a

REGION	COUNTRY	POPULATION			GDP			GDP/CAPITA		
		'000	5-Yr Grwth Pct	1-Yr Grwth Pct	US\$m	5-Yr Grwth Pct	1-Yr Grwth Pct	Total US\$	5-Yr Grwth Pct /d	1-Yr Grwth Pct /d
AS	Afghanistan	16769	2.6	2.6	3232 /d	0.3	0.8	192.7	0.2	-1.0
AF	Algeria	20309	3.1	3.3	44482	5.7	5.2	2190.3	3.7	-0.2
C	Antigua/Barbuda	78 /b	*	*	118	*	*	*	*	*
SA	Argentina	28400	1.6	1.6	71568	-1.0	-5.0	2520.0	-0.2	-0.6
AUS	Australia	15200 /c	*	*	164210 /c	*	*	10803.3 /c	*	*
E	Austria	7600 /c	*	*	66640 /c	*	*	8768.4 /c	*	*
C	Bahamas	218 /b	*	*	1079 /b	*	*	3769.5 /c	*	*
AS	Bahrain	397 /b	*	*	2531 /b	*	*	*	*	*
AS	Bangladesh	91550	2.4	2.6	12100	4.5	1.1	132.2	3.3	1.8
C	Barbados	252	0.3	0.3	772	2.2	-4.2	3063.5	5.1	2.8
E	Belgium	9900 /c	*	*	85240 /c	*	*	8610.1 /c	*	*
CA	Belize	152	1.8	1.4	154	1.6	-5.7	1013.2	4.2	-2.1
AF	Benin	3715	2.9	3.1	1178	6.5	4.0	317.1	2.1	2.2
C	Bermuda	*	*	*	*	*	*	*	*	*
SA	Bolivia	5878	2.7	2.7	5480	-0.4	-8.7	932.3	-0.2	-3.2
AF	Botswana	962	4.5	3.3	967	11.7	1.5	1005.2	3.4	*
SA	Brazil	126800	2.3	2.3	284032	3.7	1.0	2240.0	4.3	5.5
AS	Brunei	260 /b	*	*	4864 /b	*	*	*	*	*
E	Bulgaria	8900 /c	*	*	25743 /b	*	*	*	*	*
AF	Burkina Faso	6493	0.6 /d	0.7 /d	1396	3.3 /d	-5.5 /d	215.0	2.7	-6.2
AS	Burma	34924	2.0	2.0	6577	6.5	6.0	188.3	5.3	5.3
AF	Burundi	4346	2.3	2.8	1115	3.0	-3.2	256.6	3.7	-4.6
AF	Cameroon	8903	3.2	3.2	7509	7.6	5.3	843.3	5.1	3.6
NA	Canada	24600 /c	*	*	289570 /c	*	*	11771.1 /c	*	*
AF	Cape Verde	306	1.9	2.4	63	8.7	14.6	205.9	7.4	3.8
AF	Cent. Afrcn. Rep.	2431	2.3	2.6	782	-1.6	0.4	321.7	-1.6	-3.0
AF	Chad	4647	2.2	2.3	370	-13.6	-18.8	79.6	*	*
SA	Chile	11500	1.7	1.7	25415	4.0	-14.3	2210.0	6.2	5.9
AS	China	1008200	1.1	1.5	309963	6.3	7.4	307.4	6.6	6.5
SA	Colombia	26965	2.0	2.0	35067	4.1	0.9	1300.5	3.7	2.0
AF	Comoros	368	2.7	3.4	98 /d	3.7 /d	6.3 /d	243.0 /d	-0.2	3.8
AF	Congo	1712	3.3	3.5	2358	14.9	13.0	1377.3	-1.1	11.7
OC	Cook Islands	17 /b	*	*	18 /b	*	*	*	*	*
CA	Costa Rica	2402	2.4	2.3	4339	0.3	-9.0	1806.4	2.8	-2.2
AS	Cyprus	627	1.0	1.3	2283	6.0	4.8	3641.1	11.3	3.9
E	Czechoslovakia	15400 /c	*	*	40410 /b	*	*	*	*	*
E	Denmark	5100 /c	*	*	57000 /c	*	*	11176.5 /c	*	*
AF	Djibouti	412	6.0	3.1	339 /b	*	*	*	*	*
C	Dominica	75	1.1	1.3	37 /b	3.1	4.1	*	*	*
C	Dominican Rep.	5758	2.3	2.4	6955	3.9	1.6	1207.9	*	*
SA	Ecuador	8863	2.6	2.6	12437	4.6	1.8	1403.2	2.7	1.4
AF	Egypt	44315	2.7	2.2	27196	8.1	5.9	613.7	7.2	6.1
CA	El Salvador	4806	3.0	2.9	3098	-4.5	-5.2	644.6	-1.4	-13.6
AF	Equatrl. Guinea	353	1.7	1.8	*	*	*	*	*	*
AF	Ethiopia	32553	2.7	2.7	4302	3.2	1.4	132.2	1.4	2.7
OC	Fiji	658	2.1	2.6	1291	3.6	-2.5	1962.0	2.4	-3.2
E	Finland	4800 /c	*	*	48930 /c	*	*	10193.8 /c	*	*
E	France	54400 /c	*	*	537260 /c	*	*	9876.1 /c	*	*
AF	Gabon	682	1.5	1.6	3874	-5.1	1.9	5680.4	-12.7	-1.4
AF	Gambia	618	3.4	2.2	223	1.6	12.8	360.8	-1.7	5.1
E	Germany,East	16700 /c	*	*	*	*	*	*	*	*

GENERAL DATA FILE /a

REGION	COUNTRY	TOTAL	POP.	POPULATION		NO. OF
		AREA		Urban	Rural	VILLS.
		sq km	per sq km	Pct	Pct	Total
AS	Afghanistan	648000	25.9	17	83	*
AF	Algeria	2382000	8.5	45	55	*
C	Antigua/Barbuda	440 /f	*	*	*	*
SA	Argentina	2767000	10.3	83	17	*
AUS	Australia	7687000 /c	2.0 /c	89	19	*
E	Austria	84000 /c	90.5 /c	55	45	*
C	Bahamas	13933 /f	*	54	46	*
AS	Bahrain	663 /f	*	*	*	*
AS	Bangladesh	144000	635.8	12	88	1596 /d
C	Barbados	400	630.0	40	60	*
E	Belgium	31000 /c	319.4 /c	73	27	*
CA	Belize	22960	6.6	50	50	*
AF	Benin	113000	32.9	15	85	*
C	Bermuda	54 /f	*	*	*	*
SA	Bolivia	1099000	5.3	45	55	*
AF	Botswana	570000	1.7	20	80	*
SA	Brazil	8512000	14.9	67 /d	33 /d	*
AS	Brunei	5763 /f	*	*	*	*
E	Bulgaria	111000 /c	80.2 /c	66	34	*
AF	Burkina Faso	274000	23.7	11	89	*
AS	Burma	677000	51.6	28	72	*
AF	Burundi	28000	155.2	5	95	*
AF	Cameroon	475000	18.7	37	63	*
NA	Canada	9976000 /c	2.5 /c	76	24	*
AF	Cape Verde	4000	76.5	24	76	*
AF	Cen. Afrcn. Rep.	623000	3.9	37	63	*
AF	Chad	1284000	3.6	19	81	*
SA	Chile	757000	15.2	80 /d	20 /d	*
AS	China	9561000	105.4	21	79	*
SA	Colombia	1139000	23.7	63	35	*
AF	Comoros	2166	169.9	13	87	*
AF	Congo	342000	5.0	46	54	*
OC	Cook Islands	236 /f	*	*	*	*
CA	Costa Rica	51000	47.1	43	57	*
AS	Cyprus	9300	67.4	47	53	*
E	Czechoslovakia	128000 /c	120.3 /c	64	36	*
E	Denmark	43000 /c	118.6 /c	85	15	*
AF	Djibouti	23200	17.8	66	34	*
C	Dominica	750	100.0	*	*	*
C	Dominican Rep.	49000	117.5	53	47	*
SA	Ecuador	284000	31.2	46	54	*
AF	Egypt	1001000	44.3	45	55	*
CA	El Salvador	21000	228.9	42	58	*
AF	Equatrl. Guinea	28000	12.6	70	30	*
AF	Ethiopia	1222000	26.6	15	85	*
OC	Fiji	18300	36.0	43	57	*
E	Finland	337000 /c	14.2 /c	64	36	*
E	France	547000 /c	99.5 /c	79	21	*
AF	Gabon	226000	3.0	36	64	*
AF	Gambia	10300	60.0	21	79	*
E	Germany, East	108000 /c	154.6 /c	77	23	*

GENERAL DATA FILE /a

REGION	COUNTRY	POPULATION			GDP			GDP/CAPITA		
		5-Yr	1-Yr		5-Yr	1-Yr	Total	5-Yr	1-Yr	
		Grwth	Grwth		Grwth	Grwth		Grwth	Grwth	
		'000	Pct	Pct	US\$m	Pct	Pct	US\$	Pct	Pct
								/d	/d	
E	Germany, West	61600 /c	*	*	662990 /c	*	*	10762.8 /c	*	*
AF	Ghana	12169	3.1	3.4	12919	-1.5	-6.4	1061.6	-5.4	-13.2
E	Greece	9800 /c	*	*	33950 /c	*	*	3464.3 /c	*	*
C	Grenada	110 /b	*	*	34 /b	*	*	*	*	*
CA	Guatemala	7699	3.0	3.0	7677	2.4	-3.7	997.1	2.9	-0.2
AF	Guinea	5697	2.1	2.2	1748	1.7	1.8	306.8	-0.8	-1.9
AF	Guinea Bissau	820	3.9	2.0	177	2.4	6.0	215.9	*	*
SA	Guyana	800	0.5	0.4	532	-1.8	-13.1	665.0	-1.8	1.1
C	Haiti	5201	1.8	1.9	1345	3.0	-3.9	258.6	2.6	3.7
CA	Honduras	3950	3.6	3.5	2474	3.8	-1.1	626.3	2.4	-1.4
AS	Hong Kong	5200 /c	*	*	24440 /c	*	*	4700.0 /c	*	*
E	Hungary	10700	0.1	*	20038	2.4	2.8	1872.7	*	*
E	Iceland	*	*	*	*	*	*	*	*	*
AS	India	705725	2.2	2.2	174514	3.1	2.8	247.3	1.4	4.5
AS	Indonesia	152622	2.3	2.1	79985	7.2	2.2	524.1	4.3	6.1
AS	Iraq	14200 /c	*	*	23866 /b	*	*	*	*	*
E	Ireland	3500 /c	*	*	17180 /c	*	*	4908.6 /c	*	*
AS	Israel	4000 /c	*	*	20490 /c	*	*	5122.5 /c	*	*
E	Italy	56300 /c	*	*	344580 /c	*	*	6120.4 /c	*	*
AF	Ivory Coast	8755	4.3	4.3	10445	3.5	-1.8	1193.0	2.3	2.4
C	Jamaica	2217	1.2	1.3	2752	-1.0	-7.4 /d	1241.3	-5.0	-8.6
AS	Japan	118400 /c	*	*	1061920 /c	*	*	8968.9 /c	*	*
AS	Jordan	3500	2.9	3.6	3804	9.1	7.3	1086.9	5.7	8.3
AF	Kenya	18115	4.1	4.3	7611	4.3	2.0	420.1	3.3	0.3
OC	Kiribati	61 /b	*	*	24 /b	*	*	*	*	*
AS	Korea, South	39579	1.6	1.6	65705	4.6	5.5	1660.1	6.3	-7.8
AS	Kuwait	1600 /c	*	*	20060 /c	*	*	12537.5 /c	*	*
AS	Laos	3578	2.3	2.2	394	6.2	1.9	110.1	*	*
AS	Lebanon	2600 /c	*	*	3438 /b	*	*	*	*	*
AF	Lesotho	1404	2.5	2.5	437	2.6	1.9	311.3	*	*
AF	Liberia	2012	3.4	3.2	1092	-0.8	-4.2	542.7	1.3	-6.5
AF	Libya	3200 /c	*	*	28360 /c	*	*	8862.5 /c	*	*
E	Liechtenstein	*	*	*	*	*	*	*	*	*
E	Luxembourg	337 /b	*	*	3857 /b	*	*	*	*	*
AF	Madagascar	9232	2.6	2.7	2911	-0.3	-1.8	315.3	-1.2	-1.1
AF	Malawi	6452	3.2	3.2	1274	3.1	2.6	197.5	2.2	-2.2
AS	Malaysia	14537	2.4	2.3	26832	7.5	5.6	1845.8	5.7	5.9
AS	Maldives	*	*	*	*	*	*	*	*	*
AF	Mali	7076	2.7	2.8	1321	1.4	2.8	186.7	2.7	-4.0
E	Malta	*	*	*	*	*	*	*	*	*
AF	Mauritania	1598	2.1	2.1	743	2.6	-2.1	465.0	-1.4	1.2
AF	Mauritius	985	1.4	1.1	1268	1.3	5.7	1287.3	3.1	-9.7
NA	Mexico	73086	3.0	2.6	200051	7.1	-0.5	2737.2	2.7	5.9
E	Monaco	*	*	*	*	*	*	*	*	*
AF	Morocco	21624	2.6	2.6	18582	3.0	6.8	859.3	1.5	6.6
AF	Mozambique	12908	4.0	3.2	4034	1.2	-2.7	312.5	*	*
OC	Nauru	*	*	*	*	*	*	*	*	*
AS	Nepal	15428	2.7	2.7	2091	3.0	3.8	135.5	0.2	-3.8
E	Netherlands	14300 /c	*	*	136520 /c	*	*	9546.8 /c	*	*
C	Neth. Antilles	*	*	*	*	*	*	*	*	*
OC	New Zealand	3200 /c	*	*	23820 /c	*	*	7443.8 /c	*	*

GENERAL DATA FILE /a

REGION	COUNTRY	TOTAL	POP.	POPULATION		NO. OF
		AREA		Urban	Rural	VILLS.
		sq km	per sq km	Pct	Pct	Total
E	Germany, West	249000 /c	247.4 /c	85	15	*
AF	Ghana	239000	50.9	37	63	*
E	Greece	132000 /c	74.2 /c	64	36	*
C	Grenada	344 /f	*	*	*	*
CA	Guatemala	109000	70.6	40	60	*
AF	Guinea	246000	23.2	20	80	*
AF	Guinea Bissau	36000	22.8	23 /d	77 /d	*
SA	Guyana	215000	3.7	23	77	*
C	Haiti	28000	185.7	26	74	*
CA	Honduras	112000	35.3	37	63	*
AS	Hong Kong	1000 /c	5200.0 /c	91	9	*
E	Hungary	93030	115.0	*	*	*
E	Iceland	103000 /e	2.0 /e	*	*	*
AS	India	3288000	214.6	24	76	263027 /d
AS	Indonesia	1919000	79.5	22	78	60000
AS	Iraq	435000 /c	32.6 /c	70	30	*
E	Ireland	70000 /c	50.0 /c	59	41	*
AS	Israel	21000 /c	190.5 /c	90	10	*
E	Italy	301000 /c	187.0 /c	70	30	*
AF	Ivory Coast	322000	27.2	42	58	*
C	Jamaica	11000	201.5	48	52	*
AS	Japan	372000 /c	318.3 /c	78	22	*
AS	Jordan	98000	35.7	60	40	*
AF	Kenya	583000	31.1	15	85	*
OC	Kiribati	753 /f	*	*	*	*
AS	Korea, South	98000	403.9	61	39	*
AS	Kuwait	18000 /c	88.9 /c	91	9	*
AS	Laos	237000	15.1	14	86	*
AS	Lebanon	10000 /c	260.0 /c	77	23	*
AF	Lesotho	30000	46.8	13	87	*
AF	Liberia	111000	18.1	34	66	*
AF	Libya	1760000 /c	1.8 /c	58	42	*
E	Liechtenstein	158 /f	*	*	*	*
E	Luxembourg	2586 /f	*	*	*	*
AF	Madagascar	587000	15.7	17	83	*
AF	Malawi	118000	54.7	10	90	*
AS	Malaysia	330000	44.1	30	70	*
AS	Maldives	298 /f	*	*	*	*
AF	Mali	1240000	5.7	19	81	*
E	Malta	316 /f	*	*	*	*
AF	Mauritania	1031000	1.5	26	74	*
AF	Mauritius	2000	492.5	53	47	*
NA	Mexico	1973000	37.0	68	32	*
E	Monaco	1.55 /f	*	*	*	*
AF	Morocco	447000	48.4	42	58	*
AF	Mozambique	802000	16.1	9	91	*
OC	Nauru	21 /f	*	*	*	*
AS	Nepal	141000	109.4	6	94	2905
E	Netherlands	41000 /c	348.8 /c	76	24	*
C	Neth. Antilles	992 /f	*	*	*	*
OC	New Zealand	269000 /c	11.9 /c	85	15	*

GENERAL DATA FILE /a

REGION	COUNTRY	POPULATION			GDP			GDP/CAPITA		
		'000	5-Yr Grwth Pct	1-Yr Grwth Pct	US\$m	5-Yr Grwth Pct	1-Yr Grwth Pct	Total US\$	5-Yr Grwth Pct /d	1-Yr Grwth Pct /d
CA	Nicaragua	2886	3.9	3.9	2316	-3.5	-1.1	802.5	-10.1	10.2
AF	Niger	5878	3.1	3.1	1985	6.1	1.0	337.7	5.5	2.5
AF	Nigeria	90572	2.9	3.4	79552	-0.7	-0.6	878.3	2.1	0.8
OC	Niue	*	*	*	*	*	*	*	*	*
E	Norway	4100 /c	*	*	56080 /c	*	*	13678.0 /c	*	*
AS	Oman	1100 /c	*	*	7110 /c	*	*	6463.6 /c	*	*
AS	Pakistan	87014	3.0	3.1	26777	6.9	4.7	307.7	3.2	4.9
CA	Panama	1920	2.3	2.3	3766	8.0	5.5	1961.5	1.3	-2.1
OC	Papua New Guinea	3128	2.1	2.2	2564	1.3	-0.1	819.7	-0.5	-2.9
SA	Paraguay	3133	2.5	2.5	4702	8.5	-2.0	1500.8	7.5	7.2
SA	Peru	17467	2.5	2.6	20013	2.8	0.4	1145.8	-1.5	-1.8
AS	Philippines	50740	2.7	2.4	37857	4.9	2.9	746.1	3.7	2.7
E	Portugal	9900	0.5	0.4	25348	3.6	3.2	2560.4	3.5	4.7
AS	Qatar	281 /b	*	*	7950 /b	*	*	*	*	*
E	Romania	22478	0.7	0.6	50053 /d	4.6	3.8	2255.0 /d	5.1	*
AF	Rwanda	5530	3.4	3.4	1278	5.7	4.3	231.1	0.9	2.8
C	St. Chris./Nevis	44 /b	*	*	40 /b	*	*	*	*	*
C	St. Lucia	124	1.4	0.8	69	4.5	2.1	556.5	*	*
C	St. Vct./Grends.	113.4	1.3	1.0	83	6.1	2.7	734.5	*	*
E	San Marino	*	*	*	*	*	*	*	*	*
AF	Sao Tome/Prncpe.	117	1.9	3.1	35	-1.4	2.7	3181.8	10.9	13.5
AS	Saudi Arabia	10000 /c	*	*	153590 /c	*	*	15359.0 /c	*	*
AF	Senegal	6062	2.9	2.9	3260	2.1	14.4	514.0	-2.0	-9.2
AF	Seychelles	65	0.8	0.8	145 /b	*	*	*	*	*
AF	Sierra Leone	3677	1.7	1.8	1111	2.7	-0.2	302.1	-1.3	0.8
AS	Singapore	2500 /c	*	*	14650 /c	*	*	5860.0 /c	*	*
OC	Solomon Islands	245	3.5	3.8	141	3.9	3.1	575.5	*	*
AF	Socailia	4515	2.7	2.9	1555	-0.9	5.6	344.4	2.6	0.3
AF	South Africa	30400 /c	*	*	74330 /c	*	*	2445.0 /c	*	*
E/AS	Soviet Union	270000 /c	*	*	*	*	*	*	*	*
E	Spain	37900 /c	*	*	181250 /c	*	*	4782.3 /c	*	*
AS	Sri Lanka	15242	1.7	1.5	4520	5.8	5.1	296.5	4.3	5.5
AF	Sudan	19810	3.2	3.2	8865	3.7 /d	4.2	447.5	0.6	-4.5
SA	Suriname	354	-0.2	2.4	999	6.2 /d	-1.2	2822.0	7.0	1.5
AF	Swaziland	664	3.5	3.6	663	4.3	4.0	998.5	1.8	9.9
E	Sweden	8300 /c	*	*	98770 /c	*	*	11900.0 /c	*	*
E	Switzerland	6400 /c	*	*	96730 /c	*	*	15114.1 /c	*	*
AS	Syria	9661	3.3	3.3	13823	7.4	3.4	1430.8	1.4	6.5
AS	Taiwan	*	*	*	*	*	*	*	*	*
AF	Tanzania	19339	3.3	3.5	4820	1.2	-3.2	249.2	2.3	1.8
AS	Thailand	48500	2.2	2.1	37035	6.3	4.1	763.6	4.7	3.1
AF	Togo	2754	2.8	3.2	1031	2.2	-2.5	374.4	-1.7	-2.4
OC	Tonga	*	*	*	*	*	*	*	*	*
C	Trinidad/Tobago	1100 /c	*	*	6970 /c	*	*	6336.4 /c	*	*
AF	Tunisia	6691	2.6	2.6	9235	5.4	6.3	1380.2	4.1	3.9
E/AS	Turkey	47522	2.1	2.1	62220	1.7	5.0	1309.3	0.2	-3.4
OC	Tuvalu	*	*	*	*	*	*	*	*	*
AF	Uganda	13479	2.8	3.2	37207	-3.5	8.3	2760.4	-6.9	-10.7
AS	U. Arab Emirates	1100 /c	*	*	29870 /c	*	*	27154.5 /c	*	*
E	United Kingdom	55800 /c	*	*	473220 /c	*	*	8480.6 /c	*	*
SA	Uruguay	2949	0.7	0.7	9126	2.3	-8.6	3094.6	4.9	3.5

GENERAL DATA FILE /a

REGION	COUNTRY	TOTAL	POP.	POPULATION		NO. OF
		AREA	per	Urban	Rural	VILLS.
		sq km	sq km	Pct	Pct	Total
CA	Nicaragua	130000	22.2	55	45	*
AF	Niger	1267000	4.6	14	86	*
AF	Nigeria	924000	98.0	21	79	*
OC	Niue	264 /f	*	*	*	*
E	Norway	324000 /c	12.6 /c	54	46	*
AS	Oman	300000 /c	3.7 /c	20	80	*
AS	Pakistan	804000	108.2	29	71	43000
CA	Panama	77000	24.9	53	47	*
OC	Papua New Guinea	462000	6.8	18 /d	82 /d	*
SA	Paraguay	407000	7.7	40	60	*
SA	Peru	1285000	13.6	66	34	*
AS	Philippines	300000	169.1	38	62	*
E	Portugal	92000	107.6	32	68	*
AS	Qatar	10995 /f	*	*	*	*
E	Romania	238000	94.4	51	49	*
AF	Rwanda	26000	212.7	5	95	*
C	St. Chris./Nevis	269 /f	*	*	*	*
C	St. Lucia	616	201.3	*	*	*
C	St. Vct./Grends.	388	291.2	*	*	*
E	San Marino	62 /f	*	*	*	*
AF	Sao Tome/Prncpe.	964	121.4	36	64	*
AS	Saudi Arabia	2150000 /c	4.6 /c	69	31	*
AF	Senegal	196000	30.6	34	66	*
AF	Seychelles	400	162.5	26	74	*
AF	Sierra Leone	72000	51.1	23	77	*
AS	Singapore	1000 /c	2500.0 /c	100	0	*
OC	Solomon Islands	28000	8.7	19	81	*
AF	Somalia	638000	7.1	32	68	*
AF	South Africa	1221000 /c	24.9 /c	50	50	*
E/AS	Soviet Union	22402000 /c	12.0 /c	63	37	*
E	Spain	505000 /c	75.0 /c	76	24	*
AS	Sri Lanka	66000	230.9	24	76	2000 /d
AF	Sudan	2506000	7.9	23	77	*
SA	Suriname	163820	2.2	46	54	*
AF	Swaziland	17300	38.4	12	88	*
E	Sweden	450000 /c	18.4 /c	88	12	*
E	Switzerland	41000 /c	156.1 /c	59	41	*
AS	Syria	185000	52.2	49	51	*
AS	Taiwan	35973 /f	*	*	*	*
AF	Tanzania	945000	20.5	13	87	*
AS	Thailand	514000	94.4	17	83	*
AF	Togo	57000	48.3	21	79	*
OC	Tonga	699 /f	*	*	*	*
C	Trinidad/Tobago	5000 /c	220.0 /c	22	78	*
AF	Tunisia	164000	40.8	54	46	*
E/AS	Turkey	781000	60.8	44	56	36000
OC	Tuvalu	26 /f	*	*	*	*
AF	Uganda	236000	57.1	9	91	*
AS	U. Arab Emirates	84000 /c	13.1 /c	79	21	*
E	United Kingdom	245000 /c	227.8 /c	91	9	*
SA	Uruguay	176000	16.8	84	16	*

GENERAL DATA FILE /a

REGION	COUNTRY	POPULATION			GDP			GDP/CAPITA		
		5-Yr	1-Yr		5-Yr	1-Yr	Total	5-Yr	1-Yr	
		Grwth	Grwth		Grwth	Grwth		Grwth	Grwth	
		'000	Pct	Pct	US\$m	Pct	Pct	US\$	Pct	Pct
									/d	/d
OC	Vanuatu	*	*	*	*	*	*	*	*	*
SA	Venezuela	16700 /c	*	*	69490 /c	*	*	4161.1 /c	*	*
OC	Western Samoa	*	*	*	*	*	*	*	*	*
AS	Yemen Arab Rep.	7470	3.0 /d	3.0 /d	2877	7.3 /d	6.1 /d	385.1	4.3	3.1
E	Yugoslavia	22690	0.9 /d	0.9 /d	70461	5.9 /d	1.8 /d	3105.4	5.0	0.9
AF	Zaire	30688	2.8 /d	2.8 /d	6230	-2.0 /d	1.1 /d	203.0	-4.8	-1.1
AF	Zambia	6045	3.3 /d	3.3 /d	3883	-1.4 /d	1.1 /d	642.3	-4.7	-2.2
AF	Zimbabwe	7499	3.3	4.0	6363	9.6	-7.2	848.5	-4.5	7.2

GENERAL DATA FILE /a

REGION	COUNTRY	TOTAL AREA	POP.	POPULATION		NO. OF VILLS.
		sq km	per sq km	Urban Pct	Rural Pct	Total
OC	Vanuatu	14793 /f	*	*	*	*
SA	Venezuela	912000 /c	18.3 /c	84	16	*
DC	Western Samoa	2840 /f	*	*	*	*
AS	Yemen Arab Rep.	195000	38.3	14	86	*
E	Yugoslavia	256000	88.6	44	56	*
AF	Zaire	2345000	13.1	38	62	*
AF	Zambia	753000	8.0	45	55	*
AF	Zimbabwe	391000	19.2	24	76	*

* NOT AVAILABLE

3. ENERGY DEMAND FILE

3. ENERGY DEMAND FILE

The Energy Demand File is a compilation of energy indicators that provides country-level energy demand profiles based on 1982 data. The economic and energy information provided includes basic indicators, commercial primary energy indicators, commercial primary energy consumption by type of fuel, fuel costs, electricity sales by sector, and capacity for electricity generation. Specific data collected for each of these categories include:

- Commercial Primary Energy Consumption
 - Total, mtoe
 - 5-year growth rate, percent
 - 1-year growth rate, percent
- Primary Fuel Breakdown
 - Growth rate to 1980, percent
 - Liquid fuels, percent
 - Solid fuels, percent
 - Natural gas, percent
 - Electricity, percent
 - Net import dependency, mtoe
- Fuel Price
 - Diesel, \$/gal
 - Regular gas, \$/gal
 - Kerosene, \$/gal
- Electricity Sales
 - Total, gWh
 - Residential, percent
 - Commercial, percent
 - Industrial, percent
 - Government, percent
 - Other, percent
- Electricity Generation Capacity
 - Hydro, percent
 - Hydro potential, MW
 - Steam, percent
 - Gas turbine, percent
 - Diesel, percent
 - Other, percent
 - Growth rate to 1980, percent
- Electricity Capacity, MW
- Net Imports, gWh

- Energy per Capita, kgoe
- Electricity per Capita, kWh
- Electricity Access
 - Urban, percent
 - Rural, percent
 - Total, percent
- Number of Villages Electrified
 - Percent or number.

Chapter Notes

- Note 1: Energy consumption data refer to the total consumption of all commercial primary energy: solid, liquid, and gaseous fuels, and primary electricity (hydro, nuclear, and geothermal).
- Note 2: Commercial consumption figures refer to domestic energy production minus exports plus imports.
- Note 3: The annual average growth rate through 1980 is compounded from 1970 to 1980.
- Note 4: The percentage use of liquid fuels, solid fuels, natural gas, and primary electricity reflects the distribution of commercial primary energy consumption for a given country in 1980.
- Note 5: Liquid fuels refer to crude and petroleum products; solid fuels refer to coal, lignite, and peat.
- Note 6: Net import dependency is imports minus exports, minus bunkers, plus or minus stock changes.
- Note 7: All percentages are calculated from the total commercial energy consumed.
- Note 8: Diesel, regular gasoline, and kerosene prices are supplied to help characterize the market for conventional energy options. Prices quoted from the World Bank's Domestic Petroleum Product Prices are generally 1983 prices; when 1983 prices were not available, the latest quoted price was used. As a result, inconsistencies exist in this data set; however, Domestic Petroleum Product Prices was the most reliable data

source available. Comparing quoted fuel prices with survey information from Meridian Corporation's draft report Evaluation of International Photovoltaic Projects^[2] shows that the quoted prices do not reflect government subsidies and taxes.

Note 9: Figures for electricity sales by sector refer to electricity generated minus transmission and distribution losses. Therefore, these figures constitute the actual metered amount of electricity purchased by consumers. These sales are reflected in the data base by the following parameters: total sales in gigawatt hours and percentage of total sales to the residential, commercial, industrial, and government sectors. The government may include government office buildings, hospitals, schools, and street lighting. The remaining sales are listed under "other" and include agricultural sales.

Note 10: Percentages of the total thermal generating capacity by hydro, steam, gas turbine, and diesel plants are provided. The steam plants use oil, gas, coal, and lignite.

Note 11: Installed electrical capacity refers to the rated capacity as stated on the nameplate of the equipment in the power plant. It includes the capacity of commissioned equipment that is already installed, but may not yet be in service. Available or effective capacity is usually less than rated capacity. This figure decreases over time as the equipment deteriorates.

Note 12: Energy per capita data are obtained by dividing total commercial energy consumed by the population value.

Note 13: Electricity per capita data are obtained by dividing total electricity produced plus net imports by the population value.

Note 14: Electricity access data (urban, rural, and total) are percentage measurements of the extent of electrification in a country. Electricity access is defined as the actual connection to the public utility grid.

Note 15: The number of villages electrified refers to the number of villages connected to the grid. Cross-country comparisons should be interpreted with caution since the definition and size of villages differ substantially in each country.

ENERGY DEMAND FILE

REGION	COUNTRY	ENERGY CONSUMPTION /a			PRIMARY FUEL BREAKDOWN /g						FUEL PRICE /h		
		total	5-Yr	1-Yr	Grwth	Liq.	Solid	Nat	Elec-	Net Imp	Diesel	Reg Gas	Kerns
		mtoe	Grwth	Grwth	Rate	Fuels	Fuels	Gas	tric	Depen			
			Pct	Pct	Tot1980	Pct	Pct	Pct	Pct	mtoe	\$/gal	\$/gal	\$/gal
			/d	/d									
AS	Afghanistan	0.693	3.5	-2.5	*	*	*	*	*	-1.8	*	*	*
AF	Algeria	10.133	11.1	6.1	14.9	65%	1%	33%	1%	-44.516	*	*	*
C	Antigua/Barbuda	0.071 /b	*	*	*	*	*	*	*	*	*	*	*
SA	Argentina	36.348	2.7	2.9	3.6	67%	*	6%	20%	0.625	\$0.58	\$1.15	\$0.73
AUS	Australia	74.602 /c	*	*	*	*	*	*	*	*	\$1.88	\$1.81	\$1.48
E	Austria	25.825 /c	*	*	*	*	*	*	*	*	\$2.33	\$2.40	\$3.76
C	Bahamas	0.922 /b	*	*	*	*	*	*	*	*	*	*	*
AS	Bahrain	0.936 /b	*	*	*	*	*	*	*	*	*	*	*
AS	Bangladesh	3.293	9.4	16.6	*	52%	4%	39%	5%	1.776	\$1.00	\$2.02	\$0.78
C	Barbados	0.207	6.6	17.5	*	*	*	*	*	0.21	*	*	*
E	Belgium	45.896 /c	*	*	*	*	*	*	*	*	\$1.98	\$2.53	\$1.35
CA	Belize	0.057	*	1.4	*	*	*	*	*	0.57	*	*	*
AF	Benin	0.124	*	-5.6	5.0	87%	*	*	13%	0.12	\$1.47	\$1.81	\$1.06
C	Bermuda	*	*	*	*	*	*	*	*	*	*	*	*
SA	Bolivia	1.943	1.6	-11.8	8.1	78%	*	6%	16%	-1.917	\$0.44	\$0.47	\$0.15
AF	Botswana	0.404	*	*	*	*	*	*	*	0.196	\$1.00	*	\$1.66
SA	Brazil	84.757	4.7	1.9	9.0	58%	6%	1%	35%	32.265	\$1.34	\$2.12	\$1.35
AS	Brunei	1.964 /b	*	*	*	*	*	*	*	*	*	*	*
E	Bulgaria	37.060 /c	*	*	*	*	*	*	*	*	*	*	*
AF	Burkina Faso	0.140	14.0	29.2	*	*	*	*	*	*	*	*	*
AS	Burma	1.875	11.9	9.7	*	*	*	*	*	-0.029	\$0.29	\$0.40	\$0.30
AF	Burundi	0.050	*	*	6.1	69%	11%	*	20%	0.047	\$3.01	*	\$2.86
AF	Cameroon	3.299	14.9	3.8	4.9	62%	*	*	38%	-1.716	\$1.87	\$2.22	*
NA	Canada	226.517 /c	*	*	*	*	*	*	*	*	\$1.35	\$1.34	\$1.28
AF	Cape Verde	0.039	17.5	69.7	*	*	*	*	*	0.039	\$0.86	*	\$1.19
AF	Cent. Afrcn. Rep.	0.080	*	*	*	*	*	*	*	0.064	*	*	*
AF	Chad	0.068	2.5	4.5	*	*	*	*	*	0.068	*	*	*
SA	Chile	8.491	3.9	8.5	0.6	50%	14%	17%	19%	2.733	\$1.48	\$1.68	\$1.54
AS	China	415.357	5.8	-2.1	5.4	21%	72%	3%	4%	-202.57	\$0.71	\$1.23	\$1.15
SA	Colombia	18.763	5.3	5.1	4.9	46%	18%	15%	21%	0.078	\$0.95	\$0.87	\$0.95
AF	Comoros	0.012	*	-16.1	*	*	*	*	*	0.012	*	*	*
AF	Congo	0.148	1.1	10.8	13.9	92%		4%	4%	-4.401	*	*	*
OC	Cook Islands	*	*	*	*	*	*	*	*	*	*	*	*
CA	Costa Rica	1.325	7.9	13.2	7.1	58%	*	*	42%	0.751	\$1.67	\$1.41	\$1.41
AS	Cyprus	0.841	5.8	11.1	*	*	*	*	*	0.814	*	*	*
E	Czechoslovakia	73.504 /c	*	*	*	*	*	*	*	*	*	*	*
E	Denmark	18.442 /c	*	*	*	*	*	*	*	*	\$1.82	\$2.83	\$1.68
AF	Djibouti	0.069	5.0	1.5	*	*	*	*	*	0.069	*	*	*
C	Dominica	0.016	0.0	0.0	*	*	*	*	*	0.016	*	*	*
C	Dominican Rep.	1.779	-1.1	-3.9	6.7	99%	*	*	1%	0.715	\$0.66	\$0.77	\$0.55
SA	Ecuador	4.882	12.1	1.2	11.7	92%	*	2%	6%	-6.42	\$0.32	\$0.68	\$0.18
AF	Egypt	20.060	8.5	10.9	9.3	70%	6%	11%	13%	-17.4	\$0.12	\$0.50	\$0.15
CA	El Salvador	0.954	*	-2.3	7.6	69%	*	*	31%	0.715	\$1.70	\$2.49	\$1.58
AF	Equatrl. Guinea	0.022	*	19.0	*	*	*	*	*	*	*	*	*
AF	Ethiopia	0.781	*	4.1	-1.0	80%	*	*	20%	0.689	\$1.44	\$2.18	\$1.20
OC	Fiji	0.301	17.6	0.0	*	*	*	*	*	0.3	\$1.72	\$2.20	\$1.72
E	Finland	27.806 /c	*	*	*	*	*	*	*	*	\$1.73	\$2.36	\$1.44
E	France	196.874 /c	*	*	*	*	*	*	*	*	\$1.80	\$2.22	\$1.82
AF	Gabon	0.813	3.7	41.6	13.7	91%	*	9%	*	-6.9	*	*	*
AF	Gambia	0.053	10.9	14.2	*	*	*	*	*	0.053	\$2.52	*	\$2.43
E	Germany, East	90.147 /c	*	*	*	*	*	*	*	*	\$1.86	\$1.91	\$0.91

ENERGY DEMAND FILE

REGION	COUNTRY	ELECTRICITY SALES /g						ELECTRICITY GENERATION CAPACITY /g						
		Total	Resid	Commrc	Indus	Govt	Other	Hydro	Hydro	Steam	Gas	Diesel	Other	Growth
		gWh	Pct	Pct	Pct	Pct	Pct	Pct	Pot MW	Pct	Turbine Pct	Pct	Pct	Rate To1980
AS	Afghanistan	434	62%	13%	0%	25%	0%	66%	*	9%	10%	13%	2%	*
AF	Algeria	5448	27%	6%	52%	6%	90%	14%	287	56%	30%	0%	0%	12.1
C	Antigua/Barbuda	*	*	*	*	*	*	*	*	*	*	*	*	*
SA	Argentina	31043	28%	9%	51%	12%	0%	40%	40000	36%	14%	7%	3%	6.5
AUS	Australia	*	*	*	*	*	*	23%	/e	*	*	*	*	*
E	Austria	*	*	*	*	*	*	67%	/e	*	*	*	*	*
C	Bahamas	*	*	*	*	*	*	0%	/e	*	*	*	*	*
AS	Bahrain	*	*	*	*	*	*	0%	/e	*	*	*	*	*
AS	Bangladesh	1383	16%	14%	64%	0%	6%	10%	800	34%	0%	5%	51%	*
C	Barbados	*	*	*	*	*	*	0%	*	42%	18%	40%	0%	*
E	Belgium	*	*	*	*	*	*	11%	/e	*	*	*	*	*
CA	Belize	*	*	*	*	*	*	0%	*	0%	0%	50%	50%	*
AF	Benin	99	60%	0%	40%	0%	0%	0%	500	0%	0%	100%	0%	12.3
C	Bermuda	*	*	*	*	*	*	*	*	*	*	*	*	*
SA	Bolivia	1377	29%	*	56%	*	15%	57%	18000	0%	26%	0%	17%	6.7
AF	Botswana	*	*	*	*	*	*	0%	*	85%	0%	15%	0%	*
SA	Brazil	112086	20%	12%	55%	*	13%	86%	213140	9%	0%	5%	0%	11.7
AS	Brunei	*	*	*	*	*	*	*	*	*	*	*	*	*
E	Bulgaria	*	*	*	*	*	*	*	*	*	*	*	*	*
AF	Burkina Faso	*	*	*	*	*	*	0%	*	0%	0%	100%	0%	*
AS	Burma	*	*	*	*	*	*	26%	*	11%	28%	14%	21%	*
AF	Burundi	40	38%	35%	*	15%	12%	7%	800	0%	0%	93%	0%	6.2
AF	Cameroon	1292	19%	1%	20%	*	60%	73%	23000	0%	0%	27%	0%	1.4
NA	Canada	*	*	*	*	*	*	56%	/e	*	*	*	*	*
AF	Cape Verde	*	*	*	*	*	*	0%	*	0%	0%	100%	0%	*
AF	Cent. Afrcn. Rep.	*	*	*	*	*	*	54%	*	0%	0%	37%	9%	*
AF	Chad	*	*	*	*	*	*	0%	*	0%	0%	100%	0%	**
SA	Chile	8094	24%	9%	52%	15%	*	50%	18772	38%	6%	7%	0%	4.3
AS	China	230244	*	7%	75%	*	18%	31%	378532	52%	0%	17%	0%	10.9
SA	Colombia	15306	41%	12%	29%	8%	10%	68%	94358	10%	20%	2%	0%	9.0
AF	Comoros	*	*	*	*	*	*	20%	*	0%	0%	80%	0%	*
AF	Congo	*	*	*	*	*	*	76%	11000	0%	0%	24%	0%	4.7
OC	Cook Islands	*	*	*	*	*	*	*	*	*	*	*	*	*
CA	Costa Rica	1879	45%	19%	34%	*	2%	71%	9071	2%	0%	27%	0%	8.0
AS	Cyprus	*	*	*	*	*	*	0%	*	98%	0%	0%	2%	*
E	Czechoslovakia	*	*	*	*	*	*	16%	/e	*	*	*	*	*
E	Denmark	*	*	*	*	*	*	0%	/e	*	*	*	*	*
AF	Djibouti	*	*	*	*	*	*	0%	*	0%	0%	100%	0%	*
C	Dominica	*	*	*	*	*	*	43%	*	0%	0%	57%	0%	*
C	Dominican Rep.	1914	38%	12%	38%	12%	*	16%	1900	54%	28%	3%	0%	13.1
SA	Ecuador	2930	39%	14%	38%	9%	*	19%	22733	0%	0%	81%	0%	12.8
AF	Egypt	16129	11%	59%	5%	*	25%	42%	2660	43%	15%	0%	0%	9.3
CA	El Salvador	1272	31%	17%	42%	10%	*	54%	1377	14%	14%	0%	19%	9.0
AF	Equatrl. Guinea	*	*	*	*	*	*	14%	/e	*	*	*	*	*
AF	Ethiopia	430	38%	20%	40%	*	2%	91%	12000	3%	0%	6%	0%	2.6
OC	Fiji	*	*	*	*	*	*	0%	*	0%	0%	100%	0%	*
E	Finland	*	*	*	*	*	*	22%	/e	*	*	*	*	*
E	France	*	*	*	*	*	*	29%	/e	*	*	*	*	*
AF	Gabon	*	*	*	*	*	*	57%	18000	0%	0%	43%	0%	16.6
AF	Gambia	*	*	*	*	*	*	0%	*	0%	0%	100%	0%	*
E	Germany, East	*	*	*	*	*	*	9%	/e	*	*	*	*	*

ENERGY DEMAND FILE

REGION	COUNTRY	ELEC. CAPCTY. /a	NET IMPORTS /a	ENERGY/ CAPITA /a	ELEC/ CAPITA /a	ELEC. ACCESS /a			VILLS. /a
		MW	gWh	kgoe	kWh	Urban Pct	Rural Pct	Total Pct	Electri- fied
AS	Afghanistan	394	0	41.3	58.2	19 /d	0 /d	6 /d	*
AF	Algeria	2006	0	498.9	353.5	100 /d	33 /d	60 /d	*
C	Antigua/Barbuda	*	*	*	*	*	*	*	*
SA	Argentina	13460	0	1279.9	1401.5	96 /d	5 /d	80 /d	*
AUS	Australia	27543 /e	*	4908.0 /c	*	*	*	*	*
E	Austria	14243 /e	*	3398.0 /c	*	*	*	*	*
C	Bahamas	350 /e	*	*	*	*	*	*	*
AS	Bahrain	655 /e	*	*	*	*	*	*	*
AS	Bangladesh	990	0	36.0	36.1	19 /d	0 /d	2 /d	2.5% /d
C	Barbados	95	0	821.4	1345.2	*	*	81 /d	*
E	Belgium	12046 /e	*	4636.0 /c	*	*	*	*	*
CA	Belize	41	0	375.0	611.8	*	*	33 /d	*
AF	Benin	15	132	33.4	39.8	*	*	5	*
C	Bermuda	*	*	*	*	*	*	*	*
SA	Bolivia	508	0	330.6	289.7	72 /d	9 /d	28 /d	*
AF	Botswana	92	101	420.0	554.0	*	*	11	*
SA	Brazil	38904	-368	668.4	1196.5	84 /d	3 /d	57 /d	*
AS	Brunei	*	*	*	*	*	*	*	*
E	Bulgaria	9220 /e	*	4164.0 /c	*	*	*	*	*
AF	Burkina Faso	55	0	21.6	18.9	72 /d	3 /d	10 /d	*
AS	Burma	681	0	53.7	52.8	*	*	7	*
AF	Burundi	19.8	50	11.5	12.2	*	*	2	*
AF	Cameroon	352	0	370.5	241.3	*	*	7 /d	*
NA	Canada	83000 /e	*	9208.0 /c	*	*	*	*	*
AF	Cape Verde	13.7	0	127.5	58.8	*	*	*	*
AF	Cent. Afrcn. Rep.	30	0	32.9	28.0	*	*	*	*
AF	Chad	38	0	14.6	14.0	70 /d	0 /d	10 /d	*
SA	Chile	3208	0	738.3	1032.3	99 /d	41 /d	86 /d	*
AS	China	72360	0	412.0	325.0	89	70	60	*
SA	Colombia	4660	0	695.8	836.8	90 /d	26 /d	54	*
AF	Comoros	4	0	32.6	27.2	*	*	*	*
AF	Congo	124.8	26.1	86.4	129.3	20	*	8	*
OC	Cook Islands	*	*	*	*	*	*	*	*
CA	Costa Rica	657	0	551.6	1040.8	90 /d	98	99	*
AS	Cyprus	333	0	1298.2	1825.0	100 /d	98 /d	99 /d	556 /d
E	Czechoslovakia	18109 /e	*	4773.0 /c	*	*	*	*	*
E	Denmark	6768 /e	*	3616.0 /c	*	*	*	*	*
AF	Djibouti	36	0	167.8	296.1	*	*	25	*
C	Dominica	7	0	213.3	226.7	*	*	*	*
C	Dominican Rep.	1249	466	309.0	622.8	*	*	34 /d	*
SA	Ecuador	1200	10	550.8	379.1	79 /d	13 /d	43 /d	*
AF	Egypt	3782	0	452.7	399.9	65 /d	23 /d	42 /d	*
CA	El Salvador	500	0	198.5	312.1	*	*	36 /d	*
AF	Equatrl. Guinea	7	0	62.3	73.7	*	*	*	*
AF	Ethiopia	319	0	24.0	20.9	33 /d	0 /d	9	*
OC	Fiji	112.4	0	457.4	487.8	50	25	34	*
E	Finland	11135 /e	*	5793.0 /c	*	*	*	*	*
E	France	73984 /e	*	3619.0 /c	*	*	*	*	*
AF	Gabon	175	0	1192.1	777.1	*	*	*	*
AF	Gambia	11	0	85.8	66.3	*	*	*	*
E	Germany, East	21183 /e	*	5398.0 /c	*	*	*	*	*

ENERGY DEMAND FILE

REGION	COUNTRY	ENERGY CONSUMPTION /a			PRIMARY FUEL BREAKDOWN /g						FUEL PRICE /h		
		total	5-Yr	1-Yr	Grwth	Liq.	Solid	Nat	Elec-	Net Imp	Diesel	Reg Gas	Kersn
		mtoe	Grwth	Grwth	Rate	Fuels	Fuels	Gas	tric	Depen	\$/gal	\$/gal	\$/gal
			Pct	Pct	To1980	Pct	Pct	Pct	Pct	mtoe			
			/d	/d									
E	Germany, West	267.467 /c	*	*	*	*	*	*	*	*	*	\$3.43	*
AF	Ghana	1.763	13.7	10.8	3.0	45%	1%	*	54%	0.68	\$2.57	\$3.42	\$1.51
E	Greece	16.650 /c	*	*	7.3	75%	19%	*	6%	*	\$1.08	\$2.06	\$1.41
C	Grenada	0.021 /b	*	*	*	*	*	*	*	*	*	*	*
CA	Guatemala	1.237	8.0	-2.9	5.9	95%	*	*	5%	0.802	\$1.20	\$1.90	\$1.12
AF	Guinea	0.304	2.0	0.0	*	*	*	*	*	0.284	*	*	*
AF	Guinea Bissau	0.029	*	11.1	*	*	*	*	*	0.029	\$1.42	\$2.84	\$1.70
SA	Guyana	0.525	2.9	5.6	*	*	*	*	*	0.52	\$1.25	\$1.64	\$1.15
C	Haiti	0.266	9.8	0.9	9.1	80%	*	*	20%	0.202	\$1.45	\$2.15	\$1.17
CA	Honduras	0.787	6.9	1.9	4.5	66%	*	*	34%	0.567	\$1.20	\$1.95	\$1.22
AS	Hong Kong	6.833 /c	*	*	5.7	10000%	*	*	*	*	*	*	*
E	Hungary	29.834	*	*	*	*	*	*	*	14.26	\$0.80	\$1.80	*
E	Iceland	*	*	*	*	*	*	*	*	*	*	*	*
AS	India	108.154	5.1	6.2	4.6	30%	55%	1%	14%	14.9	\$1.21	\$2.27	\$0.71
AS	Indonesia	24.908	7.6	5.3	8.8	79%	1%	17%	4%	-54.9	\$0.56	\$1.24	\$0.39
AS	Iraq	12.141 /c	*	*	9.4	89%	*	9%	2%	*	*	*	*
E	Ireland	86.800 /c	*	*	*	*	*	*	*	*	\$2.55	\$2.59	\$1.72
AS	Israel	7.388 /c	*	*	*	*	*	*	*	*	\$1.72	\$2.18	\$1.76
E	Italy	144.015 /c	*	*	*	*	*	*	*	*	\$1.64	\$3.16	\$1.79
AF	Ivory Coast	2.042	-8.0	5.5	6.3	82%	*	*	18%	0.854	\$2.38	\$3.28	\$1.49
C	Jamaica	2.357	-4.3	3.4	1.7	99%	*	*	1%	2.32	\$1.35	\$2.12	\$1.16
AS	Japan	365.501 /c	*	*	*	*	*	*	*	*	\$1.92	\$2.70	\$1.53
AS	Jordan	1.917	22.4	12.3	*	*	*	*	*	1.917	\$0.74	\$2.17	\$0.74
AF	Kenya	1.527	12.3	15.6	4.1	88%	2%	*	10%	1.52	\$1.61	\$2.08	\$1.06
OC	Kiribati	*	*	*	*	*	*	*	*	*	*	*	*
AS	Korea, South	39.847	10.8	14.4	*	65%	32%	*	3%	33.41	\$1.49	\$3.32	\$1.49
AS	Kuwait	10.018 /c	*	*	*	*	*	*	*	*	*	*	*
AS	Laos	0.214	*	*	*	*	*	*	*	0.093	*	*	*
AS	Lebanon	2.111 /c	*	*	*	*	*	*	*	*	*	\$0.78	\$0.55
AF	Lesotho	0.093	*	*	*	*	*	*	*	0.093	*	*	*
AF	Liberia	0.528	4.6	6.5	*	*	*	*	*	0.53	\$1.18	\$1.18	\$1.14
AF	Libya	7.389 /c	*	*	*	*	*	*	*	*	*	*	*
E	Lichtenstein	*	*	*	*	*	*	*	*	*	*	*	*
E	Luxembourg	2.942 /b	*	*	*	*	*	*	*	*	\$1.39	\$1.85	\$1.16
AF	Madagascar	0.460	5.9	9.2	*	*	*	*	*	0.425	\$1.85	*	\$1.90
AF	Malawi	0.291	8	1.2	5.7	58%	11%	*	31%	0.19	\$2.90	*	\$2.19
AS	Malaysia	10.067	5.5	4.5	3.9	84%	1%	12%	3%	-4.105	\$0.83	\$1.61	\$0.83
AS	Maldives	*	*	*	*	*	*	*	*	*	*	*	*
AF	Mali	0.140	2.6	13.4	*	*	*	*	*	0.14	\$2.04	\$2.80	\$1.96
E	Malta	*	*	*	*	*	*	*	*	*	*	*	*
AF	Mauritania	0.202	4.3	2.0	*	*	*	*	*	0.202	\$2.16	\$2.58	\$1.66
AF	Mauritius	0.184	*	*	*	*	*	*	*	0.15	\$1.53	\$2.48	\$1.34
NA	Mexico	92.585	13.1	14.1	7.1	59%	5%	28%	8%	-84.138	\$0.25	\$0.51	\$0.17
E	Monaco	*	*	*	*	*	*	*	*	*	*	*	*
AF	Morocco	4.445	9.4	-4.1	7.2	79%	10%	1%	10%	4.011	\$1.36	\$2.72	\$1.36
AF	Mozambique	1.172	-3.4	13.3	0.6	69%	15%	*	16%	0.413	*	*	*
OC	Nauru	*	*	*	*	*	*	*	*	*	*	*	*
AS	Nepal	0.188	4.8	8.9	2.2	61%	4%	*	35%	0.107	\$1.50	\$2.46	\$1.30
E	Netherlands	70.184 /c	*	*	*	*	*	*	*	*	\$1.73	\$2.36	\$1.42
C	Neth. Antilles	*	*	*	*	*	*	*	*	*	*	*	*
OC	New Zealand	11.750 /c	*	*	*	*	*	*	*	*	*	*	*

ENERGY DEMAND FILE

REGION	COUNTRY	ELECTRICITY SALES /g						ELECTRICITY GENERATION CAPACITY /g						
		Total	Resid	Commrc	Indus	Govt	Other	Hydro	Hydro	Steam	Gas	Diesel	Other	Growth
		gWh	Pct	Pct	Pct	Pct	Pct	Pct	Pot MW	Pct	Turbine Pct	Pct	Pct	Rate To1980
E	Germany, West	*	*	*	*	*	*	8% /e	*	*	*	*	*	*
AF	Ghana	5180	11%	6%	11%	*	72%	90%	2000	0%	0%	10%	0%	4.6
E	Greece	*	*	*	*	*	*	23%	*	0%	0%	0%	77%	8.7
C	Grenada	*	*	*	*	*	*	0% /e	*	*	*	*	*	*
CA	Guatemala	1236	25%	19%	42%	14%	*	23%	5426	39%	30%	8%	*	10.0
AF	Guinea	*	*	*	*	*	*	28%	*	0%	0%	18%	54%	*
AF	Guinea Bissau	*	*	*	*	*	*	0%	*	0%	0%	100%	0%	*
SA	Guyana	*	*	*	*	*	*	1%	*	20%	14%	39%	26%	*
C	Haiti	218	37%	5%	49%	4%	5%	33%	152	0%	0%	67%	0%	10.3
CA	Honduras	761	28%	15%	50%	7%	*	57%	2800	0%	43%	0%	0%	9.7
AS	Hong Kong	*	*	*	*	*	*	0% /e	*	*	*	*	*	9.2
E	Hungary	*	*	*	*	*	*	1% /e	*	*	*	*	*	*
E	Iceland	*	*	*	*	*	*	80% /e	*	*	*	*	*	*
AS	India	80000	11%	5%	60%	*	24%	36%	100000	55%	0%	7%	2%	6.6
AS	Indonesia	6502	45%	14%	3%	3%	35%	13%	32000	30%	37%	20%	0%	12.0
AS	Iraq	*	*	*	*	*	*	5%	*	0%	0%	0%	95%	11.3
E	Ireland	*	*	*	*	*	*	*	*	*	*	*	*	*
AS	Israel	*	*	*	*	*	*	0% /e	*	*	*	*	*	*
E	Italy	*	*	*	*	*	*	34% /e	*	*	*	*	*	*
AF	Ivory Coast	1522	45%	48%	7%	*	*	70%	3000	24%	1%	5%	0%	13.2
C	Jamaica	1024	31%	56%	*	*	13%	3%	100	97%	0%	0%	0%	4.2
AS	Japan	*	*	*	*	*	*	22% /e	*	*	*	*	*	*
AS	Jordan	*	*	*	*	*	*	0%	*	29%	33%	21%	18%	*
AF	Kenya	1469	27%	64%	*	1%	8%	64%	6000	23%	6%	6%	*	8.1
OC	Kiribati	*	*	*	*	*	*	*	*	*	*	*	*	*
AS	Korea, South	32735	16%	14%	69%	*	1%	12%	2000	69%	13%	0%	6%	15.3
AS	Kuwait	*	*	*	*	*	*	0% /e	*	*	*	*	*	*
AS	Laos	*	*	*	*	*	*	92%	*	0%	0%	8%	0%	*
AS	Lebanon	*	*	*	*	*	*	37% /e	*	*	*	*	*	*
AF	Lesotho	*	*	*	*	*	*	0%	*	0%	0%	9%	91%	*
AF	Liberia	*	*	*	*	*	*	21%	*	0%	21%	18%	40%	*
AF	Libya	*	*	*	*	*	*	0% /e	*	*	*	*	*	*
E	Liechtenstein	*	*	*	*	*	*	*	*	*	*	*	*	*
E	Luxembourg	*	*	*	*	*	*	86% /e	*	*	*	*	*	*
AF	Madagascar	*	*	*	*	*	*	24%	*	0%	0%	37%	40%	*
AF	Malawi	354	16%	11%	73%	*	*	77%	900	0%	15%	8%	0%	10.6
AS	Malaysia	7265	16%	30%	42%	*	12%	24%	25800	55%	5%	16%	0%	9.7
AS	Maldives	*	*	*	*	*	*	0% /e	*	*	*	*	*	*
AF	Mali	*	*	*	*	*	*	17%	*	0%	0%	83%	0%	*
E	Malta	*	*	*	*	*	*	0% /e	*	*	*	*	*	*
AF	Mauritania	*	*	*	*	*	*	0%	*	0%	0%	100%	0%	*
AF	Mauritius	*	*	*	*	*	*	9%	*	0%	0%	86%	6%	*
NA	Mexico	52611	18%	75%	*	7%	*	37%	25250	48%	9%	5%	1%	8.4
E	Monaco	*	*	*	*	*	*	*	*	*	*	*	*	*
AF	Morocco	3955	25%	5%	49%	5%	16%	44%	2453	45%	10%	2%	0%	9.4
AF	Mozambique	*	*	*	*	*	*	90%	15000	0%	0%	10%	0%	7.6
OC	Nauru	*	*	*	*	*	*	*	*	*	*	*	*	*
AS	Nepal	161	47%	16%	32%	5%	0%	60%	18250	11%	*	29%	*	12.6
E	Netherlands	*	*	*	*	*	*	0% /e	*	*	*	*	*	*
C	Neth. Antilles	*	*	*	*	*	*	0% /e	*	*	*	*	*	*
OC	New Zealand	*	*	*	*	*	*	57% /e	*	*	*	*	*	*

ENERGY DEMAND FILE

REGION	COUNTRY	ELEC. CAPCTY. /a	NET IMPORTS /a	ENERGY/ CAPITA /a	ELEC/ CAPITA /a	ELEC. ACCESS /a			VILLS. /a
		MW	gWh	kgoe	kWh	Urban Pct	Rural Pct	Total Pct	Electri- fied
E	Germany, West	85769 /e	*	4342.0 /c	*	*	*	*	*
AF	Ghana	1060	-475	144.9	370.3	30 /d	4 /d	9	*
E	Greece	5979 /e	*	1699.0 /c	*	*	*	*	*
C	Grenada	8 /e	*	*	*	*	*	*	*
CA	Guatemala	606	0	160.7	211.7	27 /d	7 /d	15 /d	*
AF	Guinea	135	0	53.4	64.6	21	4	7	*
AF	Guinea Bissau	7	0	35.4	15.9	*	*	40 /d	*
SA	Guyana	165	0	656.2	550.0	40 /d	3 /d	11 /d	*
C	Haiti	187	0	51.1	72.5	*	*	7	*
CA	Honduras	236	0	199.2	275.9	*	*	27	*
AS	Hong Kong	3475 /e	*	1314.0 /c	*	*	*	*	*
E	Hungary	5904	8510	2788.2	2984.0	*	*	99	*
E	Iceland	775 /e	*	*	*	*	*	*	*
AS	India	38808	0	153.3	196.5	*	*	14	45.7% /d
AS	Indonesia	3513	0	163.2	83.4	50	8	16	6000
AS	Iraq	1200 /e	*	855.0 /c	*	*	*	*	*
E	Ireland	*	*	2480.0 /c	*	*	*	*	*
AS	Israel	3477 /e	*	1847.0 /c	*	*	*	*	*
E	Italy	50023 /e	*	2558.0 /c	*	*	*	*	*
AF	Ivory Coast	1163	0	233.2	220.3	93	20	50	467 /d
C	Jamaica	685	0	1063.1	947.2	63 /d	15 /d	35 /d	620 /d
AS	Japan	154811 /e	*	3087.0 /c	*	*	*	*	*
AS	Jordan	642	0	547.7	432.0	71 /d	60	74	232
AF	Kenya	574	0	84.3	110.3	*	*	6	*
OC	Kiribati	*	*	*	*	*	*	*	*
AS	Korea, South	11597	0	1006.8	1192.5	99 /d	90 /d	95 /d	*
AS	Kuwait	2860 /e	*	6261.0 /c	*	*	*	*	*
AS	Laos	142	-730	59.8	75.5	*	*	50 /d	500 /d
AS	Lebanon	668 /e	*	812.0 /c	*	*	*	*	*
AF	Lesotho	11 /d	0	66.2	73.8	*	*	4	*
AF	Liberia	356.4	0	262.4	517.1	86	4	32	*
AF	Libya	1180 /e	*	2309.0 /c	*	*	*	*	*
E	Liechtenstein	*	*	*	*	*	*	*	*
E	Luxembourg	1305 /e	*	*	*	*	*	*	*
AF	Madagascar	100	0	49.8	46.8	*	*	10	*
AF	Malawi	150	-2	45.1	63.5	*	*	4	*
AS	Malaysia	2892	0	692.5	763.7	*	*	61 /d	3160 /d
AS	Maldives	2 /e	*	*	*	*	*	*	*
AF	Mali	42	0	19.8	15.5	30	*	5	*
E	Malta	152 /e	*	*	*	*	*	*	*
AF	Mauritania	105.2	0	126.4	97.3	*	*	*	*
AF	Mauritius	232	43	186.8	480.0	93 /d	82 /d	80	*
NA	Mexico	21574	0	1266.8	1102.6	99 /d	43 /d	80 /d	*
E	Monaco	*	*	*	*	*	*	*	*
AF	Morocco	1553	0	205.6	337.0	60 /d	6 /d	28 /d	*
AF	Mozambique	1800	0	90.8	263.4	*	*	*	*
OC	Nauru	*	*	*	*	*	*	*	*
AS	Nepal	162	63	12.2	23.1	*	*	5	137
E	Netherlands	18673 /e	*	4908.0 /c	*	*	*	*	*
C	Neth. Antilles	340 /e	*	*	*	*	*	*	*
OC	New Zealand	6842 /e	*	3673.0 /c	*	*	*	*	*

ENERGY DEMAND FILE

REGION	COUNTRY	ENERGY CONSUMPTION /a			PRIMARY FUEL BREAKDOWN /g						FUEL PRICE /h		
		total	5-Yr	1-Yr	Grwth	Liq.	Solid	Nat	Elec-	Net Imp	Diesel	Reg Gas	Kersn
		mtoe	Grwth	Grwth	Rate	Fuels	Fuels	Gas	tric	Depen	\$/gal	\$/gal	\$/gal
			Pct	Pct	Tot1980	Pct	Pct	Pct	Pct	mtoe			
			/d	/d									
CA	Nicaragua	0.667	-2.0	9.0	3.5	84%	*	*	16%	0.558	\$1.45	\$2.48	*
AF	Niger	0.242	11.3	19.8	12.0	90%	*	*	10%	0.192	\$1.84	\$2.43	\$1.46
AF	Nigeria	12.235	17.5	8.7	15.6	83%	2%	10%	5%	-57.372	\$0.58	\$0.52	\$0.55
OC	Niue	*	*	*	*	*	*	*	*	*	*	*	*
E	Norway	34.050 /c	*	*	*	*	*	*	*	*	\$1.55	\$2.67	\$1.57
AS	Oman	1.005 /c	*	*	*	*	*	*	*	*	*	*	*
AS	Pakistan	15.209	9.3	16.1	3.8	36%	5%	39%	20%	4.76	\$1.02	\$1.61	\$0.81
CA	Panama	1.351	-4.3	2.8	-3.2	90%	*	*	10%	0.986	\$1.33	\$2.14	\$1.20
OC	Papua New Guinea	0.668	6.1	4.2	10.0	86%	*	*	14%	0.599	\$1.85	\$2.07	\$1.74
SA	Paraguay	0.615	6.1	-9.8	8.8	59%	*	*	41%	0.525	\$1.37	\$2.60	\$1.66
SA	Peru	8.983	2.2	1.5	4.0	68%	2%	11%	19%	-3.277	\$0.79	\$1.01	\$0.35
AS	Philippines	11.815	4.5	-7.9	4.1	87%	1%	*	12%	10.711	\$1.18	\$1.81	\$1.23
E	Portugal	10.625	3.3	-5.7	6.2	75%	4%	*	21%	9.26	\$1.49	\$2.98	\$1.49
AS	Qatar	5.892 /b	*	*	*	*	*	*	*	*	*	\$0.24	\$0.11
E	Romania	73.924	4.9	3.8	*	*	*	*	*	11.11	\$1.36	\$2.31	\$1.35
AF	Rwanda	0.095	*	*	9.4	51%	*	1%	48%	0.067	\$2.71	*	\$2.57
C	St. Chris./Nevis	0.015 /b	*	*	*	*	*	*	*	*	*	*	*
C	Saint Lucia	0.058	*	*	*	*	*	*	*	0.058	*	*	*
C	St. Vct./Grends.	0.018	*	*	*	*	*	*	*	0.013	*	*	*
E	San Marino	*	*	*	*	*	*	*	*	*	*	*	*
AF	Soa Tome/Prncpe.	0.013	*	18.2	*	*	*	*	*	0.011	*	*	*
AS	Saudi Arabia	33.260 /c	*	*	*	*	*	*	*	*	\$0.08	\$0.18	\$0.15
AF	Senegal	0.824	3.6	-4.6	-1.0	100%	*	*	*	0.824	\$1.81	\$3.25	\$1.58
AF	Seychelles	0.032	10.7	17.8	*	*	*	*	*	0.032	\$2.17	*	\$0.16
AF	Sierra Leone	0.213	3.7	25.0	-0.5	99%	*	*	1%	0.213	\$1.32	\$2.33	\$1.36
AS	Singapore	11.230 /c	*	*	8.7	100%	*	*	*	*	\$1.23	\$1.83	\$1.38
OC	Solomon Islands	0.037	*	*	*	*	*	*	*	0.046	\$1.47	*	\$1.51
AF	Somalia	0.360	10.8	2.0	12.3	100%	*	*	*	0.36	*	*	*
AF	South Africa	72.717 /c	*	*	*	*	*	*	*	*	\$2.20	\$2.14	\$1.43
E/AS	Soviet Union	1278.720 /c	*	*	*	*	*	*	*	*	*	\$2.85	*
E	Spain	72.086 /c	*	*	*	*	*	*	*	*	\$1.57	\$2.38	\$1.63
AS	Sri Lanka	1.541	3.5	-4.0	0.1	81%	1%	*	18%	1.139	\$1.06	\$1.52	\$0.69
AF	Sudan	1.251	-1.9	3.3	-2.2	88%	*	*	12%	1.166	\$1.94	\$3.86	\$1.94
SA	Suriname	1.070	4.6	18.1	*	*	*	*	*	0.7	\$1.40	\$1.61	*
AF	Swaziland	0.181	*	*	*	*	*	*	*	0.18	*	*	*
E	Sweden	50.945 /c	*	*	*	*	*	*	*	*	\$1.35	\$2.18	\$1.36
E	Switzerland	24.032 /c	*	*	*	*	*	*	*	*	\$2.42	\$2.29	*
AS	Syria	6.858	14.6	3.0	*	*	*	*	*	-0.695	*	*	*
AS	Taiwan	*	*	*	*	*	*	*	*	*	*	*	*
AF	Tanzania	0.712	-0.6	1.5	2.8	77%	*	*	23%	0.616	\$1.83	\$3.36	\$1.01
AS	Thailand	12.926	8.1	6.5	8.2	93%	3%	*	4%	10.62	\$1.15	\$1.83	\$1.01
AF	Togo	0.447	*	20.9	*	*	*	*	*	0.365	*	*	*
OC	Tonga	0.015 /b	*	*	*	*	*	*	*	*	*	*	*
C	Trinidad/Tobago	7.016 /c	*	*	1.2	57%	*	43%	*	*	\$0.49	\$0.55	\$0.42
AF	Tunisia	2.812	11.1	8.6	8.4	86%	*	14%	*	2.545	\$0.80	\$1.82	\$0.61
E/AS	Turkey	27.872	2.7	-3.6	-6.7	65%	21%	*	14%	15.04	\$1.01	\$1.49	\$1.01
OC	Tuvalu	*	*	*	*	*	*	*	*	*	*	*	*
AF	Uganda	0.287	-6.5	-6.4	-5.7	69%	*	*	31%	0.127	\$2.69	\$3.92	\$2.45
AS	U. Arab Emirates	5.484 /c	*	*	*	*	*	*	*	*	*	*	*
E	United Kingdom	197.588 /c	*	*	*	*	*	*	*	*	\$2.16	\$2.18	\$1.39
SA	Uruguay	2.079	1.6	2.3	0.8	78%	1%	*	21%	0.559	\$1.40	\$2.62	\$1.41

ENERGY DEMAND FILE

REGION	COUNTRY	ELECTRICITY SALES /g						ELECTRICITY GENERATION CAPACITY /g						
		Total	Resid	Comm	Indus	Govt	Other	Hydro	Hydro	Steam	Gas	Diesel	Other	Growth
		gWh	Pct	Pct	Pct	Pct	Pct	Pct	Pot MW	Pct	Turbine Pct	Pct	Pct	Rate To1980
CA	Nicaragua	774	26%	9%	31%	34%	0%	28%	4106	63%	9%	0%	0%	4.7
AF	Niger	226	38%	26%	*	26%	10%	0%	235	0%	0%	100%	0%	9.9
AF	Nigeria	4596	50%	17%	33%	*	0%	33%	12400	25%	41%	1%	0%	12.3
OC	Niue	*	*	*	*	*	*	*	*	*	*	*	*	*
E	Norway	*	*	*	*	*	*	99% /e	*	*	*	*	*	*
AS	Oman	*	*	*	*	*	*	0% /e	*	*	*	*	*	*
AS	Pakistan	8454	22%	3%	38%	1%	36%	51%	19600	30%	15%	0%	4%	6.3
CA	Panama	1955	26%	27%	26%	*	21%	39%	3031	35%	2%	24%	0%	8.8
OC	Papua New Guinea	409	29%	59%	12%	*	0%	30%	29000	0%	0%	70%	0%	21.0
SA	Paraguay	651	53%	40%	4%	*	3%	71%	10965	29%	0%	0%	0%	12.6
SA	Peru	7462	35%	18%	42%	5%	0%	60%	60000	27%	13%	0%	0%	5.9
AS	Philippines	13719	21%	34%	40%	5%	0%	21%	10048	69%	0%	0%	10%	7.6
E	Portugal	13733	18%	28%	28%	25%	1%	58%	6000	37%	5%	0%	0%	8.4
AS	Qatar	*	*	*	*	*	*	0% /e	*	*	*	*	*	*
E	Romania	*	*	*	*	*	*	21%	*	73%	1%	0%	5%	*
AF	Rwanda	58	22%	28%	33%	17%	0%	52%	600	0%	0%	48%	0%	9.3
C	St. Chris./Nevis	*	*	*	*	*	*	*	*	*	*	*	*	*
C	Saint Lucia	*	*	*	*	*	*	*	*	*	*	*	*	*
C	St. Vct./Grends.	*	*	*	*	*	*	*	*	*	*	*	*	*
E	San Marino	*	*	*	*	*	*	*	*	*	*	*	*	*
AF	Soa Tome/Prncpe.	*	*	*	*	*	*	40%	*	0%	0%	60%	0%	*
AS	Saudi Arabia	*	*	*	*	*	*	*	*	*	*	*	*	*
AF	Senegal	534	33%	49%	18%	*	0%	0%	500	79%	0%	21%	0%	7.8
AF	Seychelles	*	*	*	*	*	*	0%	*	0%	0%	100%	0%	*
AF	Sierra Leone	108	31%	69%	*	*	0%	2%	1300	0%	0%	0%	98%	1.8
AS	Singapore	*	*	*	*	*	*	0% /e	*	*	*	*	*	12.1
OC	Solomon Islands	*	*	*	*	*	*	0% /e	*	*	*	*	*	*
AF	Somalia	*	*	*	*	*	*	0%	50	0%	0%	100%	0%	10.4
AF	South Africa	*	*	*	*	*	*	2% /e	*	*	*	*	*	*
E/AS	Soviet Union	*	*	*	*	*	*	20% /e	*	*	*	*	*	*
E	Spain	*	*	*	*	*	*	42% /e	*	*	*	*	*	*
AS	Sri Lanka	1396	14%	16%	45%	25%	0%	78%	2500	16%	0%	6%	0%	7.4
AF	Sudan	758	36%	38%	18%	*	8%	53%	2700	17%	5%	25%	0%	9.8
SA	Suriname	*	*	*	*	*	*	0%	*	0%	0%	11%	89%	*
AF	Swaziland	*	*	*	*	*	*	15%	*	0%	0%	7%	29%	*
E	Sweden	*	*	*	*	*	*	51% /e	*	*	*	*	*	*
E	Switzerland	*	*	*	*	*	*	81% /e	*	*	*	*	*	*
AS	Syria	*	*	*	*	*	*	48%	*	31%	16%	0%	5%	*
AS	Taiwan	*	*	*	*	*	*	11% /e	*	*	*	*	*	*
AF	Tanzania	732	21%	12%	66%	1%	0%	66%	9500	0%	4%	30%	0%	4.0
AS	Thailand	13007	22%	27%	47%	*	4%	33%	20148	60%	5%	2%	0%	13.2
AF	Togo	*	*	*	*	*	*	0%	*	0%	0%	100%	0%	*
OC	Tonga	*	*	*	*	*	*	*	*	*	*	*	*	*
C	Trinidad/Tobago	1575	30%	12%	57%	1%	0%	0% /e	*	*	*	*	*	4.3
AF	Tunisia	2071	31%	10%	51%	*	8%	3%	65	39%	55%	3%	0%	13.5
E/AS	Turkey	20968	15%	6%	73%	5%	1%	42%	32000	58%	0%	0%	0%	11.1
OC	Tuvalu	*	*	*	*	*	*	*	*	*	*	*	*	*
AF	Uganda	528	15%	10%	19%	1%	55%	97%	1200	0%	0%	3%	0%	-1.6
AS	U. Arab Emirates	*	*	*	*	*	*	0% /e	*	*	*	*	*	*
E	United Kingdom	*	*	*	*	*	*	4% /e	*	*	*	*	*	*
SA	Uruguay	2706	43%	16%	35%	*	6%	45%	2248	51%	4%	0%	0%	4.2

ENERGY DEMAND FILE

REGION	COUNTRY	ELEC. CAPCTY. /a	NET IMPORTS /a	ENERGY/ CAPITA /a	ELEC/ CAPITA /a	ELEC. ACCESS /a			VILLS. /a
		MM	gWh	kgoe	kWh	Urban	Rural	Total	Electri- fied
CA	Nicaragua	400	108	231.1	399.5	70 /d	16 /d	45 /d	*
AF	Niger	70	214	41.2	59.5	*	*	3	*
AF	Nigeria	2805	0	135.1	82.8	*	*	7	*
OC	Niue	*	*	*	*	*	*	*	*
E	Norway	22119 /e	*	8305.0 /c	*	*	*	*	*
AS	Oman	419 /e	*	914.0 /c	*	*	*	*	*
AS	Pakistan	4239	0	174.8	204.3	*	8	22 /d	14000
CA	Panama	747	0	703.6	1800.5	77 /d	36 /d	58 /d	*
OC	Papua New Guinea	252	0	213.6	150.6	*	*	13 /d	*
SA	Paraguay	269	207	196.3	292.0	*	*	39	*
SA	Peru	3395	0	514.3	595.4	50 /d	10 /d	36 /d	*
AS	Philippines	5054	0	232.9	405.2	*	*	37 /d	*
E	Portugal	4557	2969	1073.2	1929.0	100 /d	93 /d	95 /d	*
AS	Qatar	695 /e	*	*	*	*	*	*	*
E	Romania	17232	-500	3288.7	3043.0	100 /d	99 /d	99 /d	*
AF	Rwanda	39	0	17.2	29.5	*	*	89 /d	*
C	St. Chris./Nevis	*	*	*	*	*	*	*	*
C	Saint Lucia	16.5	*	467.7	514.9	*	*	*	*
C	St. Vct./Grends.	11.4	*	159.3	256.6	*	*	44	*
E	San Marino	*	*	*	*	*	*	*	*
AF	Soa Tome/Prncpe.	5.2	0	111.0	94.0	40	0	14	*
AS	Saudi Arabia	7409 /e	*	3326.0 /c	*	*	*	*	*
AF	Senegal	165	0	136.7	104.7	83	12	36	*
AF	Seychelles	19.4	0	492.3	803.1	*	*	67	*
AF	Sierra Leone	95	0	57.9	64.2	0	0	10	*
AS	Singapore	2175 /e	*	4492.0 /c	*	*	*	*	*
OC	Solomon Islands	12	*	151.0	95.9	*	*	10	*
AF	Somalia	30	0	79.7	16.6	*	*	*	*
AF	South Africa	23074 /e	*	2392.0 /c	*	*	*	*	*
E/AS	Soviet Union	285492 /e	*	4736.0 /c	*	*	*	*	*
E	Spain	29900 /e	*	1902.0 /c	*	*	*	*	*
AS	Sri Lanka	529	0	101.1	135.5	23 /d	1 /d	6 /d	8% /d
AF	Sudan	313	0	63.1	51.0	*	*	8	*
SA	Suriname	400	0	3022.6	4802.3	88 /d	42 /d	62 /d	68 /d
AF	Swaziland	70	330.1	272.6	874.7	90 /d	9 /d	17 /d	*
E	Sweden	29684 /e	*	6138.0 /c	*	*	*	*	*
E	Switzerland	14100 /e	*	3755.0 /c	*	*	*	*	*
AS	Syria	1104	-30	709.9	469.9	80 /d	20 /d	48 /d	*
AS	Taiwan	12684 /e	*	*	*	*	*	*	*
AF	Tanzania	258	0	36.8	42.8	*	*	5	*
AS	Thailand	4694	702	266.5	364.7	82 /d	26 /d	34 /d	*
AF	Togo	98	344	162.3	132.9	*	*	8 /d	*
OC	Tonga	*	*	*	*	*	*	*	*
C	Trinidad/Tobago	760 /e	*	6378.0 /c	*	*	*	*	*
AF	Tunisia	1156	26	420.3	478.2	87 /d	31 /d	54 /d	*
E/AS	Turkey	6363	1858	586.5	592.6	95 /d	45 /d	72 /d	21000
OC	Tuvalu	*	*	*	*	*	*	*	*
AF	Uganda	155.4	-213	21.3	26.4	60 /d	3 /d	8 /d	*
AS	U. Arab Emirates	1510 /e	*	4985.0 /c	*	*	*	*	*
E	United Kingdom	69191 /e	*	3541.0 /c	*	*	*	*	*
SA	Uruguay	1309	22	705.0	1234.5	96 /d	66 /d	82 /d	*

ENERGY DEMAND FILE

REGION	COUNTRY	ENERGY CONSUMPTION /a			PRIMARY FUEL BREAKDOWN /g						FUEL PRICE /h		
		total	5-Yr	1-Yr	Grwth	Liq.	Solid	Nat	Elec	Net Imp	Diesel	Reg Gas	Kersn
			Grwth	Grwth	Rate	Fuels	Fuels	Gas	tric	Depen			
		mtoe	Pct	Pct	To1980	Pct	Pct	Pct	Pct	mtoe	\$/gal	\$/gal	\$/gal
			/d	/d									
OC	Vanuatu	*	*	*	*	*	*	*	*	*	*	*	*
SA	Venezuela	40.731 /c	*	*	1.1	55%	1%	32%	12%	*	\$0.07	\$0.22	\$0.07
OC	Western Samoa	*	*	*	*	*	*	*	*	*	*	*	*
AS	Yemen Arab Rep.	0.509	7.9	14.4	*	*	*	*	*	0.509	*	*	*
E	Yugoslavia	36.195	4.0	2.9	5.4	38%	38%	5%	19%	15.2	\$1.54	\$2.16	\$1.72
AF	Zaire	1.456	1.9	1.2	1.9	44%	8%	1%	47%	-0.107	\$2.00	\$2.32	\$1.86
AF	Zambia	3.559	2.7	9.3	3.5	31%	13%	*	56%	0.367	\$2.64	\$4.18	\$1.77
AF	Zimbabwe	4.504	0.7	2.5	-0.8	15%	58%	*	27%	1.934	\$2.01	\$3.04	\$1.89

ENERGY DEMAND FILE

REGION	COUNTRY	ELECTRICITY SALES /g						ELECTRICITY GENERATION CAPACITY /g						
		Total	Resid	Comarc	Indus	Govt	Other	Hydro	Hydro	Steam	Gas	Diesel	Other	Growth
		gWh	Pct	Pct	Pct	Pct	Pct	Pct	Pot MW	Pct	Turbine Pct	Pct	Pct	Rate To1980
OC	Vanuatu	*	*	*	*	*	*	*	*	*	*	*	*	*
SA	Venezuela	27076	22%	11%	51%	15%	1%	31%	25000	37%	30%	2%	0%	9.3
OC	Western Samoa	*	*	*	*	*	*	*	*	*	*	*	*	*
AS	Yemen Arab Rep.	*	*	*	*	*	*	0%	*	0%	0%	100%	0%	*
E	Yugoslavia	51099	28%	8%	59%	2%	3%	44%	17000	56%	0%	0%	0%	8.3
AF	Zaire	3650	19%	78%	*	*	3%	94%	120000	0%	0%	6%	0%	3.5
AF	Zambia	5417	*	*	*	*	*	95%	12000	0%	0%	0%	5%	8.3
AF	Zimbabwe	6801	16%	8%	71%	*	5%	60%	3800	40%	0%	0%	0%	-3.4

ENERGY DEMAND FILE

REGION	COUNTRY	ELEC. CAPCTY. /a	NET IMPORTS /a	ENERGY/ CAPITA /a	ELEC/ CAPITA /a	ELEC. ACCESS /a			VILLS. /a Electri- fied
		MW	GWh	kgoe	kWh	Urban Pct	Rural Pct	Total Pct	
OC	Vanuatu	*	*	*	*	*	*	*	*
SA	Venezuela	9312 /e	*	2439.0 /c	*	*	*	*	*
OC	Western Samoa	*	*	*	*	*	*	*	*
AS	Yemen Arab Rep.	351	0	68.1	85.7	74	4	33	*
E	Yugoslavia	16428	1956	1595.2	2862.5	100 /d	84 /d	90 /d	*
AF	Zaire	1716	-20	47.4	143.1	*	*	*	*
AF	Zambia	1947	0	588.8	1750.9	*	*	*	*
AF	Zimbabwe	1192	3450	600.6	1015.3	70 /d	0 /d	16 /d	*

* NOT AVAILABLE

4. ENERGY RESOURCE FILE

4. ENERGY RESOURCE FILE

The Energy Resource File provides data on the existing renewable energy resources available in a country. Specifically, data is provided on solar, wind, hydro, ocean, geothermal, and biomass energy resources. The following headings are used in the data file:

- Insolation, Wind Power, and River Flow Data
 - Climate region
 - Average annual insolation, kWh/m²
 - Average annual wind power, W/m²
 - Average annual river flow, mm
- Ocean Thermal Energy Conversion (OTEC)
 - Delta T, degrees Celsius
 - Distance from resource to shore, km
- Geothermal Resources
 - <100 degrees Celsius, Gtoe
 - 100-150 degrees Celsius, Gtoe
 - 150-250 degrees Celsius, Gtoe
 - Total, Gtoe
- Potential Annual Biomass Resources
 - Total forest area, million hectares
 - Annual increment, timber volume, million cubic meters
 - Potential energy from forest growth, mtoe
 - Potential energy from animal manure, mtoe
 - Potential energy from crop residues
 - Total potential annual energy from biomass, mtoe.

Chapter Notes

- Note 1: Since solar, wind, and hydro resources depend significantly on the climate and the geographical region, data are provided for more than one climatic region in a country, where available.
- Note 2: Solar resources are indicated by average annual insolation calculated on a surface at an inclination to the horizontal that is equal to the latitude.
- Note 3: The average annual wind power information was calculated from data on areal distribution of wind speed within climatic regions. In generating the regional wind profiles, actual wind speed data recorded from sites located at various points around the world were used. However, there

were large areas of the world with little or no recorded wind data. Therefore, regional climatological data and other information were used in completing the wind power section[3].

Note 4: The wind power estimates are considered to be representative of "well-exposed" sites at a height 10 meters above ground. The estimates of annual mean wind speed were converted to an approximate value of annual wind power by using a Rayleigh distribution. Wind power is expressed in watts per square meter of cross-section area averaged over a year. While the wind power estimates are adequate for a preliminary classification of regions, they should not be used to infer wind power availability at specific sites. Furthermore, the estimates do not enable seasonal or diurnal wind power distributions to be estimated[3].

Note 5: Hydro resources are indicated by average annual river flow (run off) expressed as the water layer (in mm) distributed over the basin area. Run off refers to the amount of water that runs off the land and can be theoretically converted to hydro power potential.

Note 6: OTEC resource data are given in terms of the change of temperature between the surface and 1,000 meter depth (ΔT); temperature is given in degrees Celsius. The distance from the resource to shore, in km, is also given.

Note 7: The geothermal energy resource potential of a country refers to the total heat or energy (in gigatons of oil equivalent) contained in subsurface rocks and fluids to a depth of 5 km and at temperatures above 15°C. Three temperature classes are considered. Geothermal resources within Class 1 are below the boiling point of water (100°C), and those within Class 2 (100 to 150°C) are above the boiling point, but are

generally not suitable for electrical power production. Class 3 includes geothermal resources with temperatures greater than or equal to 150°C.

Note 8: Forest biomass resources are expressed in terms of total forest area, the annual increment of forest growth, and the potential energy from the forest growth.

Note 9: The total forest area data may include areas that were once forest or areas planned for future forest growth. In addition, the types of forests considered may vary from tropical rain forests to savannas, with quite different consequences for biomass estimates.

Note 10: The annual increment of forest growth is the volume of timber assessed to be capable of increase at 1-10 cubic meters (0.2 to 2.0 metric tons of oil equivalent) per hectare. (Evidence indicates that these yields are small compared with what improved cultivation might yield.)

Note 11: The potential energy from forest growth data assumes an energy content of 427 toe per cubic meter.

Note 12: Animal and crop residue resource estimates may be even less exact than the range shown for wood estimates since the wastes are less likely to enter commercial markets.

Note 13: The data for biomass resources represent the potential energy that would theoretically be extracted from annual forest growth and vegetable and animal wastes. The figures do not represent realistic estimates of future production because constraints involving alternate economic uses, harvesting and transport feasibility, and potential end-use devices are not taken into account.

ENERGY RESOURCE FILE

RGN COUNTRY	Climate Region	INSOLATION, WIND POWER & RIVER FLOW DATA			OTEC /k		GEOTHERMAL RESOURCE /m			
		Ave. An.	Ave. An.	Ave. An.	Delta T Resource		<100	100-150	150-250	Total
		Insola- tion	Wind Power	River Flow	to Shore		deg C	deg C	deg C	
		kWh/m2 /i	W/m2 /j	m3 /i	deg C	km	Gtoe	Gtoe	Gtoe	Gtoe
AS Afghanistan	Northern Plains	1887	57	50	**	**	6698	8220	3489	18407
AS Afghanistan	Desert	2334	50	1						
AS Afghanistan	Jalalabad Valley	1887	57	100						
AS Afghanistan	Mountains	1907	61	100						
AF Algeria	Coastal	1968	155	20	**	**	28103	33489	522	62061
AF Algeria	Atlas Mountains	1990	185	10						
AF Algeria	Northern Plains	1931	175	10						
AF Algeria	Desert	2328	198	1						
AF Algeria	Southeast Highlands	2373	90	1						
C Antigua/Barbuda	Island	2330	200	*	21 /i	20 /i	*	*	*	*
SA Argentina	Northern Plains	1735	57	5	**	**	31382	33021	7471	72131
SA Argentina	Andes Mountains	1975	200	10						
SA Argentina	Southeast Coast	1584	355	10						
SA Argentina	Pampas	1906	93	200						
AUS Australia	Northern Coast	2099	110	200	18	100	91101	105621	0	196956
AUS Australia	Interior Desert	2296	63	1						
AUS Australia	Southern Coast	1986	181	20						
AUS Australia	Eastern Coast	1896	163	300						
AUS Australia	Tasmania	1684	380	300						
AUS Australia	Detached Islands	1896	300	*						
E Austria	Danube Plains	1205	60	500	**	**	740	892	871	2506
C Bahamas	Island	2260	175	*	20	15	164	201	0	365
AS Bahrain		2193	175	1	**	**	8	10	0	18
AS Bangladesh	Ganges Delta	2218	60	1000	**	**	1696	2084	0	3770
C Barbados	Island	2339	225	*	22	1-10	3	3	14	20
E Belgium	Plains	990	178	200	**	**	311	377	137	824
E Belgium	Ardenes	1195	117	300						
CA Belize	Lowlands	2229	102	400	22	50	241	304	134	679
CA Belize	Highlands	2232	110	600						
AF Benin	Interior Plains	1737	72	200	18	25	1309	1679	79	3068
AF Benin	Coastal Strip	1812	67	500						
C Bermuda	Island	2274	400	*	**	**	1	1	0	1
SA Bolivia	Andes Mountains	2005	92	100	**	**	10984	13817	8689	33489
SA Bolivia	Andean Basin	2010	82	100						
AF Botswana	Arid Plateau	2123	110	20	**	**	7026	8899	0	15925
SA Brazil	Rain forest	1719	63	800	20	75	991	122014	4801	225761
SA Brazil	Central Plateau	1990	68	800						
SA Brazil	Hills	1828	70	300						
SA Brazil	Marsh	1483	50	800						
SA Brazil	Southern Plains	1873	70	500						
SA Brazil	Southeast Coast	1585	131	500						
SA Brazil	East Coast	2058	131	500						
SA Brazil	Offshore Island	2059	225	*						
AS Brunei	Coastal Lowlands	1752	53	2000	**	**	68	84	0	152
E Bulgaria					**	**	1468	763	349	2576
AF Burkina Faso	Bush Country	2161	115	50	**	**	3185	4075	193	7447
AS Burma	Peninsular	2110	68	3000	20	75	7283	9063	3068	19391
AS Burma	Delta Region	2089	57	500						

ENERGY RESOURCE FILE

RGN COUNTRY

POTENTIAL ANNUAL BIOMASS RESOURCES /n

Total Forest Area Million hectares	Annul. Increment Timber Volume Million cubic meters	Energy from Forest Growth atoe	Energy from Animal Manure atoe	Energy from Crop Residues atoe	Total Annul. Energy from Biomass atoe
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AS Afghanistan	0.7	0-7	0.16-1.62	2.88	1.02	4.18-5.80
AS Afghanistan						
AS Afghanistan						
AS Afghanistan						
AF Algeria	2.4	2-20	0.46-46.4	1.34	0.79	2.55-6.73
AF Algeria						
AF Algeria						
AF Algeria						
AF Algeria						
C Antigua/Barbuda	*	*	*	*	*	*
SA Argentina	60.3	60-600	600-6000	1128.00	414.00	2100-7500
SA Argentina						
SA Argentina						
SA Argentina						
AUS Australia	*	*	*	*	*	*
AUS Australia						
AUS Australia						
AUS Australia						
AUS Australia						
AUS Australia						
E Austria	*	*	*	*	*	*
C Bahamas	*	*	*	*	*	*
AS Bahrain	*	*	*	0.002	*	*
AS Bangladesh	2.3	2-23	0.53-5.34	11.41	8.56	20.42-25.52
C Barbados	*	*	*	*	*	*
E Belgium	*	*	*	*	*	*
E Belgium						
CA Belize	2.0	2-20	0.46-4.6	*	*	0.46-4.6
CA Belize						
AF Benin	8.6	9-90	2.09-20.88	0.44	0.14	2.78-21.58
AF Benin						
C Bermuda	*	*	*	*	*	*
SA Bolivia	47.3	47-470	10.9-100.9	1.92	0.62	13.4-111.4
SA Bolivia						
AF Botswana	11.0	11-110	0.26-2.55	0.96	0.002	3.48-25.52
SA Brazil	320.0	320-3200	74.24-742.4	45.24	22.00	141.5-81.2
SA Brazil						
SA Brazil						
SA Brazil						
SA Brazil						
SA Brazil						
SA Brazil						
SA Brazil						
AS Brunei	0.4	0-4	1.02-10.21	0.01	0.002	0.12-0.95
E Bulgaria	*	*	*	*	*	*
AF Burkina Faso	3.5	3-30	0.81-81.20	0.91	0.04	1.76-9.05
AS Burma	45.0	45-450	10.44-104.40	4.01	4.08	18.56-111.36
AS Burma						

ENERGY RESOURCE FILE

RGN COUNTRY	Climate Region	INSOLATION, WIND POWER & RIVER FLOW DATA			OTEC /k		GEOTHERMAL RESOURCE /m			
		Ave. An. Insola- tion kWh/m ² /i	Ave. An. Wind Power W/m ² /j	Ave. An. River Flow m ³ /i	Delta T deg C	Resource to Shore km	<100 deg C Gtoe	100-150 deg C Gtoe	150-250 deg C Gtoe	Total Gtoe
AS Burma	Coastal Strip	2088	87	3000						
AS Burma	Irrawaddy Valley	2083	53	2000						
AS Burma	Shan Plateau	2057	72	800						
AS Burma	Northern Highland	2042	72	1000						
AF Burundi	Highlands	1998	57	100	**	**	251	328	351	930
AF Cameroon	Northern Plains	2035	88	200	22	30	5293	6768	1272	13326
AF Cameroon	Equatorial	2077	65	600						
NA Canada	Barren Northland	1044	360	100	**	**	120609	67916	3630	192272
NA Canada	Great Lakes Area	1406	123	300						
NA Canada	Eastern Canada	1394	210	700						
NA Canada	Hudson Bay Area	1248	218	200						
NA Canada	Lake Country	1623	123	100						
NA Canada	Maritimes	1288	337	1000						
NA Canada	Northern Forests	1311	145	200						
NA Canada	Northern Islands	1019	400	200						
NA Canada	Prairies	1730	175	50						
NA Canada	Southern Rockies	1387	236	500						
NA Canada	Yukon	1043	163	200						
AF Cape Verde	Islands	2334	125	*	**	**	24	31	124	179
AF Central African Republic	Eastern Plateau	1813	50	1000	**	**	7190	9274	658	17096
AF Central African Republic	Equatorial	1822	68	800						
AF Chad	Desert	2335	132	1	**	**	14590	18595	1937	35129
AF Chad	Southern Plains	2405	125	50						
SA Chile	Arid Coastal	1973	145	10	**	**	7213	8829	6276	22319
SA Chile	Arid Mountains	2052	256	10						
SA Chile	Central Coast	1860	325	1000						
SA Chile	Central Mountains	1817	371	2000						
SA Chile	Southern Coast	1770	360	2000						
AS China	Dzungarian Basin	1679	60	20	21	50	107728	116159	26698	250585
AS China	Western Desert	2241	87	1						
AS China	Tibet Mountains	2325	125	20						
AS China	Yellow River Area	1693	133	200						
AS China	Central Mountains	1712	72	500						
AS China	Szechwan Basin Mountai	1782	113	1000						
AS China	South Central Mountain	1766	71	500						
AS China	Southeast Highlands	1675	78	1500						
AS China	Eastern Piedmont	1620	86	1500						
AS China	Eastern Plains	1751	115	300						
AS China	Northern Mountains	1564	97	200						
AS China	Northeast Lowlands	1587	120	300						
AS China	Northeast Highlands	1554	187	600						
SA Colombia	West Coast	1278	63	2000	20	50	12342	15878	4778	33021
SA Colombia	Northern Lowlands	2011	95	500						
SA Colombia	Central Mountains	1714	117	1000						
SA Colombia	Eastern Lowlands	1928	57	500						
AF Comoros	Islands	2216	175	*	20	1-10	13	17	70	99
AF Congo	Equatorial	1702	50	500	20	50	3958	5082	241	9297
AF Congo	Coastal	1697	53	500						

ENERGY RESOURCE FILE

RGN COUNTRY

POTENTIAL ANNUAL BIOMASS RESOURCES /n

Total Forest Area Million hectares	Ann. Increment Timber Volume Million cubic meters	Energy from Forest Growth attoe	Energy from Animal Manure attoe	Energy from Crop Residues attoe	Total Ann. Energy from Biomass attoe
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AS Burma						
AS Burma						
AS Burma						
AS Burma						
AF Burundi	0.3	0-3	0.07-0.67	0.01	0.37	0.70-1.04
AF Cameroon	30.0	30-300	6.96-69.60	1.28	0.23	8.58-64.96
AF Cameroon						
NA Canada	*	*	*	*	*	*
NA Canada						
NA Canada						
NA Canada						
NA Canada						
NA Canada						
NA Canada						
NA Canada						
NA Canada						
NA Canada						
AF Cape Verde	*	*	*	*	*	*
AF Central African Republic	28.0	28-280	6.50-64.96	0.22	0.07	6.73-64.96
AF Central African Republic						
AF Chad	16.5	16-160	3.71-37.12	1.60	0.03	6.26-39.44
AF Chad						
SA Chile	5.0	5-50	1.16-11.6	2.00	0.87	3.94-14.38
SA Chile						
SA Chile						
SA Chile						
SA Chile						
AS China	80.0	80-800	18.56-185.60	77.72	118.23	213.44-371.2
AS China						
AS China						
AS China						
AS China						
AS China						
AS China						
AS China						
AS China						
AS China						
AS China						
AS China						
AS China						
AS China						
SA Colombia	78.0	78-780	18.10-181.0	9.47	3.78	32.48-194.88
SA Colombia						
SA Colombia						
SA Colombia						
AF Comoros	*	*	*	*	*	*
AF Congo	27.0	27-270	6.26-62.64	0.03	0.09	6.50-62.64
AF Congo						

ENERGY RESOURCE FILE

RGN COUNTRY		INSOLATION, WIND POWER & RIVER FLOW DATA					OTEC /k		GEOTHERMAL RESOURCE /m			
		Climate Region	Ave. An.	Ave. An.	Ave. An.	Delta T deg C	Resource to Shore km	<100 deg C Gtoe	100-150 deg C Gtoe	150-250 deg C Gtoe	Total Gtoe	
			Insola- tion	Wind Power	River Flow							
			kWh/m2 /i	W/m2 /j	m3 /i							
OC	Cook Islands					20	1-10	*	*	*	*	
CA	Costa Rica	Southwest Coast	1650	68	2000	21	50	302	391	1607	2300	
CA	Costa Rica	Mountains	1652	125	2000							
CA	Costa Rica	Northeast coast	1654	68	500							
AS	Cyprus	Island	1696	225	400	**	**	163	0	0	163	
E	Czechoslovakia					**	**	1309	1571	433	3302	
E	Denmark	Jutland	1159	277	300	**	**	471	473	78	1023	
E	Denmark	Fyn	1061	347	300							
E	Denmark	Szaeland	1071	365	200							
AF	Djibouti	Coastal	2226	128	5	**	**	206	272	300	778	
C	Dominica	Island	2329	175	*	22	1-10	*	*	*	*	
C	Dominican Republic	Lowlands	2305	137	500	21	1	496	632	384	1513	
C	Dominican Republic	Mountains	2308	162	500							
SA	Ecuador	Coastal Lowlands	1724	97	200	18	50	2576	3326	3489	9391	
SA	Ecuador	Andes Mountains	1281	150	1000							
SA	Ecuador	Interior Lowlands	1281	65	1000							
AF	Egypt	Desert	2093	77	1	**	**	11827	14122	0	25995	
AF	Egypt	Nile Valley	2117	71	1							
AF	Egypt	Red Sea Hills	1938	92	1							
CA	El Salvador	Mountains	2250	95	1000	22	65	125	162	665	953	
AF	Equatorial Guinea	Coastal	2348	50	1000	22	/1 30 /1	328	417	10	754	
AF	Ethiopia	Arid Coastal	2052	132	1	**	**	12155	15878	10234	38173	
AF	Ethiopia	Plateau	2223	172	50							
AF	Ethiopia	Eastern Highlands	2185	248	200							
OC	Fiji	Islands	1981	175	*	22	1-10	110	141	562	813	
E	Finland	Lake Country	1044	112	800	**	**	4684	0	0	4684	
E	Finland	North Country	901	71	500							
E	France	Plains	1337	125	300	**	**	5035	6089	4778	15902	
E	France	Plateau	1424	86	200							
E	France	Central Missif	1385	103	200							
E	France	Rhone Valley	1453	156	200							
E	France	French Alps	1271	357	200							
E	France	Southeast Coast	1644	127	500							
E	France	Corsica	1541	200	100							
AF	Gabon	Coastal Tropical Fores	1841	53	800	20	15	3115	3981	188	7283	
AF	Gaobia	River Basin	1978	170	500	**	**	132	168	0	300	
E	Germany,East					**	**	2365	2857	1749	6956	
E	Germany,West					**	**	1077	1295	487	2857	
AF	Ghana	Interior	1737	57	100	22	25	2787	3560	84	6417	
AF	Ghana	Coastal	1814	67	200							
E	Greece	Crete	1691	400	300	**	**	1274	885	590	2740	
E	Greece	Mainland	1666	152	400							
C	Grenada	Island	2345	175	*	27	1-10	2	3	11	16	
CA	Guatemala	Northern Lowland	2065	87	1000	22	65	1005	1279	1232	3513	
CA	Guatemala	Interior Mountains	2145	106	1000							
CA	Guatemala	Pacific Lowlands	1638	72	1500							
AF	Guinea	Interior	1982	87	500	20	80	2881	3653	0	6534	
AF	Guinea	Coastal	1985	65	1000							

ENERGY RESOURCE FILE

RGN COUNTRY

RGN COUNTRY		POTENTIAL ANNUAL BIOMASS RESOURCES /n					
		Total Forest Area Million hectares	Ann'l. Increment Timber Volume Million cubic meters	Energy from Forest Growth atoe	Energy from Animal Manure atoe	Energy from Crop Residues atoe	Total Ann'l. Energy from Biomass atoe
QC	Cook Islands	*	*	*	*	*	*
CA	Costa Rica	2.2	2-20	0.46-4.6	0.73	0.38	1.58-5.80
CA	Costa Rica						
CA	Costa Rica						
AS	Cyprus	*	*	*	*	*	*
E	Czechoslovakia	*	*	*	*	*	*
E	Denmark	*	*	*	*	*	*
E	Denmark						
E	Denmark						
AF	Djibouti	*	*	*	*	*	*
C	Dominica	*	*	*	*	*	*
C	Dominican Republic	1.1	1-10	0.23-2.32	0.92	1.43	2.55-4.64
C	Dominican Republic						
SA	Ecuador	18.1	18-180	4.18-41.76	1.57	0.52	6.50-44.08
SA	Ecuador						
SA	Ecuador						
AF	Egypt	*	*	*	2.28	4.22	6.50
AF	Egypt						
AF	Egypt						
CA	El Salvador	1.0	1-10	0.23-2.32	0.48	0.52	1.23-3.25
AF	Equatorial Guinea	1.0	1-10	0.23-2.32	0.01	0.01	0.23-2.32
AF	Ethiopia	33.0	25-250	5.8-58.00	13.60	1.56	22.74-92.8
AF	Ethiopia						
AF	Ethiopia						
OC	Fiji	*	*	*	*	*	*
E	Finland	*	*	*	*	*	*
E	Finland						
E	France	*	*	*	*	*	*
E	France						
E	France						
E	France						
E	France						
E	France						
E	France						
AF	Gabon	24.8	25-250	5.80-58.00	0.01	0.01	5.80-58.00
AF	Gambia	0.1	0-1	0.02-0.23	0.12	0.01	0.16-0.37
E	Germany, East	*	*	*	*	*	*
E	Germany, West	*	*	*	*	*	*
AF	Ghana	12.0	12-120	2.78-27.84	0.69	0.40	3.94-27.84
AF	Ghana						
E	Greece	*	*	*	*	*	*
E	Greece						
C	Grenada	*	*	*	*	*	*
CA	Guatemala	6.5	6-60	1.39-13.92	0.96	0.96	3.25-15.78
CA	Guatemala						
CA	Guatemala						
AF	Guinea	17.1	17-170	3.97-39.67	0.62	0.26	4.87-39.44
AF	Guinea						

ENERGY RESOURCE FILE

RGN COUNTRY	Climate Region	INSOLATION, WIND POWER & RIVER FLOW DATA			OTEC /k		GEOTHERMAL RESOURCE /a			
		Ave. An. Insola- tion kWh/m ² /i	Ave. An. Wind Power W/m ² /j	Ave. An. River Flow m ³ /i	Delta T deg C	Resource to Shore km	<100 deg C Gtoe	100-150 deg C Gtoe	150-250 deg C Gtoe	Total Gtoe
AF Guinea Bissau	Coastal	1982	121	500	18	50	424	536	0	958
SA Guyana	Coastal Strip	1832	132	1000	22	130	2482	3185	151	5831
SA Guyana	Northern Lowlands	1569	57	1000						
SA Guyana	Mountains	1571	157	1000						
SA Guyana	Southern Plains	1574	106	1000						
C Haiti	Valley	2313	125	300	21	1	319	407	36	761
C Haiti	Mountains	2308	118	300						
CA Honduras	Northern Lowlands	1753	87	500	22	65	1169	1487	651	3302
CA Honduras	Mountains	1760	110	500						
CA Honduras	Northeast Lowlands	1758	85	800						
AS Hong Kong	Island	1666	135	1000	**	**	*	*	*	*
E Hungary					**	**	630	773	2133	3536
E Iceland	Southern Coast	1026	400	3000	**	**	649	789	2600	4052
E Iceland	Northern Coast	981	400	1000						
E Iceland	Interior	895	400	1000						
AS India	Himalayas	1792	87	500	18	65	38407	47073	1857	87354
AS India	Western Plains	2383	70	50						
AS India	Northern Valleys	2253	57	600						
AS India	Eastern Valley	2026	68	2000						
AS India	Central Highland	2334	70	300						
AS India	East-Central Area	2339	60	500						
AS India	Southwest Coast	2194	57	2000						
AS India	Southern Interior	2215	105	200						
AS India	Southeast Coast	2276	108	300						
AS Indonesia	Western Sumatra	1685	71	1500	22	50	13419	17400	48712	79625
AS Indonesia	Eastern Sumatra	1683	61	1500						
AS Indonesia	Northern Java	1679	95	1500						
AS Indonesia	Southern Java	1677	92	1500						
AS Indonesia	Borneo	1687	53	1500						
AS Indonesia	Northwest New Guinea	1683	53	1500						
AS Indonesia	Southwest New Guinea	1748	65	1500						
AS Indonesia	Tropical Highlands	1753	70	1500						
AS Iraq	Northern Mountains	2249	55	100	**	**	5059	5902	461	11405
AS Iraq	Central Plains	2267	57	50						
AS Iraq	Southern Desert	2306	72	1						
E Ireland	Northwest Coast	1120	252	700	**	**	616	745	658	2019
E Ireland	Western Coast	1143	347	700						
E Ireland	Eastern Coast	1137	356	400						
E Ireland	Interior	1033	200	500						
AS Israel	Desert	2290	132	1	**	**	246	286	7	536
AS Israel	Coastal	2293	191	200						
E Italy	Dolomites	1316	360	500	**	**	3185	3162	2227	8571
E Italy	Po Valley	1267	76	300						
E Italy	Mountains	1276	315	600						
E Italy	Western Coast	1497	80	600						
E Italy	Apennines	1315	360	600						
E Italy	Eastern Coast	1449	112	300						
E Italy	Sicily	1405	208	200						

ENERGY RESOURCE FILE

RGN COUNTRY

POTENTIAL ANNUAL BIOMASS RESOURCES /n

	Total Forest Area Million hectares	Annul. Increment Timber Volume Million cubic meters	Energy from Forest Growth attoe	Energy from Animal Manure attoe	Energy from Crop Residues attoe	Total Annul. Energy from Biomass attoe
AF Guinea Bissau	1.1	1-10	0.23-2.32	0.13	0.02	0.39-2.55
SA Guyana	18.2	18-180	4.18-41.76	0.14	0.67	4.87-41.76
SA Guyana						
SA Guyana						
SA Guyana						
C Haiti	0.2	0-2	.05-0.46	0.71	0.53	1.28-1.62
C Haiti						
CA Honduras	7.0	7-70	1.62-16.24	0.79	0.28	2.78-17.40
CA Honduras						
CA Honduras						
AS Hong Kong	*	*	*	*	*	*
E Hungary	*	*	*	*	*	*
E Iceland	*	*	*	*	*	*
E Iceland						
E Iceland						
AS India	75.4	75-750	17.40-174.0	98.60	70.60	195.6-348.0
AS India						
AS India						
AS India						
AS India						
AS India						
AS India						
AS India						
AS India						
AS India						
AS Indonesia	124.7	125-1250	29.00-290.0	5.08	12.97	46.4-301.6
AS Indonesia						
AS Indonesia						
AS Indonesia						
AS Indonesia						
AS Indonesia						
AS Indonesia						
AS Indonesia						
AS Iraq	1.5	1-10	0.35-3.48	2.28	1.13	3.71-6.96
AS Iraq						
AS Iraq						
E Ireland	*	*	*	*	*	*
E Ireland						
E Ireland						
E Ireland						
AS Israel	*	*	*	*	*	*
AS Israel						
E Italy	*	*	*	*	*	*
E Italy						
E Italy						
E Italy						
E Italy						
E Italy						
E Italy						

ENERGY RESOURCE FILE

RGN COUNTRY		INSOLATION, WIND POWER & RIVER FLOW DATA					OTEC /k		GEOTHERMAL RESOURCE /m			
		Climate Region	Ave. An. Insola- tion kWh/m2 /i	Ave. An. Wind Power W/m2 /j	Ave. An. River Flow mm /i	Delta T deg C	Resource to Shore km	<100 deg C Gtoe	100-150 deg C Gtoe	150-250 deg C Gtoe	Total Gtoe	
E	Italy	Sardinia	1569	195	400							
AF	Ivory Coast	Interior Plains	2014	53	100	22	30	3747	4778	113	8642	
AF	Ivory Coast	Coastal Strip	1811	67	400							
C	Jamaica	Island	2315	137	*	22	1-10	128	163	8	300	
AS	Japan	Hokkaido Plains	1701	260	500	20	/1 100 /1	2335	2857	9742	14941	
AS	Japan	Hokkaido Mountains	1235	277	1000							
AS	Japan	Northwest Coast	1464	185	1000							
AS	Japan	Central Mountains	1361	206	1000							
AS	Japan	Southern Plains	1419	211	2000							
AS	Japan	Lowlands	1169	133	1000							
AS	Japan	Southern Slopes	1234	188	1500							
AS	Japan	Detached Islands	1392	225	1000							
AS	Jordan	Western Highlands	2297	140	20	**	**	1157	1304	30	2482	
AS	Jordan	Eastern Plains	2302	125	20							
AF	Kenya	Arid North	2732	132	20	20	25	5878	7588	4473	17939	
AF	Kenya	Highlands	2001	68	300							
AF	Kenya	Coastal	1967	166	100							
OC	Kiribati	Tropical Islands	1782	150	*	23	1-10	*	*	*	*	
AS	Korea,South	Western Plains	1625	130	500	**	**	946	1145	693	2787	
AS	Korea,South	Mountains	1601	275	300							
AS	Korea,South	Eastern Coast	1868	202	500							
AS	Kuwait	Desert Coastal	2159	120	1	**	**	210	258	0	466	
AS	Laos	Mountains	1525	65	600	**	**	2787	3419	0	6230	
AS	Laos	Mekong Valley	1552	57	500							
AS	Laos	Belovens Plateau	1536	53	500							
AS	Lebanon	Coastal Strip	*	*	*	**	**	111	131	53	295	
AS	Lebanon	Highlands	*	*	*							
AF	Lesotho	Highlands	2145	125	400	**	**	358	429	0	789	
AF	Liberia	Coastal	1998	68	3000	22	65	1293	1649	39	2974	
AF	Libya	Coastal	2302	125	1	**	**	20609	25995	0	46838	
AF	Libya	Eastern Coast	2058	150	1							
AF	Libya	Desert	2093	69	1							
E	Liechtenstein					**	**	1	1	3	6	
E	Luxembourg		1211	57	500	**	**	26	32	9	68	
AF	Madagascar	West Coastal	2174	102	200	18	65	6838	8407	333	15574	
AF	Madagascar	Interior Highlands	2186	170	800							
AF	Madagascar	East Coastal	2167	148	2000							
AF	Malawi	Highlands	2254	68	100	**	**	1232	1567	686	3489	
AF	Malawi	Lake Area	2263	50	200							
AS	Malaysia	Western Slopes	1583	57	1000	**	**	3841	4731	207	8782	
AS	Malaysia	Eastern Slopes	1586	57	1500							
AS	Malaysia	Sarawak	1585	53	2000							
AS	Malaysia	East Coast	1584	61	2000							
AS	Malaysia	Northwest Coast	1581	61	1500							
AS	Malaysia	Interior Highlands	1582	53	1000							
AS	Maldives	Islands	1986	175	*	22	1-10	2	2	9	13	
AF	Mali	Desert	2140	195	1	**	**	14450	18407	433	33255	
AF	Mali	Niger Valley	2500	135	200							

ENERGY RESOURCE FILE

RGN COUNTRY

POTENTIAL ANNUAL BIOMASS RESOURCES /n

	Total Forest Area Million hectares	Annl. Increment Timber Volume Million cubic meters	Energy from Forest Growth atoe	Energy from Animal Manure atoe	Energy from Crop Residues atoe	Total Annl. Energy from Biomass atoe
E Italy						
AF Ivory Coast	19.0	19-190	4.41-44.08	0.34	0.38	5.10-44.08
AF Ivory Coast						
C Jamaica	0.5	1-5	0.23-1.16	0.17	0.53	0.93-1.86
AS Japan	*	*	*	*	*	*
AS Japan						
AS Japan						
AS Japan						
AS Japan						
AS Japan						
AS Japan						
AS Jordan	*	*	*	0.11	0.06	0.16
AS Jordan						
AF Kenya	1.9	2-20	0.46-4.64	3.46	0.87	4.64-9.28
AF Kenya						
AF Kenya						
DC Kiribati	*	*	*	*	*	*
AS Korea,South	6.7	7-70	1.62-16.24	0.93	4.78	7.42-22.04
AS Korea,South						
AS Korea,South						
AS Kuwait	*	*	*	0.02	*	0.02
AS Laos	14.8	15-150	3.48-34.80	0.77	0.38	4.64-34.80
AS Laos						
AS Laos						
AS Lebanon	0.1	0-1	0.02-0.23	0.09	0.07	0.19-0.39
AS Lebanon						
AF Lesotho	*	*	*	0.39	0.06	0.46
AF Liberia	2.5	2-25	0.58-5.80	0.05	0.10	0.72-6.03
AF Libya	0.5	0-5	0.12-11.6	0.36	0.24	0.72-1.74
AF Libya						
AF Libya						
E Liechtenstein	*	*	*	*	*	*
E Luxembourg	*	*	*	*	*	*
AF Madagascar	12.5	12-120	2.78-27.84	3.87	1.08	7.66-32.48
AF Madagascar						
AF Madagascar						
AF Malawi	7.0	7-70	1.62-16.24	0.30	0.36	2.27-16.94
AF Malawi						
AS Malaysia	23.6	24-240	5.57-55.68	0.48	0.93	6.96-58.0
AS Malaysia						
AS Malaysia						
AS Malaysia						
AS Malaysia						
AS Malaysia						
AS Maldives						
AF Mali	4.5	4-40	0.93-9.28	2.07	0.07	2.55-11.37
AF Mali						

ENERGY RESOURCE FILE

RGN	COUNTRY	Climate Region	INSOLATION, WIND POWER & RIVER FLOW DATA			OTEC /k		GEOTHERMAL RESOURCE /m			
			Ave. An. Insola- tion kWh/m2 /i	Ave. An. Wind Power W/m2 /j	Ave. An. River Flow mm /i	Delta T deg C	Resource to Shore km	<100 deg C Gtoe	100-150 deg C Gtoe	150-250 deg C Gtoe	Total Gtoe
E	Malta	Island	1414	225	*	**	**	3	4	3	10
AF	Mauritania	Desert	2379	195	1	**	**	11944	15293	724	27869
AF	Mauritania	Southern Plains	2085	237	20						
AF	Mauritius	Islands	2173	347	*	20	1-10	12	16	64	92
NA	Mexico	Baja	2424	85	10	20	32	20164	25293	13349	58782
NA	Mexico	Western Coast	2433	57	100						
NA	Mexico	Plateau	2319	110	10						
NA	Mexico	Southern Mountains	2001	125	300						
NA	Mexico	Gulf Coast	2159	80	300						
NA	Mexico	Isthmus Mountains	2065	106	100						
NA	Mexico	Yucatan	2065	125	500						
NA	Mexico	Southern Coast	2486	82	*						
E	Monaco					**	**	*	*	*	0
AF	Morocco	North Coastal	2366	181	50	**	**	4426	5340	3560	5340
AF	Morocco	Atlas Mountains	2403	197	20						
AF	Morocco	Mid Coastal	2396	198	100						
AF	Morocco	Inland Plains	2318	205	5						
AF	Morocco	Southern Highlands	2347	200	5						
AF	Morocco	South Coastal	2414	250	1						
AF	Mozambique	Highlands	2259	72	400	18	25	7424	9391	7963	24824
AF	Mozambique	Coastal	2125	76	50						
OC	Nauru					24	/1 10 /1	*	*	*	1
AS	Nepal	Mountains	2185	87	1000	**	**	1492	1796	749	4028
E	Netherlands		1062	173	300	**	**	333	400	167	902
C	Netherlands Antilles	Island	2069	40	1000	22	1	*	*	*	*
OC	New Zealand	Central Highlands	1602	291	1000	**	**	2576	3138	1977	7681
OC	New Zealand	Central Mountains	1476	348	1000						
OC	New Zealand	Eastern Coast	1438	328	800						
OC	New Zealand	Northern Lowlands	1622	262	800						
OC	New Zealand	Southern Lowlands	1532	400	500						
OC	New Zealand	Western Coast	1525	95	*						
CA	Nicaragua	Pacific coast	2529	72	*	22	65	1192	1527	1513	4239
CA	Nicaragua	Highlands	2252	106	*						
CA	Nicaragua	Eastern Coast	2194	87	*						
AF	Niger	Sahara	2325	172	1	**	**	14637	18876	1342	34895
AF	Niger	Southern Plains	2423	185	20						
AF	Nigeria	Interior Plains	2121	121	100	22	30	10749	13700	323	24824
AF	Nigeria	Coastal Strip	1497	66	2000						
OC	Niue					22	/1 50 /1	*	*	*	*
E	Norway	Northern Fjords	603	332	1500	**	**	4965	384	0	5340
E	Norway	Southern Fjords	871	203	2000						
E	Norway	Central Mountains	864	227	600						
AS	Oman	Desert Coastal	2230	127	1	**	**	2482	3138	74	5691
AS	Pakistan	Himalayas	1907	87	20	**	**	8431	10539	4543	23419
AS	Pakistan	Western Mountains	2342	57	20						
AS	Pakistan	Eastern Plains	1933	67	20						
CA	Panama	Northern Slopes	1782	65	1000	21	50	691	890	906	2482
CA	Panama	Southern Slopes	1786	80	1000						

ENERGY RESOURCE FILE

RSN COUNTRY

POTENTIAL ANNUAL BIOMASS RESOURCES /n

	Total Forest Area Million hectares	Annul. Increment Timber Volume Million cubic meters	Energy from Forest Growth attoe	Energy from Animal Manure attoe	Energy from Crop Residues attoe	Total Annul. Energy from Biomass attoe
E Malta	*	*	*	*	*	*
AF Mauritania	*	*	*	1.20	0.002	1.21
AF Mauritania						
AF Mauritius	*	*	*	*	*	*
NA Mexico	40.0	40-400	9.28-92.80	14.96	9.40	34.80-118.32
NA Mexico						
NA Mexico						
NA Mexico						
NA Mexico						
NA Mexico						
NA Mexico						
NA Mexico						
E Monaco	*	*	*	*	*	*
AF Morocco	5.2	5-50	1.16-11.60	0.63	0.12	1.90-12.30
AF Morocco						
AF Morocco						
AF Morocco						
AF Morocco						
AF Mozambique	66.5	66-660	15.3-15.31	0.61	0.52	16.47-153.12
AF Mozambique						
OC Nauru	*	*	*	*	*	*
AS Nepal	4.7	5-50	1.16-11.60	4.27	1.39	6.72-17.17
E Netherlands	*	*	*	*	*	*
C Netherlands Antilles	*	*	*	*	*	*
OC New Zealand	*	*	*	*	*	*
OC New Zealand						
OC New Zealand						
OC New Zealand						
OC New Zealand						
OC New Zealand						
CA Nicaragua	6.4	6-60	1.39-13.92	1.06	0.40	2.78-15.3
CA Nicaragua						
CA Nicaragua						
AF Niger	4.0	4-40	0.93-9.28	1.54	0.04	2.55-10.90
AF Niger						
AF Nigeria	34.4	34-340	7.89-78.88	6.43	1.84	16.24-88.16
AF Nigeria						
OC Niue	*	*	*	*	*	*
E Norway	*	*	*	*	*	*
E Norway						
E Norway						
AS Oman	0.1	0-1	0.02-0.23	0.05	0.002	0.07-0.28
AS Pakistan	2.3	2-20	0.46-4.64	11.46	10.44	22.27-25.52
AS Pakistan						
AS Pakistan						
CA Panama	4.1	4-40	0.93-9.28	0.57	0.33	1.86-10.21
CA Panama						

ENERGY RESOURCE FILE

RGN COUNTRY		INSOLATION, WIND POWER & RIVER FLOW DATA			OTEC /k		GEOTHERMAL RESOURCE /m				
		Climate Region	Ave. An. Insola- tion kWh/m2 /i	Ave. An. Wind Power W/m2 /j	Ave. An. River Flow m3 /i	Delta T deg C	Resource to Shore km	<100 deg C Gtoe	100-150 deg C Gtoe	150-250 deg C Gtoe	Total Gtoe
CA	Panama	Canal Zone (USA)	1781	50	1000						
OC	Papua New Guinea	Northern Slopes	2228	72	1000	22	30	3794	4895	8946	17611
OC	Papua New Guinea	Southern Slopes	1779	65	1000						
OC	Papua New Guinea	Outlying Islands	1922	53	1500						
SA	Paraguay	Southern Lowlands	1912	53	600	**	**	4473	5550	1379	11405
SA	Paraguay	Northern Plateau	1947	53	200						
SA	Peru	Coastal Strip	2040	248	50	**	**	11756	15152	15457	42389
SA	Peru	Mountains	2453	143	200						
SA	Peru	Interior Lowlands	1278	57	1500						
AS	Philippines	Northwest Slopes	1632	86	1500	22	1	2740	3513	3489	9766
AS	Philippines	Northeast Slopes	1627	107	1500						
AS	Philippines	Southeast Slopes	1663	61	1500						
AS	Philippines	Southwest Slopes	1665	61	500						
AS	Philippines	Sulj Sea Islands	1668	57	1000						
E	Portugal	Mountains	1997	118	500	**	**	1105	1075	40	2220
E	Portugal	Plains	1968	166	500						
AS	Qatar	Desert Island	2201	175	1	**	**	81	104	104	293
E	Romania					**	**	2576	2576	1246	6393
AF	Rwanda	Highlands	2287	57	200	**	**	237	309	333	881
C	Saint Christopher/Nevis	Island	2319	175	*	21	/1 50 /1	*	*	*	*
C	Saint Lucia		2336	175	*	22	1-10	4	5	20	29
C	Saint Vincent/Grenadines		2339	175	*	22	1-10	2	3	13	18
E	San Marino					**	**	1	0	0	1
AF	Sao Tome/Principe	Islands	1518	57	*	22	1-10	6	7	30	44
AS	Saudi Arabia	Desert	2131	130	1	**	**	24356	31382	4778	60422
AS	Senegal	Coastal	1966	236	100	18	50	2295	2904	0	5199
AF	Seychelles	Islands	2223	125	*	21	1	2	2	9	13
AF	Sierra Leone	Coastal	1767	68	2000	20	100	841	1063	0	1904
AS	Singapore		1587	50	*	**	**	7	8	0	15
OC	Solomon Islands		1914	68	1500	23	1-10	167	220	918	1307
AF	Somalia	Highlands	2235	277	20	18	25	6721	8689	3630	19040
AF	Somalia	Northern Coastal	2226	357	5						
AF	Somalia	Coastal Lowlands	2245	312	10						
AF	South Africa	Coastal Strip	1797	120	200	**	**	14543	16347	0	30913
AF	South Africa	Highlands	2272	110	300						
AF	South Africa	Interior Highlands	2140	87	5						
AF	South Africa	Southeast Coast	2006	152	200						
E/ASS	Soviet Union	Franz Josef Land	*	*	*	**	**	274005	146838	4075	423888
E	Spain	Northern Coast	1821	305	500	**	**	6066	5902	218	12178
E	Spain	Central Plateau	1713	157	200						
E	Spain	Eastern coast	1881	82	100						
E	Spain	Southwest Coast	1886	87	50						
AS	Sri Lanka	Southwest Slopes	2116	182	1000	20	30	768	972	0	1742
AS	Sri Lanka	Southeast Slopes	2150	180	300						
AS	Sri Lanka	Northern Slopes	2144	185	200						
AF	Sudan	Desert	2129	138	1	**	**	28806	37471	3560	69789
AF	Sudan	Highlands	2195	143	5						
AF	Sudan	Equatorial	2077	102	100						

ENERGY RESOURCE FILE

RGN COUNTRY

POTENTIAL ANNUAL BIOMASS RESOURCES /n

	Total Forest Area Million hectares	Annrl. Increment Timber Volume Million cubic meters	Energy from Forest Growth mtoe	Energy from Animal Manure mtoe	Energy from Crop Residues mtoe	Total Annrl. Energy from Biomass mtoe
CA Panama						
OC Papua New Guinea	*	*	*	*	*	*
OC Papua New Guinea						
OC Papua New Guinea						
SA Paraguay	21.0	21-210	4.87-48.72	2.05	0.38	7.19-51.04
SA Paraguay						
SA Peru	87.0	87-870	20.18-201.84	3.29	1.99	25.52-206.48
SA Peru						
SA Peru						
AS Philippines	15.9	16-160	3.71-37.12	4.11	6.70	14.62-48.72
AS Philippines						
AS Philippines						
AS Philippines						
AS Philippines						
E Portugal	*	*	*	*	*	*
E Portugal						
AS Qatar	*	*	*	0.01	*	*
E Romania	*	*	*	*	*	*
AF Rwanda	0.5	0-5	0.12-1.16	0.33	0.08	0.51-1.55
C Saint Christopher/Nevis	*	*	*	*	*	*
C Saint Lucia	*	*	*	*	*	*
C Saint Vincent/Grenadines	*	*	*	*	*	*
E San Marino	*	*	*	*	*	*
AF Sao Tome/Principe	*	*	*	*	*	*
AS Saudi Arabia	1.2	1-10	0.28-2.78	0.57	0.15	1.00-3.48
AS Senegal	5.4	5-50	1.16-11.60	1.23	0.08	2.55-12.99
AF Seychelles	*	*	*	*	*	*
AF Sierra Leone	0.3	0-3	0.07-0.70	0.13	0.21	0.42-1.04
AS Singapore	*	*	*	*	*	*
OC Solomon Islands	*	*	*	*	*	*
AF Somalia	0.2	0-2	0.5-0.46	2.29	0.08	2.32-2.78
AF Somalia						
AF Somalia						
AF South Africa	*	*	*	*	*	*
AF South Africa						
AF South Africa						
AF South Africa						
E/ASSoviet Union	*	*	*	*	*	*
E Spain	*	*	*	*	*	*
E Spain						
E Spain						
E Spain						
AS Sri Lanka	2.5	2-20	0.46-4.64	0.97	0.56	1.99-6.26
AS Sri Lanka						
AS Sri Lanka						
AF Sudan	42.0	42-420	9.74-97.44	7.59	0.48	17.86-104.40
AF Sudan						
AF Sudan						

ENERGY RESOURCE FILE

RGN COUNTRY	Climate Region	INSOLATION, WIND POWER & RIVER FLOW DATA			OTEC /k		GEOTHERMAL RESOURCE /m			
		Ave. An.	Ave. An.	Ave. An.	Delta T	Resource	<100	100-150	150-250	Total
		Insola- tion	Wind Power	River Flow		to Shore	deg C	deg C	deg C	
		kWh/m2 /i	W/m2 /j	m3 /i	deg C	km	Gtoe	Gtoe	Gtoe	Gtoe
SA Suriname	Atlantic Coast	1836	127	700	22	130	1890	2412	115	4426
SA Suriname	Interior Plains	2219	53	700						
SA Suriname	Mountians	2221	122	700						
SA Suriname	Southwest Plains	*	*	*						
AF Swaziland	Coastal	2057	53	100	**	**	205	253	0	457
E Sweden	Mountains	788	142	300	**	**	6885	534	0	7424
E Sweden	Northern Plateau	1091	106	300						
E Sweden	Lowlands	1047	153	200						
E Switzerland		1796	212	1000	**	**	344	419	550	1314
AS Syria	Coastal Strip	2263	256	5	**	**	1967	2323	951	5246
AS Syria	Desert Interior	2269	128	1						
AS Taiwan	Northern Plains	*	*	*	22	/1 30 /1	337	422	372	1126
AS Taiwan	Western Plains	*	*	*						
AS Taiwan	Coastal Strip	*	*	*						
AS Taiwan	Central Mountains	*	*	*						
AS Taiwan	Pescadores Islands	*	*	*						
AS Taiwan	Offshore Islands	*	*	*						
AF Tanzania	Plateau	2182	11	50	20	25	8806	11405	10539	30679
AF Tanzania	Coastal	2306	175	100						
AS Thailand	Peneinsular	2021	87	1000	20	75	6042	7447	0	13489
AS Thailand	Korat Plateau	1814	53	300						
AS Thailand	Mountains	1931	61	600						
AS Thailand	Central Lowlands	1886	53	500						
AF Togo	Interior Plains	2013	57	200	22	50	653	831	20	1504
AF Togo	Coastal Strip	1695	67	300						
OC Tonga	Islands	1711	268	*	22	/1 1-10 /1	4	5	23	32
C Trinidad/Tobago	Island	2975	137	*	22	10	30	40	166	237
AF Tunisia	North Coastal	2011	175	100	**	**	1749	2030	815	4590
AF Tunisia	Central	1991	200	20						
AF Tunisia	Desert	2009	195	1						
E/ASTurkey	Black Sea Coast	1892	112	300	**	**	6815	8431	10398	25761
E/ASTurkey	Aegean Coast	1679	160	200						
E/ASTurkey	Mediterranean coast	1685	175	500						
E/ASTurkey	Central Plateau	1925	130	50						
E/ASTurkey	East Mountains	1919	187	50						
E/ASTurkey	South Plains	1940	125	300						
OC Tuvalu					24	/1 1-10 /1	*	*	*	1
AF Uganda	Plateau	2443	57	50	**	**	2129	2787	2998	7892
AF Uganda	Highlands	1729	53	20						
AS United Arab Emirates	Desert Coastal	2140	35	5	**	**	979	1239	0	2220
E United Kingdom	Northern Ireland	1017	246	500	**	**	2857	2066	1000	5925
E United Kingdom	Western Scotland	847	327	1500						
E United Kingdom	Eastern Scotland	938	347	500						
E United Kingdom	Pennine Chain	965	131	1000						
E United Kingdom	Western Coast	1189	380	1000						
E United Kingdom	Bristol Channel	1201	106	500						
E United Kingdom	Central Lowlands	1041	127	300						
E United Kingdom	Southeast Coast	988	238	150						

ENERGY RESOURCE FILE

RGN COUNTRY

		POTENTIAL ANNUAL BIOMASS RESOURCES /n				
		Total Forest	Ann1. Increment	Energy from	Energy from	Energy from
		Area	Timber Volume	Forest	Animal	Crop
		Million	Million	Growth	Manure	Residues
		hectares	cubic meters	atoe	atoe	atoe
SA	Suriname	14.8	15-150	3.48-34.80	0.02	0.10
SA	Suriname					
SA	Suriname					
SA	Suriname					
AF	Swaziland	*	*	*	0.26	0.25
E	Sweden	*	*	*	*	*
E	Sweden					
E	Sweden					
E	Switzerland	*	*	*	*	*
AS	Syria	0.5	0-5	0.12-1.16	0.27	1.73
AS	Syria					
AS	Taiwan	2.0	2-20	0.46-4.64	*	*
AS	Taiwan					
AS	Taiwan					
AS	Taiwan					
AS	Taiwan					
AS	Taiwan					
AF	Tanzania	38.9	39-390	9.05-90.48	5.03	2.23
AF	Tanzania					
AS	Thailand	29.0	29-290	6.73-67.28	4.76	7.15
AS	Thailand					
AS	Thailand					
AS	Thailand					
AF	Togo	3.6	4-40	0.93-9.28	0.20	0.11
AF	Togo					
OC	Tonga	*	*	*	*	*
C	Trinidad/Tobago	*	*	*	*	*
AF	Tunisia	0.3	0-3	0.07-0.70	0.71	0.96
AF	Tunisia					
AF	Tunisia					
E/ASTurkey			18.2	18-180	9.67	15.75
E/ASTurkey						
E/ASTurkey						
E/ASTurkey						
E/ASTurkey						
OC	Tuvalu	*	*	*	*	*
AF	Uganda	1.9	2-20	0.46-4.64	1.77	0.36
AF	Uganda					
AS	United Arab Emirates	*	*	*	*	*
E	United Kingdom	*	*	*	*	*
E	United Kingdom					
E	United Kingdom					
E	United Kingdom					
E	United Kingdom					
E	United Kingdom					
E	United Kingdom					
E	United Kingdom					

ENERGY RESOURCE FILE

RGN COUNTRY

		INSOLATION, WIND POWER & RIVER FLOW DATA			OTEC /k		GEOTHERMAL RESOURCE /m			
Climate Region		Ave. An. Insola- tion kWh/m2 /i	Ave. An. Wind Power W/m2 /j	Ave. An. River Flow m3 /i	Delta T deg C	Resource to Shore km	<100 deg C Gtoe	100-150 deg C Gtoe	150-250 deg C Gtoe	Total Gtoe
SA	Uruguay	2004	86	300	**	**	2098	2365	0	4450
OC	Vanuatu				22	1-10	*	*	*	*
SA	Venezuela	2359	212	500	22	50	10117	12974	2763	25761
SA	Venezuela	2015	170	1000						
SA	Venezuela	1715	77	800						
SA	Venezuela	1924	146	1000						
OC	Western Samoa	2004	50	*	23	/1 1-10 /1	17	22	92	131
AS	Yemen Arab Republic	2269	132	5	**	**	1759	2293	2482	6534
E	Yugoslavia	988	238	150	**	**	2974	2115	1703	6792
E	Yugoslavia	1353	270	500						
E	Yugoslavia	1371	182	1000						
AF	Zaire	1824	50	800	20	50	26932	34660	3864	65574
AF	Zaire	1922	65	800						
AF	Zaire	1899	53	400						
AF	Zaire	1815	69	200						
AF	Zambia	2250	182	50	**	**	8595	10937	1138	20679
AF	Zimbabwe	2221	107	50	**	**	4426	5621	681	10726

ENERGY RESOURCE FILE

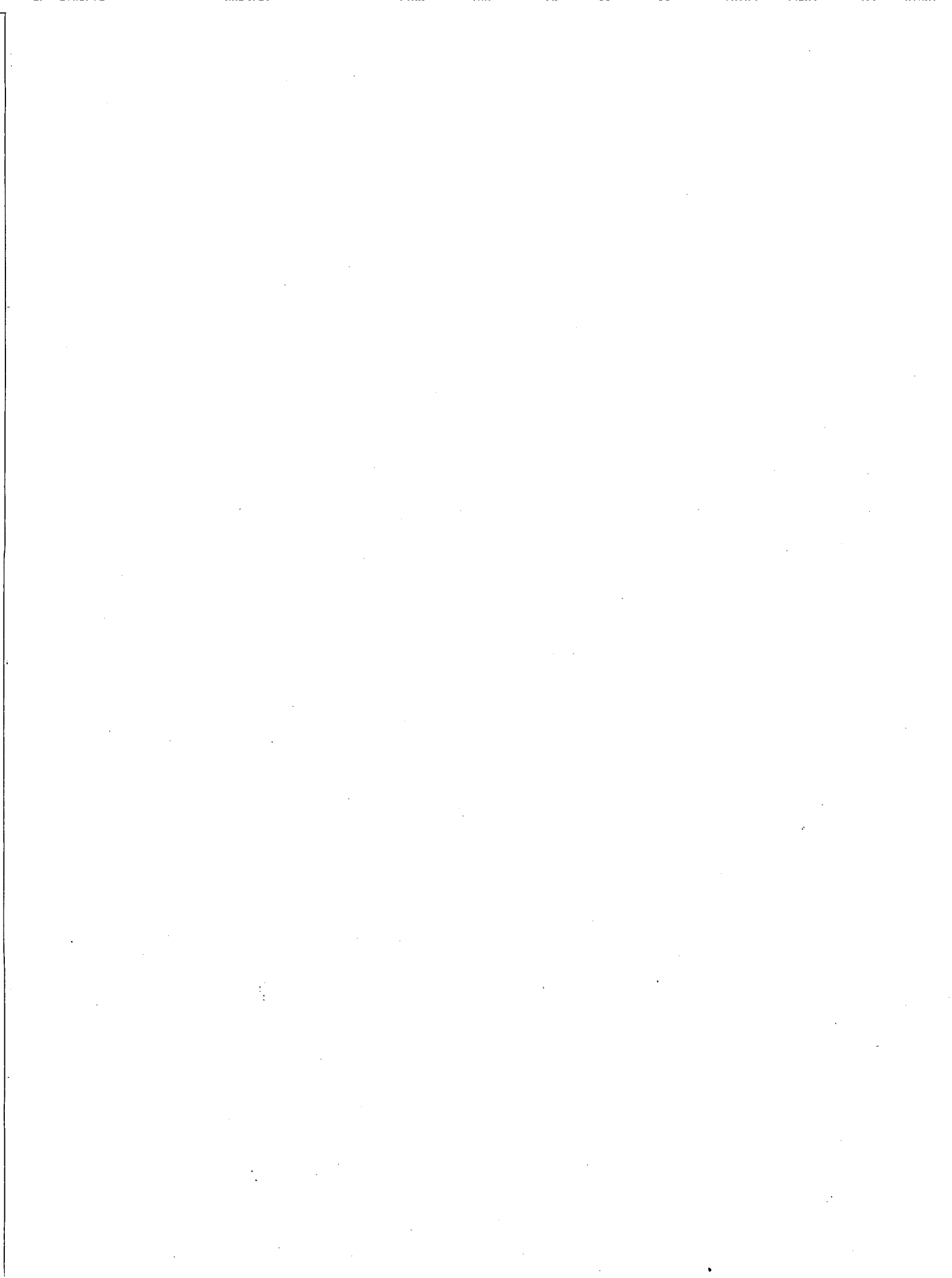
RGN COUNTRY

		POTENTIAL ANNUAL BIOMASS RESOURCES /n				
	Total Forest Area Million hectares	Annl. Increment Timber Volume Million cubic meters	Energy from Forest Growth attoe	Energy from Animal Manure attoe	Energy from Crop Residues attoe	Total Annl. Energy from Biomass attoe
SA Uruguay	0.5	1-5	0.23-1.16	5.38	0.59	6.26-7.19
OC Vanuatu	*	*	*	*	*	*
SA Venezuela	48.0	48-480	11.1-111.36	5.75	1.08	23.20-125.28
SA Venezuela						
SA Venezuela						
SA Venezuela						
OC Western Samoa	*	*	*	*	*	*
AS Yemen Arab Republic	*	*	*	1.22	0.30	1.51
E Yugoslavia	*	*	*	*	*	*
E Yugoslavia						
E Yugoslavia						
AF Zaire	180.0	180-1800	41.76-417.6	0.67	0.74	44.08-417.6
AF Zaire						
AF Zaire						
AF Zaire						
AF Zambia	37.3	37-370	8.58-85.84	0.04	0.22	8.82-85.84
AF Zimbabwe	27.8	28-280	6.50-64.96	1.71	0.74	9.05-67.28

* NOT AVAILABLE

** NOT APPLICABLE

5. POWER SYSTEM FILE



5. POWER SYSTEM FILE

The Power System File provides power system data for the reference year 1982. The following parameters are included in this data file:

- Revenue Meters, millions
- Average Revenue, \$/kWh
- Rate of Return, percent
- System Frequency, Hz
- Voltage
 - Transmission, kV
 - Distribution, kV
 - Low Voltage, Volts
- Transmission & Distribution Losses, percent
- Overall Capacity Factor, percent
- System Load Factor, percent
- Major Electric Utility Companies
 - Supplier
 - Distributor
 - Ownership
- Countries Interconnected
- Electricity Tariffs
 - Average, US\$/kWh
 - Domestic (20kWh/mo), US\$/kWh
 - Domestic (0.1 MWh/mo), US\$/kWh
 - Commercial (0.4 MWh/mo), US\$/kWh
 - Small Industry (2MWh/mo), US\$/kWh
 - Large Industry (100MWh/mo), US\$/kWh
 - Street Lights, US\$/kWh
 - Agriculture, US\$/kWh
 - Other, US\$/kWh
- Electricity Produced
 - Total, gWh
 - 5-year growth rate, percent
 - 1-year growth rate, percent.

Chapter Notes

Note 1: The revenue meters figure reflects the number of consumers and is measured in millions.

- Note 2: The average revenue refers to the total sales revenue for a given utility divided by the total national average pertaining to public utilities.
- Note 3: The rate of return is the ratio of net revenues for the year to the value of the average net fixed assets in service. Net revenues are defined as gross revenues minus operating expenses (including depreciation). The rate of return is expressed as a percent.
- Note 4: The power system frequency is 50 hertz (Hz) in many countries; however, some countries use 60 Hz.
- Note 5: High voltages for transmission of electricity from generating stations to substations are classified as transmission voltages.
- Note 6: The distribution voltage covers a range of voltages for distribution purposes.
- Note 7: The power system low voltage is defined to be less than 600 volts. This low voltage is the utilization voltage supplied to consumers. There is often more than one low voltage.
- Note 8: The total transmission and distribution (T&D) losses are expressed as a percentage of the total power generated. Resistance losses are technical in nature and occur in the transmission and distribution processes due to the electrical characteristics of the power system. Unmetered consumption in the distribution process accounts for nontechnical losses. In many developing countries, 60 to 80 percent of the losses occur in the distribution phase.
- Note 9: The overall capacity factor is defined as a measure of the power plant utilization. It is calculated by dividing the total generation (in MWh) by the total installed capacity (times 8760 in MW) and then multiplying that figure by 100.
- Note 10: The main system load factor measures average demand as a percentage of maximum demand. It is calculated by dividing the total generation

(in MWh) by the maximum demand (8760 in MW) and then multiplying that figure by 100.

Note 11: The major organizations responsible for generating and transmitting public electricity are listed under utility companies. Distributing agencies are listed separately when they differ from the supplying agencies.

Note 12: Interconnected countries are defined as those with existing power grid interconnections.

Note 13: Electricity tariffs are measured as unit prices (in US\$ per kWh) of electricity using the official exchange rate. Tariffs vary according to the type of consumer. Six types of consumers have been identified; these have been classified according to the amount of electricity they used per month. In some cases sufficient data were not available to provide tariff structure information according to the breakdown by consumer categories. In these cases, averages are substituted. Tariffs do not always refer to 1982 data; the latest available tariff information is listed for each country. In some countries, there may be additional fuel surcharges that are not included in the unit price. Also, for some consumer categories, there may be fixed minimum monthly charges, regardless of kWh units used. These exceptions have been noted where available and applicable. Due to these exceptions, care should be taken when making cross-country comparisons of these data.

Note 14: Electricity produced refers to all electricity generated by public utilities and self-producers. It also includes net imports (imports minus exports).

POWER SYSTEM FILE /a

RGN COUNTRY	REVENUE METERS 1982 Millions	AVERAGE REVENUE \$/kWh	RATE OF RETURN Percent	SYSTEM FREQUENCY Hz	Transmission kVolts	VOLTAGE Distribution kVolts	Low Volts
AS Afghanistan	0.098	\$0.024	4.00	50	110/44/35	11/6/3.3/2.2	220/230
AF Algeria	1.807	\$0.055	2.80	50	220/90/60	15/11/5	220/230
AF Algeria	*	*	*	*	*	*	*
C Antigua/Barbuda	*	*	*	*	*	*	*
SA Argentina	8.095	\$0.079	-0.50	50	550/220/132	13.2	220/380
SA Argentina							
SA Argentina							
AUS Australia	*	*	*	*	*	*	*
E Austria	*	*	*	*	*	*	*
C Bahamas	*	*	*	*	*	*	*
AS Bahrain	*	*	*	*	*	*	*
AS Bangladesh	0.669	\$0.058	6.50	50	230/132/66/33	33/11	240/415
C Barbados	0.071	\$0.073	4.30	50	24	24/11	115/200/230
E Belgium	*	*	*	*	*	*	*
CA Belize	0.010	\$0.130	-1.00	60/50	22	22/6.6	110/220
AF Benin	0.036	\$0.120	*	50	161/63	33/15	220/380
AF Benin							
C Bermuda	*	*	*	*	*	*	*
SA Bolivia	0.287	\$0.043	8.30	50	220/115/69	44/25/13.2	220/380
SA Bolivia							
AF Botswana	0.010	\$0.055	3.30	50	200/132/66	33/11/6	400
SA Brazil	19.800	\$0.042	*	60	500/440/345/	138/69/34.5	110/220
SA Brazil					230		
AS Brunei	*	*	*	*	*	*	*
E Bulgaria	*	*	*	*	*	*	*
AF Burkina Faso	0.027	\$0.252	-1.00	50	15/5.5	15/5.5	220/380
AS Burma	0.489	\$0.038	4.40	50	220/132/66	33/11	220/400
AF Burundi	0.006	\$0.070	-1.00	50	110/70/30	15/6.6	220
AF Burundi							
AF Cameroon	0.191	\$0.045	13.00	50	225/90	55/33/30/15/10	220/280
NA Canada	*	*	*	*	*	*	*
AF Cape Verde	*	*	*	50	*	*	*
AF Central Afr Republic	*	*	*	50	*	*	*
AF Chad	0.005	\$0.230	*	50	*	15	220/380
SA Chile	1.085	\$0.038	6.60	50	230/132/66	33/11	220/400
AS China	*	\$0.040	*	50	500/330/220/156	36/12/11/5.6	220/110
AS China					110/69		
SA Colombia	2.683	\$0.027	9.30	60	230/115	34.5/13.8/13.2/	115/230
SA Colombia						11.4	
AF Comoros	*	*	*	50	*	*	*
AF Congo	0.002	*	*	50	110/30	20/10/6.6/5.5	*
OC Cook Islands	*	*	*	*	*	*	*
CA Costa Rica	0.413	\$0.029	6.20	60	138/34.5	34.5/24.9/13.2/	110/220
CA Costa Rica						4.2	
AS Cyprus	0.190	\$0.011	3.90	50	132/66	*	240/415
E Czechoslovakia	*	*	*	*	*	*	*
E Denmark	*	*	*	*	*	*	*
AF Djibouti	0.014	*	*	50	*	*	*
C Dominica	*	*	*	50	*	*	*
C Dominican Republic	0.453	\$0.076	2.69	60	69	34.5/13.8/12.5/4.1	120/240
SA Ecuador	0.665	\$0.051	2.60	50	230/138/69	13.8/6.6/4.4/2.2	110/220/446

POWER SYSTEM FILE /a

RGN COUNTRY	T & D OVERALL SYSTEM			MAJOR ELECTRIC UTILITY COMPANIES		
	LOSSES Percent	CAPACITY Factor Percent	LOAD Factor Percent	Supplier	Distributor	Ownership
AS Afghanistan	40.00	28.00	43.00	Da Afghnsth. Breshna Moassassa (DABM)	28 regional systems	State owned
AF Algeria	12.00	40.00	52.00	Societe Nationale d'Electri- cite et du Gaz (SONELGAZ)	Main system plus isolated stations	State owned
AF Algeria	*	*	*	*	*	*
C Antigua/Barbuda	*	*	*	*	*	*
SA Argentina	9.60	33.76	61.00	AYEE, SEGBA, HIDRONOR, CNEA, CONCAP, SALTO GRANDE, YACYRETA, COMIP, CMSG, CIAE, CMSG, DEBA, EPEC	Same as supplier	Sov't reg.
SA Argentina	*	*	*	*	*	*
SA Argentina	*	*	*	*	*	*
AUS Australia	*	*	*	*	*	*
E Austria	*	*	*	*	*	*
C Bahamas	*	*	*	*	*	*
AS Bahrain	*	*	*	*	*	*
AS Bangladesh	30.00	38.00	55.30	Bang. Power Devt. Board (BPDB)	Same as supplier	State owned
C Barbados	9.14	40.73	69.00	Bbds. Light & Power Co Ltd (BLPC)		Private
E Belgium	*	*	*	*	*	*
CA Belize	24.60	26.00	60.00	Beliz Electricity Board (BEB)	Same as supplier	State owned
AF Benin	16.20	12.00	64.00	From Ghana through: Communate Electrique du Benin	Societe Beninoise d' Elec. et d'Eau (SBEE)	State owned
AF Benin	*	*	*	*	*	*
C Berauda	*	*	*	*	*	*
SA Bolivia	12.00	38.30	53.00	BPC, ENDE, CRE, ELFEC, CESSA, SEPSA, SETAR, ELFED, CORSELEC	Same as suppliers	State/private
SA Bolivia	*	*	*	*	*	*
AF Botswana	9.00	54.00	70.00	Botswana Power Corp (BPC)	Same as supplier	*
SA Brazil	8.10	44.63	*	ELETRONAS + 4 subsidiaries	CESP, CEMIC, COPEL, ESCELSA and others	State owned
SA Brazil	*	*	*	*	*	*
AS Brunei	*	*	*	*	*	*
E Bulgaria	*	*	*	*	*	*
AF Burkina Faso	13.80	25.52	50.00	Upper Volta Elec. Authy. (VOLTELEC)	Same as supplier	State owned
AS Burma	30.00	31.00	68.60	Electric Power Corp (EPC)	Same as supplier	*
AF Burundi	7.30	30.50	*	Regie de Prod. et de Distrbnt. d'Eau et d'Elect. (REGIDESCO)	Same as supplier	State owned
AF Burundi	*	*	*	*	*	*
AF Cameroon	6.00	69.66	70.00	Soc. Natnl. d'Elect. du Camrn. (SONEL)	Same as supplier	Parastatal
NA Canada	*	*	*	*	*	*
AF Cape Verde	39.00	15.00	46.00	Autonomous public enterprises	*	*
AF Central Afr Republic	*	26.00	*	Energie Centrafricaine (ENERCA)	Same as supplier	State owned
AF Chad	32.00	19.50	50.00	Societe Tchadienne d'Energie (STEE)	Same as supplier	Parastatal
SA Chile	15.00	42.24	61.00	Empresa Nacional de Elect. S.A. (ENDESA)	CHILECTRA, ENDESA	*
AS China	14.00	51.70	*	Six large regional systems	*	*
AS China	*	*	*	*	*	*
SA Colombia	23.00	52.50	63.10	Interconnexion Electrica S.A. (ISA)	ICEL, CVC, CORELCA, EPM, ENCALI, EEEB	State/private
SA Colombia	*	*	*	*	*	*
AF Comoros	*	14.00	*	Elect. et Eaux des Comores (EEDC)	Same as supplier	State owned
AF Congo	28.40	18.00	47.70	Societe Nationale d'Energie (SNE)	Same as supplier	Parastatal
OC Cook Islands	*	*	*	*	*	*
CA Costa Rica	10.00	43.44	60.00	Instituto Costarricense de Elec. (ICE), Nac. de Fuerza y Luz (CNFL), ICE, priv. comps.		State/private
CA Costa Rica	*	*	*	*	*	*
AS Cyprus	11.00	39.00	58.70	Elec. Authority of Cyprus (EAC)	Same as supplier	State owned
E Czechoslovakia	*	*	*	*	*	*
E Denmark	*	*	*	*	*	*
AF Djibouti	18.00	38.70	*	The Elec. of Djibouti (EDB)	Same as supplier	State owned
C Dominica	*	27.72	*	Dom. Elec. Services Ltd (Domlec)	Same as supplier	State owned
C Dominican Republic	34.00	28.50	65.00	Corp. Dominicana de Elec. (CDE)	Same as supplier	*
SA Ecuador	13.00	31.87	53.00	Instituto Ecuatoriano de Elec. (INCEL), Isolated systems		*

POWER SYSTEM FILE /a

RGN COUNTRY	COUNTRIES INTERCONNECTED	Average UScents/kWh	ELECTRICITY TARIFFS				
			Domestic (20 kWh/mo) UScents/kWh	Domestic (0.1MWh/mo) UScents/kWh	Commercial (0.4MWh/mo) UScents/kWh	Small Ind. (2MWh/mo) UScents/kWh	Large Ind. (100MWh/mo) UScents/kWh
AS Afghanistan	--	2.51	*	*	*	*	*
AF Algeria	Tunisia	5.07	8.65	3.16	*	*	*
AF Algeria							
C Antigua/Barbuda	*	*	*	*	*	*	*
SA Argentina	Paraguay, Uruguay,	5.50	*	*	*	*	*
SA Argentina	Bolivia, Chile						
SA Argentina							
AUS Australia	*	*	*	*	*	*	*
E Austria	*	*	*	*	*	*	*
C Bahamas	*	*	*	*	*	*	*
AS Bahrain	*	*	*	*	*	*	*
AS Bangladesh	--	6.40	*	*	*	*	*
C Barbados	--	*	5.02	6.02	10.24	10.24	6.02
E Belgium	*	*	*	*	*	*	*
CA Belize	--	18.00	*	*	*	*	*
AF Benin	Togo, Ghana	9.40	*	*	*	*	*
AF Benin							
C Bermuda	*	*	*	*	*	*	*
SA Bolivia	Uruguay	3.73	*	*	*	*	*
SA Bolivia							
AF Botswana	RSA	4.40	*	*	*	*	*
SA Brazil	Paraguay, Uruguay,	7.79	*	*	*	*	*
SA Brazil	Argentina						
AS Brunei	*	*	*	*	*	*	*
E Bulgaria	*	*	*	*	*	*	*
AF Burkina Faso	--	20.26	*	*	*	*	*
AS Burma	--	3.67	2.66-5.7	2.66-5.7	2-2.78	2-2.78	1.52
AF Burundi	Zaire, Rwanda	8.44	*	*	*	*	*
AF Burundi							
AF Cameroon	--	*	*	*	*	*	*
NA Canada	*	*	*	*	*	*	*
AF Cape Verde	*	*	13.60	16.40	*	12.30	*
AF Central Afr Republic	--	*	*	*	*	*	*
AF Chad	--	*	18.90	21.90	18.25	*	*
SA Chile	--	3.58	*	*	*	*	*
AS China	Hong Kong	3.30	*	*	*	*	*
AS China							
SA Colombia	--	*	2.04	2.04	5.96	4.12	4.12
SA Colombia							
AF Comoros	--	*	*	*	*	*	*
AF Congo	Zaire	6.75	13.5-17.3	13.5-17.3	*	4.7-8.9	4.7-8.9
OC Cook Islands	*	*	*	*	*	*	*
CA Costa Rica	Nicaragua, Panama	2.90	*	*	*	*	*
CA Costa Rica							
AS Cyprus	--	12.34	*	*	*	*	*
E Czechoslovakia	*	*	*	*	*	*	*
E Denmark	*	*	*	*	*	*	*
AF Djibouti	--		19.00	19.00	*	16.00	16.00
C Dominica	--	*	*	*	*	*	*
C Dominican Republic	--	13.01	*	*	*	*	*
SA Ecuador	Colombia, Bolivia	*	*	*	*	*	*

RGN COUNTRY	ELECTICITY TARIFFS (Continued)			ELECTRICITY PROD.		
	Street Lights UScents/kWh	Agri- culture UScents/kWh	Other UScents/kWh	Total gWh	5-Yr Grwth Pct /d	1-Yr Grwth Pct /d
AS Afghanistan	*	*	*	976	0.7	-2.4
AF Algeria	*	*	*	7180	10.4	13.1
AF Algeria						
C Antigua/Barbuda	*	*	*	*	*	*
SA Argentina	*	*	*	39804	7.6	10.9
SA Argentina						
SA Argentina						
AUS Australia	*	*	*	104890 /e	*	*
E Austria	*	*	*	42891 /e	*	*
C Bahamas	*	*	*	900 /e	*	*
AS Bahrain	*	*	*	1810 /e	*	*
AS Bangladesh	*	*	*	3350	8.8	8.3
C Barbados	*	*	*	339	7.9	5.1
E Belgium	*	*	*	50639 /e	*	*
CA Belize	*	*	*	93	*	*
AF Benin	*	*	*	148	18.9	29.7
AF Benin						
C Bermuda	*	*	*	118 /b	*	*
SA Bolivia	*	*	*	1703	7.5	5.3
SA Bolivia						
AF Botswana	*	*	10.20	533	7.9	*
SA Brazil	*	*	10.39	151721	11.1	7.0
SA Brazil						
AS Brunei	*	*	*	240 /b	*	*
E Bulgaria	*	*	*	40459 /e	*	*
AF Burkina Faso	*	*	*	123	16.3	21.5
AS Burma	*	*	*	1844	*	*
AF Burundi	*	*	*	53	*	*
AF Burundi						
AF Cameroon	9.80	*	9.40 M/H Voltage	2148	9.2	8.9
NA Canada	*	*	*	387460 /e	*	*
AF Cape Verde	*	*	9.90 High Volt.	18	*	-12.5
AF Central Afr Republic	*	*	*	68	5.0	*
AF Chad	*	*	*	65	0.0	*
SA Chile	*	*	8.01 Sm Dist Co	11871	5.5	4.8
AS China	*	*	*	327678	8.7	3.0
AS China		*				
SA Colombia	*	*	2.09	22564	7.4	8.3
SA Colombia						
AF Comoros	*	*	*	10	*	*
AF Congo	*	*	*	221.4	5.5	10.8
OC Cook Islands	*	*	*	*	*	*
CA Costa Rica	*	*	*	2500	7.9	8.7
CA Costa Rica						
AS Cyprus	*	*	*	1144	7.6	5.8
E Czechoslovakia	*	*	*	74749 /e	*	*
E Denmark	*	*	*	22068 /e	*	*
AF Djibouti				122	9.5	1.5
C Dominica	*	*	*	17	0.0	0.0
C Dominican Republic	*	*	*	3586	12.0	19.0
SA Ecuador	*	*	*	3360	13.7	8.9

POWER SYSTEM FILE /a

RCN COUNTRY	REVENUE METERS 1982 Millions	AVERAGE REVENUE \$/kWh	RATE OF RETURN Percent	SYSTEM FREQUENCY Hz	Transmission kVolts	VOLTAGE Distribution kVolts	Low Volts
SA Ecuador							
AF Egypt	4.660	\$0.014	*	50	500/220/132	66/11	220/380
CA El Salvador	0.331	\$0.053	*	60	115/69/44	132/44/23	120/240
CA El Salvador							
AF Equatorial Guinea	*	*	*	50	*	*	*
AF Ethiopia	0.225	\$0.142	9.70	50	230/130/66	45/15	220/230
OC Fiji	0.048	\$0.142	2.00	50	132/33	11	415/240
E Finland	*	*	*	*	*	*	*
E France	*	*	*	*	*	*	*
AF Gabon	*	*	*	50	*	*	*
AF Gambia	*	*	*	50	*	*	220/380
E Germany, East	*	*	*	*	*	*	*
E Germany, West	*	*	*	*	*	*	*
AF Ghana	0.230	\$0.001	4.40	50	161	33/11	220/400
E Greece	*	*	*	*	*	*	*
C Grenada	*	*	*	*	*	*	*
CA Guatemala	0.338	\$0.130	*	60	230/138/69	69/50/34.5/22	110
CA Guatemala							
AF Guinea	0.027	\$0.101	2.00	50/60	110/60	13.8/11	110/220/380
AF Guinea Bissau	0.004	*	*	50	10	10/6	220/380
SA Guyana	0.095	\$0.168	*	50/60	69	13.8/11	110/220/380
C Haiti	0.075	\$0.112	5.20	60	115/69	12.5/7.2/4.2/2.4	120/240
CA Honduras	0.167	\$0.065	6.40	60	138/69	34.5/13.8/4.2/2.4	120/240
AS Hong Kong	*	*	*	*	*	*	*
E Hungary	4.164	\$0.039	*	50	750/400/220-1	10-40/1	*
E Iceland	*	*	*	*	*	*	*
AS India	28.000	\$0.037	*	50	400/220/132	33/11/6	240/415
AS Indonesia	3.802	\$0.080	-1.00	50	150/70/30/25	20/12/6	22/127/230/380
AS Iraq	*	*	*	*	*	*	*
E Ireland	*	*	*	*	*	*	*
AS Israel	*	*	*	*	*	*	*
E Italy	*	*	*	*	*	*	*
AF Ivory Coast	0.322	\$0.110	*	50	220/90	33	220/380
C Jamaica	0.243	\$0.149	-3.30	50	138/69/33	24	220/380
AS Japan	*	*	*	*	*	*	*
AS Jordan	0.287	\$0.078 (JEA)	3.5	50	230/132/66	33/11/6.6	400
AF Kenya	0.168	\$0.330	5.63	50	257/132/66	40/33/11	240/415
OC Kiribati	*	*	*	*	*	*	*
AS Korea, South	5.985	\$0.087	7.90	60	345/154/66	22/11.4/6.6/5.7/3.3	110/220/380
AS Kuwait	*	*	*	*	*	*	*
AS Laos	0.025	\$0.010	3.30	50	115	115/22	230
AS Laos							
AS Lebanon	*	*	*	*	*	*	*
AF Lesotho	0.005	*	*	50	88	11	*
AF Liberia	0.033	\$0.069	13.20	60	69	12.5	120/240/220/380
AF Libya	*	*	*	*	*	*	*
E Liechtenstein	*	*	*	*	*	*	*
E Luxembourg	*	*	*	*	*	*	*
AF Madagascar	0.120	\$0.136	5.70	50	63	22	220/380
AF Malawi	0.025	\$0.051	6.80	50	132/66/33/11	66/33/3.3/0.4	230/400
AS Malaysia	1.807	\$0.069	12.20	50	275/132/66	33/22/11/6.6	230/440

RGN COUNTRY	T & D OVERALL SYSTEM			MAJOR ELECTRIC UTILITY COMPANIES		
	LOSSES	CAPACITY	LOAD	Supplier	Distributor	Ownership
	Percent	Percent	Percent			
SA Ecuador				64 different suppliers		
AF Egypt	22.00	54.00	65.00	Egyptian Elec. Authority (EEA)	EEA, other agencies	State owned
CA El Salvador	13.00	34.25	62.00	Comision Ejecutiva Hidroelec. del Rio Lempa (CEL)	CAESS, other companies	Private
AF Equatorial Guinea	*	42.00	*	Unknown	*	*
AF Ethiopia	11.60	24.30	60.30	Ethpn. Elec. Light & Power Ath. (EELPA)	Same as supplier	State owned
OC Fiji	13.00	32.00	62.00	Fiji Elec. Authority (FEA)	*	*
E Finland	*	*	*	*	*	*
E France	*	*	*	*	*	*
AF Gabon	*	34.60	*	Soc. d'Energie et d'Eau du Gabon (SEEG)	Same as supplier	State owned
AF Gambia	20.70	43.00	*	Gambia Utilities Corp (GUC)	Same as supplier	State owned
E Germany, East	*	*	*	*	*	*
E Germany, West	*	*	*	*	*	*
AF Ghana	5.00	50.30	62.00	Volta River Authority (VRA)	Elec. Corp of Ghana (ECG)	*
E Greece	*	*	*	*	*	*
C Grenada	*	*	*	*	*	*
CA Guatemala	13.00	30.00	59.00	Instituto Nacional de Elec. (INDE), Empresa Elec. de Guatemala (EEGSA)	Same as suppliers, plus small private utilities	*
AF Guinea	28.70	31.12	53.00	Societe Nationale d'Elec. (SNE)	Same as supplier	State owned
AF Guinea Bissau	13.90	43.00	62.00	Instituto Nacional de Energia (INE)	Same as supplier	State owned
SA Guyana	30.00	30.44	62.00	Guyana Elec. Corp. (GEC)	Same as supplier	State owned
C Haiti	29.00	27.00	66.00	Electricite d'Haiti (EdH)	EdH runs some stations	State owned
CA Honduras	18.00	52.57	67.00	Empresa Nacional de Elec. (ENEE)	Same as supplier	State owned
AS Hong Kong	*	*	*	*	*	*
E Hungary	9.80	*	70.00	*	*	*
E Iceland	*	*	*	*	*	*
AS India	26.00	40.80	65.00	State Electricity Boards (21 SEBs)	Same as suppliers	*
AS Indonesia	19.00	28.00	68.00	Perusahaan Umum Listrik Negara (PLN)	Same as supplier	*
AS Iraq	*	*	*	*	*	*
E Ireland	*	*	*	*	*	*
AS Israel	*	*	*	*	*	*
E Italy	*	*	*	*	*	*
AF Ivory Coast	11.80	19.00	70.00	Enrg. Elec. de la Cote d'Ivoire (EECI)	Same as supplier	State owned
C Jamaica	18.90	35.00	66.00	The Jam. Pub. Serv. Co Ltd (JPSC)	*	*
AS Japan	*	*	*	*	*	*
AS Jordan	15.70	27.00	58.00	Jordan Elec. Auth. (JEA)	Jordan Power Co (JEPCO)	*
AF Kenya	14.60	31.00	70.00	East Afrn. Power & Light Co (EAP&LC)	EAP&LC, KAC, TRDS, TARDA	*
OC Kiribati	*	*	*	*	*	*
AS Korea, South	7.50	46.50	74.00	Korea Electricity Co (KECO)	Same as supplier	State owned
AS Kuwait	*	*	*	*	*	*
AS Laos	30.00	80.00	89.00	Electricite du Laos (EDL)-90% exported to Thailand	Same as supplier	State owned
AS Lebanon	*	*	*	*	*	*
AF Lesotho	12.00	45.00	*	Imported from South Africa	Les. Elec. Corp (LEC)	*
AF Liberia	32.00	33.30	63.00	Liberia Electricity Corp (LEC)	Same as supplier	State owned
AF Libya	*	*	*	*	*	*
E Liechtenstein	*	*	*	*	*	*
E Luxembourg	*	*	*	*	*	*
AF Madagascar	33.00	49.00	*	Malagasy Elec. & Water Corp (JIRAMA)	Same as supplier	*
AF Malawi	11.00	31.00	65.30	Elec. Commission of Malawi (ESCOM)	Same as supplier	State owned
AS Malaysia	15.00	44.00	66.70	National Elec. Board of the States of	Same as suppliers	State owned

POWER SYSTEM FILE /a

RGN COUNTRY	COUNTRIES INTERCONNECTED	ELECTRICITY TARIFFS					
		Average	Domestic (20 kWh/mo)	Domestic (0.1MWh/mo)	Commercial (0.4MWh/mo)	Small Ind. (2MWh/mo)	Large Ind. (100MWh/mo)
		UScents/kWh	UScents/kWh	UScents/kWh	UScents/kWh	UScents/kWh	UScents/kWh
SA Ecuador							
AF Egypt	--	*	12.00	17.50	4.9-9.0	4.9-9.0	*
CA El Salvador	--	*	*	*	*	*	*
CA El Salvador							
AF Equatorial Guinea	--	*	*	*	*	*	*
AF Ethiopia	--	7.00	7.50	7.50	8.50	4.8-8.5	4.00
OC Fiji	--	16.00	*	*	*	*	*
E Finland	*	*	*	*	*	*	*
E France	*	*	*	*	*	*	*
AF Gabon	--	*	*	*	*	*	*
AF Gaabia	--	*	12.20	17.80	11.50	11.50	11.50
E Germany, East	*	*	*	*	*	*	*
E Germany, West	*	*	*	*	*	*	*
AF Ghana	Togo, Iv.C., Benin	*	0.90	0.90	2.54	1.14	*
E Greece	*	*	*	*	*	*	*
C Grenada	*	*	*	*	*	*	*
CA Guatemala	--	13.40	*	*	*	*	*
CA Guatemala							
AF Guinea	--	*	16.00	16.00	16.00	13.00	8.50
AF Guinea Bissau	--	11.20	*	*	*	*	*
SA Guyana	--	25.05	*	*	*	*	*
C Haiti	--	11.20	*	*	*	*	*
CA Honduras	Nicaragua	7.35	*	*	*	*	*
AS Hong Kong	*	*	*	*	*	*	*
E Hungary	--	*	*	1-4.8	*	5.55	4.60
E Iceland	*	*	*	*	*	*	*
AS India	Nepal	*	*	7.5	*	4.6	5.10
AS Indonesia	--	*	9.69	9.69	13.63	6.48	6.48
AS Iraq	*	*	*	*	*	*	*
E Ireland	*	*	*	*	*	*	*
AS Israel	*	*	*	*	*	*	*
E Italy	*	*	*	*	*	*	*
AF Ivory Coast	Ghana	LV 12.20	*	*	*	*	*
C Jamaica	--	*	13.71	5.08	2.60	3.60	2.70
AS Japan	*	*	*	*	*	*	*
AS Jordan	Syria	*	*	*	*	*	*
AF Kenya	Uganda	*	13.00	5.96	5.96	5.50	5.40
OC Kiribati	*	*	*	*	*	*	*
AS Korea, South	--	8.88	5.40	34.64	29.39	8.16	*
AS Kuwait	*	*	*	*	*	*	*
AS Laos	Thailand	1.10	1.10	1.10	1.10	1.10	1.10
AS Laos							
AS Lebanon	*	*	*	*	*	*	*
AF Lesotho	S. Africa	*	4.3-12.1	4.3-12.1	4.50	3.80	3.80
AF Liberia	--	*	14.50	14.50	15.00	14.00	13.00
AF Libya	*	*	*	*	*	*	*
E Liechtenstein	*	*	*	*	*	*	*
E Luxembourg	*	*	*	*	*	*	*
AF Madagascar	--	12.30	*	*	*	*	*
AF Malawi	Zambia	11.00	*	*	*	*	*
AS Malaysia	Thailand	9.86	9.30	10.10	11.16	10.23	8.73

RGN COUNTRY	ELECTICITY TARIFFS (Continued)			ELECTRICITY PROD.		
	Street Lights UScents/kWh	Agri- culture UScents/kWh	Other UScents/kWh	Total gWh	5-Yr Grwth Pct /d	1-Yr Grwth Pct /d
SA Ecuador						
AF Egypt	*	*	*	17720	13.4	13.7
CA El Salvador	*	*		1500	7.0	-3.4
CA El Salvador						
AF Equatorial Guinea	*	*	*	26	*	*
AF Ethiopia	*	*	*	679	1.5	7.1
OC Fiji	*	*	*	321	4.8	4.0
E Finland	*	*	*	39350 /e	*	*
E France	*	*	*	265900 /e	*	*
AF Gabon	*	*	*	530	17.9	30.2
AF Gambia	*	*	*	41	8.2	14.2
E Germany,East	*	*	*	102906 /e	*	*
E Germany,West	*	*	*	366877 /e	*	*
AF Ghana	*	*	2.16	4506	5.9	14.9
E Greece	*	*	*	23272 /e	*	*
C Grenada	*	*	*	25 /e	*	*
CA Guatemala	*	*	12.90 Inde Ave	1630	9.4	12.9
CA Guatemala						
AF Guinea	*	*	*	368	6.9	24.3
AF Guinea Bissau	*	*	8.70 Ave HV	13	*	*
SA Guyana	*	*	*	440	4.4	2.2
C Haiti	*	*	*	377	11.5	-7.7
CA Honduras	*	*	*	1090	98.0	10.2
AS Hong Kong	*	*	*	14504 /e	*	*
E Hungary	7.80	*	*	31930	*	*
E Iceland	*	*	*	3302 /e	*	*
AS India	*	2.60	*	138677	5.3	6.4
AS Indonesia	*	*	*	12722	10.5	7.2
AS Iraq	*	*	*	6310 /e	*	*
E Ireland	*	*	*	*	*	*
AS Israel	*	*	*	13826 /e	*	*
E Italy	*	*	*	184444 /e	*	*
AF Ivory Coast	*	*	4.60 HV	1929	12.2	11.2
C Jamaica	*	*	*	2100	-1.8	-5.8
AS Japan	*	*	*	581147 /e	*	*
AS Jordan	*	*	*	1512	21.3	22.0
AF Kenya	*	5.80	*	1998	13.6	-15.2
OC Kiribati	*	*	*	*	*	*
AS Korea,South	*	*	*	47197	11.9	-5.6
AS Kuwait	*	*	*	12016 /e	*	*
AS Laos	*	*	*	270	*	-1.4
AS Laos						
AS Lebanon	*	*	*	1290 /e	*	*
AF Lesotho	*	*	*	103.6	3.0	*
AF Liberia	*	*	*	1040.4	3.2	7.8
AF Libya	*	*	*	6000 /e	*	*
E Liechtenstein	*	*	*	*	*	*
E Luxembourg	*	*	*	941 /e	*	*
AF Madagascar	*	*	*	432	6.6	19.9
AF Malawi	*	*	*	408	7.5	8.4
AS Malaysia			7.00 Bulk Rate	11102	10.5	16.7

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RCN COUNTRY	REVENUE METERS 1982 Millions	AVERAGE REVENUE \$/kWh	RATE OF RETURN Percent	SYSTEM FREQUENCY Hz	Transmission kVolts	VOLTAGE Distribution kVolts	Low Volts
AS Malaysia	(NEB)						
AS Maldives	*	*	*	*	*	*	*
AF Mali	*	\$0.170	*	50	150	30/15	220/380
E Malta	*	*	*	*	*	*	*
AF Mauritania	*	*	*	50	*	6	220/380
AF Mauritius	0.171	\$0.122	3.90	50	66/22	6.6	220/230
NA Mexico	11.014	\$0.035	5.80	60	400/230/115	115/13.2	220/127
E Monaco	*	*	*	*	*	*	*
AF Morocco	0.410	\$0.069	-1.00	50	225/150/60	39/22/8	220/380
AF Mozambique	*	*	*	*	*	*	*
OC Nauru	*	*	*	*	*	*	*
AS Nepal	0.134	\$0.035	1.50	50	132/66/33	33/11	400/230
AS Nepal							
E Netherlands	*	*	*	*	*	*	*
C Netherlands Antilles	*	*	*	**	*	*	*
OC New Zealand	*	*	*	*	*	*	*
CA Nicaragua	0.233	\$0.076	*	60	138/69	25/13.8	110/220
AF Niger	0.040	\$0.160	*	50	132/66	20/15/5.5	*
AF Nigeria	1.070	\$0.104	2.90	50	330/132	33/11	220/380
OC Niue	*	*	*	*	*	*	*
E Norway	*	*	*	*	*	*	*
AS Oman	*	*	*	*	*	*	*
AS Pakistan	4.500	\$0.068	17.90	50	500/220/132/66	33/11	230/440
AS Pakistan							
CA Panama	0.254	\$0.116	8.11	60	220/115	34.5/11	110/220
CA Panama							
OC Papua New Guinea	0.039	\$0.170	13.70	50	132/66/32/22/11	22/11	240/415
SA Paraguay	0.226	\$0.056	9.00	50	220/66	23	220/380
SA Peru	1.024	\$0.031	5.60	60	220/138/60	30/10/5	230
AS Philippines	1.089	\$0.050	4.50	60	230/138/115/69	34.5/13/8/6.6/4/2	120/240/480
AS Philippines							
E Portugal	8.598	\$0.047	-1.60	50	400/220/150	6/60	220/380
AS Qatar	*	*	*	*	*	*	*
E Romania	5.180	\$0.013	1.80	50	400/210/110	35/20/15/10	220/380
E Romania							
AF Rwanda	0.006	\$0.050	3.50	40	110/70/30	15/6.6	220/240
C St Christopher/Nevis	*	*	*	*	*	*	*
C Saint Lucia	0.016	*	*	*	11/6.6/6.35	*	*
C St Vincent/Grenadine	0.012	*	7.80	*	11/6	6	*
E San Marino	*	*	*	*	*	*	*
AF Sao Tome/Principe	0.004	\$0.100	*	50	30	30/6	220/230/270/280
AS Saudi Arabia	*	*	*	*	*	*	*
AF Senegal	0.155	\$0.146	2.00	50	90/30	*	127/220
AF Senegal							
AF Seychelles	*	\$0.200	*	50	33/11	240/415	*
AF Sierra Leone	0.021	\$0.100	-1.00	50	*	11	230/400
AS Singapore	*	*	*	*	*	*	*
OC Solomon Islands	0.003	*	*	50	33/11	3.3	240/415
AF Somalia	*	*	*	*	*	*	*
AF South Africa	*	*	*	*	*	*	*
E/ASSoviet Union	*	*	*	*	*	*	*

RGN COUNTRY	T & D OVERALL SYSTEM			MAJOR ELECTRIC UTILITY COMPANIES		
	LOSSES Percent	CAPACITY Factor Percent	LOAD Factor Percent	Supplier	Distributor	Ownership
AS Malaysia				Malay (NEB), PRHE, SEB, SESCO		
AS Maldives	*	*	*	*	*	*
AF Mali	20.00	30.00	61.00	Energie du Mali (EDM)	Same as supplier	State owned
E Malta	*	*	*	*	*	*
AF Mauritania	18.15	16.90	*	Several oil-fired diesel stations	*	*
AF Mauritius	19.00	21.20	48.00	Central Electricity Board (CEB)	Same as supplier	State owned
NA Mexico	16.00	43.00	*	Comision Federal de Elec. (CFE)	Same as supplier	*
E Monaco	*	*	*	*	*	*
AF Morocco	17.00	54.00	64.00	Office Nationale del Elec. (ONE)	Same as supplier	State owned
AF Mozambique	*	21.50	*	Nationalized power sector	*	*
OC Nauru	*	*	*	*	*	*
AS Nepal	32.00	25.00	47.60	Nepal Electricity Corp (NEC), Eastern Electricity Corp (EEC)	Same as suppliers	State owned
AS Nepal						
E Netherlands	*	*	*	*	*	*
C Netherlands Antilles	*	*	*	*	*	*
OC New Zealand	*	*	*	*	*	*
CA Nicaragua	19.00	29.82	61.00	Empresa Nacnl. de Luz & Fuerza (ENALUF)	Same as supplier	*
AF Niger	32.30	22.18	*	Societe Nigerienne d'Elec. (SNE)	Same as supplier	State owned
AF Nigeria	32.00	30.50	68.00	Nigeria Elec. Power Auth. (NEPA)	Same as supplier	State owned
OC Niue	*	*	*	*	*	*
E Norway	*	*	*	*	*	*
AS Oman	*	*	*	*	*	*
AS Pakistan	30.00	47.80	59.00	Water & Power Devt. Authority (WAPDA), KESC	Various agencies	State owned
AS Pakistan						
CA Panama	17.00	53.00	66.00	Instituto de Recursos Hidraulicos y Elec. (RHE)	Same as supplier	State owned
CA Panama						
OC Papua New Guinea	11.40	46.00	63.00	New Guinea Elec. Commission (ELCOM)	Same as supplier	State owned
SA Paraguay	11.20	33.00	53.00	Admin. Nacional de Elec. (ANDE)	Same as supplier	*
SA Peru	10.00	34.90	*	Elec. del Peru (Electroperu)	Electrolima	*
AS Philippines	8.10	46.00	69.50	National Power Corp (NPC), Manila Electric Co (MECO)	Same as suppliers	State owned
AS Philippines						Private
E Portugal	11.40	39.00	61.00	Elec. de Portugal (EdP)	Same as supplier	State owned
AS Qatar	*	*	*	*	*	*
E Romania	3.00	46.00	77.00	Ministrate Energie Elec. (MEE)	Same as supplier	State owned
E Romania						
AF Rwanda	15.00	35.00	*	Electrogaz-purchases 64% from Zaire	Electrogaz	State owned
C St Christopher/Nevis	*	*	*	*	*	*
C Saint Lucia	14.00	44.40	69.00	*	*	*
C St Vincent/Grenadine	24.80	29.00	62.50	*	*	*
E San Marino	*	*	*	*	*	*
AF Sao Tome/Principe	15.00	24.10	56.00	Empresa de Agua e Elec. (EAE)	Same as supplier	State owned
AS Saudi Arabia	*	*	*	*	*	*
AF Senegal	16.00	43.80	70.00	Societe Senegalaise de Distribution d'Energie Elec. (SENELEC)	Same as supplier	State owned
AF Senegal						
AF Seychelles	12.00	31.00	62.00	The Elec. Corp of Seychelles (ECS)	Same as supplier	Private
AF Sierra Leone	25.00	28.35	68.00	Sierra Leone Elec. Corp (SLEC)	Same as supplier	State owned
AS Singapore	*	*	*	*	Same as supplier	State owned
OC Solomon Islands	8-12	*	57.50	*	*	*
AF Somalia	*	14.00	*	National Elec. Energy Auth. (ENEE)	*	*
AF South Africa	*	*	*	*	*	*
E/ASSoviet Union	*	*	*	*	*	*

RGN COUNTRY	COUNTRIES INTERCONNECTED	ELECTRICITY TARIFFS					
		Average	Domestic	Domestic	Commercial	Small Ind.	Large Ind.
		UScents/kWh	(20 kWh/mo) UScents/kWh	(0.1MWh/mo) UScents/kWh	(0.4MWh/mo) UScents/kWh	(2MWh/mo) UScents/kWh	(100MWh/mo) UScents/kWh
AS Malaysia							
AS Maldives	*	*	*	*	*	*	*
AF Mali		13.00					
E Malta	*	*	*	*	*	*	*
AF Mauritania	--	*	24.00	24.00	*	21.00	21.00
AF Mauritius	--	*	14.20	25.50	18.50	18.50	18.50
NA Mexico	U.S.A.	2.77	*	*	*	*	*
E Monaco	*	*	*	*	*	*	*
AF Morocco	--	*	10.00	6.65	*	*	7.45
AF Mozambique	S. Africa	*	*	*	*	*	*
OC Nauru	*	*	*	*	*	*	*
AS Nepal	India	*	2.80	5.00	4.40	3.50	3.10
AS Nepal							
E Netherlands	*	*	*	*	*	*	*
C Netherlands Antilles	*	*	*	*	*	*	*
OC New Zealand	*	*	*	*	*	*	*
CA Nicaragua	Costa Rica, Hond.	11.04	*	*	*	*	*
AF Niger	Nigeria	16.70	*	*	*	*	*
AF Nigeria	Niger	*	10.00	10.10	11.20	14.30	11.10
OC Niue	*	*	*	*	*	*	*
E Norway	*	*	*	*	*	*	*
AS Oman	*	*	*	*	*	*	*
AS Pakistan	--	WAPDA 4.31	*	*	*	*	*
AS Pakistan							
CA Panama	--	*	14.73	10.55	11.91	10.48	8.49
CA Panama							
OC Papua New Guinea	--	5.00	*	*	*	*	*
SA Paraguay	Brazil, Argentina	*	10.30	10.30	*	7.70	7.70
SA Peru	--	*	2.85	2.85	11.00	5.00	5.00
AS Philippines	--	*	1.44	6.44	7.00	6.00	5.33
AS Philippines							
E Portugal	Spain	*	5.37	5.37	*	4.03	4.03
AS Qatar	*	*	*	*	*	*	*
E Romania	Bulg., Yug., USSR,	*	*	*	*	*	*
E Romania	Czech.						
AF Rwanda	Zaire	HV 9.7	*	*	*	*	*
C St Christopher/Nevis	*	*	*	*	*	*	*
C Saint Lucia	--	*	7.40	7.70	8.70	8.60	8.60
C St Vincent/Grenadine	--	*	12.03	12.03	12.60	10.36	10.36
E San Marino	*	*	*	*	*	*	*
AF Sao Tome/Principe	--	*	*	*	*	*	*
AS Saudi Arabia	*	*	*	*	*	*	*
AF Senegal	--	13.10	*	*	*	*	*
AF Senegal							
AF Seychelles	--	*	18.30	19.00	21.20	21.20	19.30
AF Sierra Leone	--	18.50	13.80	19.00	21.00	17.10	14.31
AS Singapore	--	*	*	*	*	*	*
OC Solomon Islands	--	*	20.90	20.90	23.80	23.80	23.80
AF Somalia	--	*	*	*	*	*	*
AF South Africa	*	*	*	*	*	*	*
E/ASSoviet Union	*	*	*	*	*	*	*

RGN COUNTRY	ELECTICITY TARIFFS (Continued)			ELECTRICITY PROD.		
	Street Lights UScents/kWh	Agri- culture UScents/kWh	Other UScents/kWh	Total gWh	5-Yr Grwth Pct /d	1-Yr Grwth Pct /d
AS Malaysia						
AS Maldives	*	*	*	8 /e	*	*
AF Mali				110	7.9	0.0
E Malta	*	*	*	561 /e	*	*
AF Mauritania	*	*	*	155.5	5.3	0.0
AF Mauritius	*	12.87	*	473	5.5	-6.9
NA Mexico	*	*	*	80589	8.4	6.8
E Monaco	*	*	*	*	*	*
AF Morocco	7.85	*	*	7290	11.5	20.0
AF Mozambique	*	*	*	3400	74.3	29.3
OC Nauru	*	*	*	*	*	*
AS Nepal	*	*	2.60	356	6.5	18.6
AS Nepal						
E Netherlands	*	*	*	60328 /e	*	*
C Netherlands Antilles	*	*	*	2310 /e	*	*
OC New Zealand	*	*	*	23957 /e	*	*
CA Nicaragua	*	*	12.34 Ind Ave	1153	2.7	10.5
AF Niger	*	*	*	350	26.9	*
AF Nigeria	*	*	*	7500	18.6	48.4
OC Niue	*	*	*	*	*	*
E Norway	*	*	*	93060 /e	*	*
AS Oman	*	*	*	1160 /e	*	*
AS Pakistan	*	*	4.00 Ave KESC	17779	5.7	23.1
AS Pakistan						
CA Panama	*	*	*	3457	5.9	9.9
CA Panama						
OC Papua New Guinea	*	*	*	471	5.8	7.7
SA Paraguay	*	*	*	915	7.6	3.4
SA Peru	*	*	*	10400	5.5	8.5
AS Philippines	*	*	*	20560	4.9	11.8
AS Philippines						
E Portugal	*	*	*	19102	6.5	-1.1
AS Qatar	*	*	*	2775 /e	*	*
E Romania	*	*	*	68400	4.4	2.9
E Romania						
AF Rwanda	*	*	14.16 Ave LV	163	*	*
C St Christopher/Nevis	*	*	*	*	*	*
C Saint Lucia	*	*	*	63.85	*	*
C St Vincent/Grenadine	*	*	*	29	*	*
E San Marino	*	*	*	*	*	*
AF Sao Tome/Principe	*	*	*	11	*	0.0
AS Saudi Arabia	*	*	*	25450 /e	*	*
AF Senegal	*	*	*	631	9.1	0.0
AF Senegal						
AF Seychelles	*	*	*	52.2	11.0	6.0
AF Sierra Leone	*	*	*	236	2.8	-1.0
AS Singapore	*	*	*	7860 /e	*	*
OC Solomon Islands			16.20 Off-Peak	23.5	*	*
AF Somalia	*	*	*	75	15.7	0.0
AF South Africa	*	*	*	108961 /e	*	*
E/ASSoviet Union	*	*	*	1367100 /e	*	*

POWER SYSTEM FILE /a

RCN COUNTRY	REVENUE METERS 1982 Millions	AVERAGE REVENUE \$/kWh	RATE OF RETURN Percent	SYSTEM FREQUENCY Hz	Transmission kVolts	VOLTAGE Distribution kVolts	Low Volts
E Spain	*	*	*	*	*	*	*
AS Sri Lanka	0.239	\$0.036	7.20	50	132/66	11	230/400
AF Sudan	0.212	\$0.044	22.00	50	220/110	33/11	220/380
SA Suriname	0.070	\$0.220	6.00	60	33	33	220
AF Swaziland	0.012	\$0.044	2.90	50	132/66	11/6/3.3	400
E Sweden	*	*	*	*	*	*	*
E Switzerland	*	*	*	*	*	*	*
AS Syria	*	\$0.044	*	50	230/66	20	127/220/380
AS Taiwan	*	*	*	*	*	*	*
AF Tanzania	0.130	\$0.077	*	50	220/132/66	33/11/6.6/3	220/400
AS Thailand	2.723	\$0.062	-1.90	50	500/230/115/69	33/22/11	230/400/460
AF Togo	0.028	\$0.092	*	50	161/63/32.5	20/15	220/380
DC Tonga	*	*	*	*	*	*	*
C Trinidad/Tobago	*	*	*	*	*	*	*
AF Tunisia	0.803	\$0.068	7.50	50	225/150/90	30/15/10	110/220/380
E/ASTurkey	7.892	\$0.042	*	50	380/154	66/34.5/15/6.3	220/380
DC Tuvalu	*	*	*	*	*	*	*
AF Uganda	0.097	\$0.005	*	50	132/66	33/11	230
AS United Arab Emirates	*	*	*	*	*	*	*
E United Kingdom	*	*	*	**	*	*	*
SA Uruguay	0.855	\$0.076	2.00	50	500/150/60	30/15/6	220/380
SA Uruguay							
DC Vanuatu	*	*	*	*	*	*	*
SA Venezuela	*	*	*	*	*	*	*
DC Western Samoa	*	*	*	*	*	*	*
AS Yemen Arab Republic	0.116	\$0.257	8.20	50	132	33/15/11/10	220/400
E Yugoslavia	0.095	*	*	50	380/220/110	35/10	220/380
E Yugoslavia							
E Yugoslavia							
AF Zaire	*	0.019	-2.60	50	500/220/132/120	110/70/55/50	220
AF Zaire							
AF Zambia	0.000	\$0.009	*	50	*	*	220/240
AF Zambia							
AF Zimbabwe	0.180	\$0.020	15.30	50	330/132/88/66	33/11	220/400

RGN COUNTRY	T & D OVERALL SYSTEM			MAJOR ELECTRIC UTILITY COMPANIES		
	LOSSES	CAPACITY	LOAD	Supplier	Distributor	Ownership
	Percent	Percent	Percent			
E Spain	*	*	*	*	*	*
AS Sri Lanka	19.00	45.00	54.70	Ceylon elec. board (CEB)	Same as supplier	State owned
AF Sudan	32.00	33.00	67.50	The Public Elec. & Water Corp (PEWC)	Same as supplier	State owned
SA Suriname		48.50	61.00	Power from bauxite & mining firms	Energie Bedrijven Sur.	State/private
AF Swaziland	10.00	48.00	66.00	Swaz. Elec. Board (SEB), ESCOM of RSA	SEB	State owned
E Sweden	*	*	*	*	*	*
E Switzerland	*	*	*	*	*	*
AS Syria	22.00	47.00	55.00	Etablissement Public d'Elec. (EPE)	Same as supplier	*
AS Taiwan	*	*	*	*	*	*
AF Tanzania	15.00	36.60	63.00	Tanzania Elec. Corp (TANESCO)	Same as supplier	State owned
AS Thailand	14.10	41.30	78.00	Elec. Generating Auth. of Thail. (EGAT)	MEA, PEA	State owned
AF Togo	8.20	2.56	60.00	Communate Elec. du Benin (CEB)	Comp. Elec. du Togo	State owned
OC Tonga	*	*	*	*	*	*
C Trinidad/Tobago	*	*	*	*	*	*
AF Tunisia	14.00	32.00	55.00	Soc. Tunsn. de l'Elec. et du Gas (STEB)	Same as supplier	State owned
E/ASTurkey	19.00	47.00	63.00	Turkiye Elec. Kurumu (TEK)	EITT	State owned
OC Tuvalu	*	*	*	*	*	*
AF Uganda	20.00	42.00	65.00	Uganda Electricity Board (UEB)	Same as supplier	State owned
AS United Arab Emirates	*	*	*	*	*	*
E United Kingdom	*	*	*	*	*	*
SA Uruguay	17.80	32.00	54.00	Admin. Nacional de Usinas y Trans- misiones Electrica (UTE)	Same as supplier	*
SA Uruguay						
OC Vanuatu	*	*	*	*	*	*
SA Venezuela	*	*	*	*	*	*
OC Western Samoa	*	*	*	*	*	*
AS Yemen Arab Republic	20.00	26.70	48.00	Yemen General Elec. Corp (YGEC)	Same as supplier	State owned
E Yugoslavia	8.00	44.00	*	The Union of Yug. Elec. Inds. (JUGEL),	Same as suppliers	*
E Yugoslavia				The Union of all selfmanaged Basic		
E Yugoslavia				Organztn. of Assoc'd. Labor (BOAL)		
AF Zaire	29.40	42.00	40.00	Societe Nationale d'Elec. (SNEL)	Same as supplier	State owned
AF Zaire						
AF Zambia	17.00	62.00	83.00	Zambia Elec. Corp (ZESCO)-purchases some power from Central Afr. Power Corp	Same as supplier	State owned
AF Zambia						
AF Zimbabwe	9.00	44.00	76.00	Central African Power Corp (CAPC),	ESC	*
AF Zimbabwe				Elec. Supply Commission (ESC)		

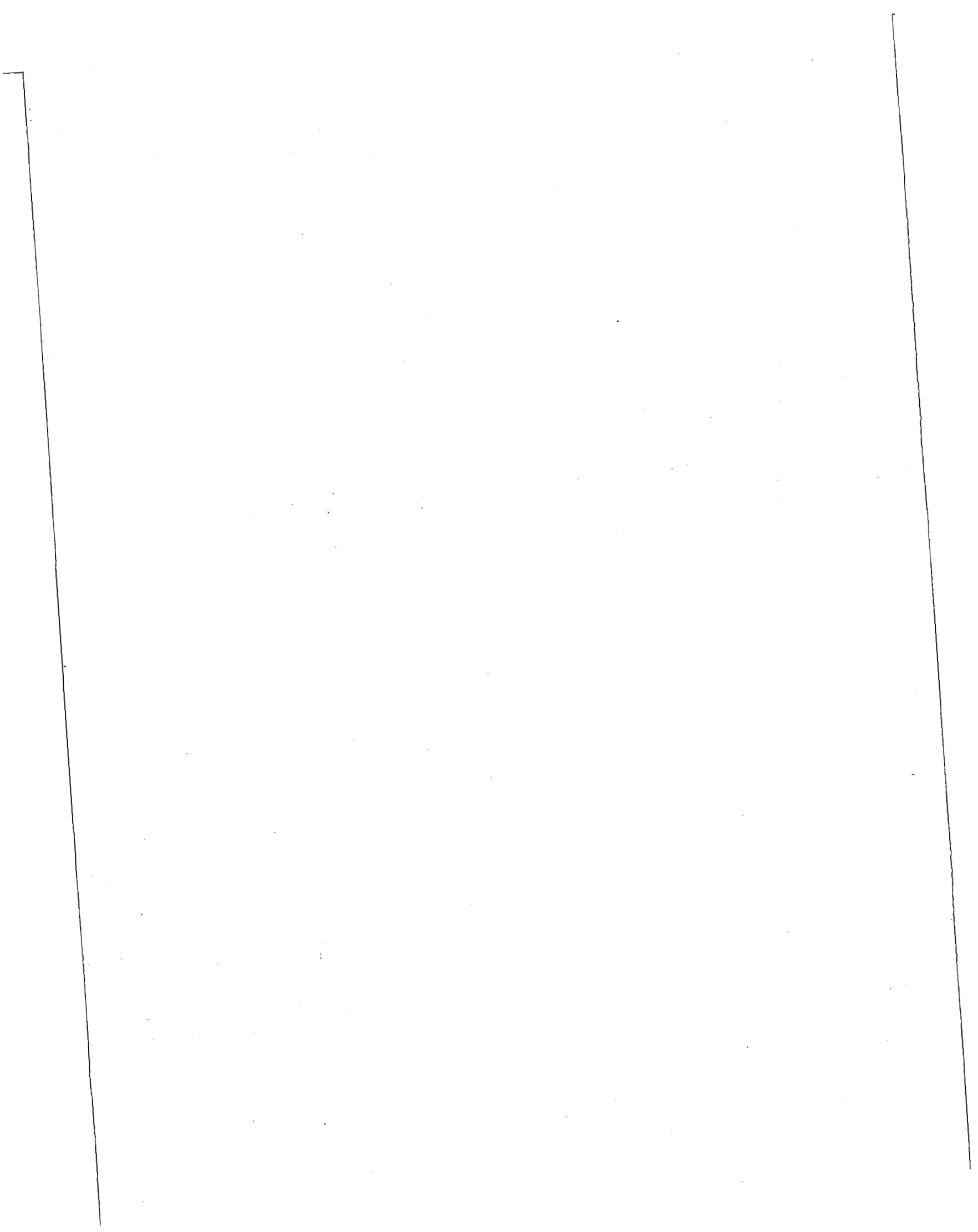
RGN COUNTRY	COUNTRIES INTERCONNECTED	ELECTRICITY TARIFFS					
		Average	Domestic	Domestic	Commercial	Small Ind.	Large Ind.
		UScents/kWh	(20 kWh/mo) UScents/kWh	(0.1MWh/mo) UScents/kWh	(0.4MWh/mo) UScents/kWh	(2MWh/mo) UScents/kWh	(100MWh/mo) UScents/kWh
E Spain	*	*	*	*	*	*	*
AS Sri Lanka	--	6.00	1.90	10.86	11.52	*	*
AF Sudan	--	*	*	*	*	*	*
SA Suriname	--	*	*	*	*	*	*
AF Swaziland	RSA	4.40	*	*	*	*	*
E Sweden	*	*	*	*	*	*	*
E Switzerland	*	*	*	*	*	*	*
AS Syria	Jordan	*	*	*	*	*	*
AS Taiwan	*	*	*	*	*	*	*
AF Tanzania	*	7.70	*	*	*	*	*
AS Thailand	Laos, Malaysia	7.90	7.10	7.10	*	*	*
AF Togo	Ghana, Benin	11.50	*	*	*	*	*
OC Tonga	*	*	*	*	*	*	*
C Trinidad/Tobago	*	*	*	*	*	*	*
AF Tunisia	Algeria	*	6.20	6.20	*	*	*
E/ASTurkey	Bulgaria, USSR	3.50			*	*	*
OC Tuvalu	*	*	*	*	*	*	*
AF Uganda	--	*	*	*	*	*	*
AS United Arab Emirates	*	*	*	*	*	*	*
E United Kingdom	*	*	*	*	*	*	*
SA Uruguay	*	*	*	*	*	*	*
SA Uruguay							
OC Vanuatu	*	*	*	*	*	*	*
SA Venezuela	*	*	*	*	*	*	*
OC Western Samoa	*	*	*	*	*	*	*
AS Yemen Arab Republic	--	25.70	*	*	*	*	*
E Yugoslavia	Eastern European	1.94	*	*	*	*	*
E Yugoslavia	neighbors, Italy						
E Yugoslavia	and Switzerland						
AF Zaire	Rwanda, Burundi,	*	*	*	*	*	*
AF Zaire	Zaire, Brazaville						
AF Zaambia	Zaire, Zimbabwe	*	*	*	*	*	*
AF Zambia							
AF Ziababwe	Zambia, RSA				*	*	*
AF Zimbabwe							

RGN COUNTRY	ELECTICITY TARIFFS (Continued)			ELECTRICITY PROD.		
	Street	Agri-	Other	Total	5-Yr	1-Yr
	Lights	culture			Grwth	Grwth
	UScents/kWh	UScents/kWh	UScents/kWh	gWh	Pct	Pct
					/d	/d
E Spain	*	*	*	116760 /e	*	*
AS Sri Lanka	*	*	7.05 HV	2066	8.2	10.4
AF Sudan	*	*	*	1010	14.3	25.6
SA Suriname	*	*	*	1700	4.7	6.4
AF Swaziland	*	*	*	580.8	9.6	5.2
E Sweden	*	*	*	100124 /e	*	*
E Switzerland	*	*	*	52285 /e	*	*
AS Syria	*	*	*	4540	18.0	6.4
AS Taiwan	*	*	*	40899 /e	*	*
AF Tanzania	*	*	*	828	4.3	5.1
AS Thailand	6.30	5.10	*	17687	13.6	4.8
AF Togo	*	*	*	366	*	7.2
OC Tonga	*	*	*	*	*	*
C Trinidad/Tobago	*	*	*	2260 /e	*	*
AF Tunisia	*	*	*	3200	14.1	18.2
E/ASTurkey	*	*	*	28160	8.3	-4.9
OC Tuvalu	*	*	*	*	*	*
AF Uganda	*	*	*	356	0.8	23.1
AS United Arab Emirates	*	*	*	6010 /e	*	*
E United Kingdom	*	*	*	272162 /e	*	*
SA Uruguay	*	*	*	3641	7.6	10
SA Uruguay						
OC Vanuatu	*	*	*	*	*	*
SA Venezuela	*	*	*	39000 /e	*	*
OC Western Samoa	*	*	*	*	*	*
AS Yemen Arab Republic	*	*	24.2/33 Urban/Rural	640	30.8	20.5
E Yugoslavia	*	*	*	64950	6.9	1.9
E Yugoslavia						
E Yugoslavia						
AF Zaire	*	*	*	4392	2.0	3.2
AF Zaire						
AF Zambia	*	*	*	10584	15.0	10.8
AF Zambia						
AF Zimbabwe	*	*	*	7614	-2.3	29.3
AF Zimbabwe						

* NOT AVAILABLE

-- NOT INTERCONNECTED

6. BUSINESS DATA FILE



6. BUSINESS DATA FILE

The Business Data File includes currency and credit worthiness data. It also provides information on the leading corporations of the Third World, their sales volume, and the nature of their business, as well as the principal types of banks used by these companies with reference to their assets or deposits. Headings for these data sets are as follows:

- Currency Data
 - Units
 - 1980 exchange rate, currency units/US\$1
 - 1982 exchange rate, currency units/US\$1
 - June 1985 exchange rate, currency units/US\$1
- Bank Limits Data (Credit Worthiness)
- Company Name
- Business Type
- Value Amount, U.S. billion dollars
- Type.

Chapter Notes

Note 1: Market exchange rates are listed for 1980, 1982, and June 1985. The 1980 and 1982 exchange rates reflect a yearly average while the June 1985 rate reflects only the average for that month.

Note 2: Credit worthiness data obtained as of March 1, 1986, identify conditions for medium-term guarantees and insurance by the U.S. Export-Import Bank (EXIMBANK). The EXIMBANK updates this data semi-annually. Countries able to receive medium-term guarantees and insurance without conditions are identified by the entry "None"; conditional guarantees and insurance are indicated by the entry "Cond"; while the "Hold" entry indicates that neither medium-term guarantees nor insurance is available.

Note 3: The leading corporations of the Third World that are included in the data base are all owned, controlled, or managed by Third World governments

or nationals. The companies included in the data base generally operate in the following sectors: manufacturing, extraction, agricultural, or commercial. With the exception of Hong Kong and Singapore, companies involved with nonproductive sectors, such as investment and real estate, have been omitted from the data base.

Note 4: The value amount (worth) of each company in billions of U.S. dollars is based on sales covering fiscal years that end sometime over the period early 1982 to the end of 1983. The conversion into U.S. dollars was made at the prevailing rates of exchange.

Note 5: Bank names are included under the "Company" column and are designated by the entry "Bank." The value amount (worth) for the bank refers to either assets or deposits, as specified. The principal types of banks included in the data base reflect the importance of the banking sector in development process.

BUSINESS DATA FILE

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BUSINESS DATA FILE

REGION	COUNTRY	COMPANY /q,r Name	BUSINESS /q,r Type	VALUE /q,r	
				Amount	Type
				US\$bil	
AS	Afghanistan	Bank Milli Afghan	Bank	\$4.800	Deposits
AF	Algeria	Sonatrach	Oil	\$16.000	Sales
AF	Algeria	Banque National d'Algerie	Bank	\$11.380	Assets
AF	Algeria	Banque Exterieur d'Algerie	Bank	\$7.390	Assets
AF	Algeria	Credit Populaire d'Algerie	Bank	\$5.250	Assets
AF	Algeria	Soc Nat des Transportes Routiers	Transport	\$0.750	Sales
AF	Algeria	Soc Nat Industries Chimiques	Chemicals	\$0.700	Sales
AF	Algeria	Office National de Commerce	Wholesale food	\$0.450	Sales
AF	Algeria	Soc Nat Siderurgie	Iron & steel	\$0.300	Sales
AF	Algeria	Soc Nat de Tabac et Alumettes	Tobacco	\$0.166	Sales
AF	Algeria	Soc. Gest. et Dev. Ind. Alimentaires	Food	\$0.146	Sales
AF	Algeria	Sonic	Paper	\$0.145	Sales
AF	Algeria	Soc Nat Materiaux Constructions	Construction materials	\$0.488	Sales
C	Antigua/Barbuda	*	*	*	*
SA	Argentina	Banco de la Nacion Argentina	Bank	\$7.920	Assets
SA	Argentina	Banco de Italia y Rio de Plata	Bank	\$5.600	Deposits
SA	Argentina	Banco Nacional de Desarrollo	Bank	\$4.700	Assets
SA	Argentina	Banco de la Ciudad de B. Aires	Bank	\$3.900	Deposits
SA	Argentina	Banco de la Provincia de B.Aires	Bank	\$3.390	Assets
SA	Argentina	YPF	Oil	\$2.421	Sales
SA	Argentina	ENTEL	Telecommunications	\$0.809	Sales
SA	Argentina	Dalmine Siderca	Steel	\$0.734	Sales
SA	Argentina	Gas del Estado	Gas	\$0.681	Sales
SA	Argentina	Nidera	Vegetable oils	\$0.677	Sales
SA	Argentina	Molinos Rio de la Plata	Grain products	\$0.614	Sales
SA	Argentina	Acindar	Steel	\$0.528	Sales
SA	Argentina	SEGBA	Electricity	\$0.526	Sales
SA	Argentina	Aerolineas Argentinas	Airline	\$0.520	Sales
SA	Argentina	SOMISA	Iron & steel	\$0.458	Sales
SA	Argentina	Agua y Energia	Electricity	\$0.449	Sales
SA	Argentina	Mastellone	Food	\$0.365	Sales
SA	Argentina	Aluar	Aluminum	\$0.357	Sales
SA	Argentina	Alpargatas	Clothing & textiles	\$0.335	Sales
SA	Argentina	Sevel	Automobiles	\$0.325	Sales
SA	Argentina	Equitel	Telecommunications equip.	\$0.316	Sales
SA	Argentina	Propulsora Siderurgica	Steel	\$0.308	Sales
SA	Argentina	Techint	Construction	\$0.274	Sales
SA	Argentina	Elaa	Shipping	\$0.271	Sales
SA	Argentina	Alinsa	Food	\$0.254	Sales
SA	Argentina	Astra	Petrol sales	\$0.237	Sales
SA	Argentina	Loma Negra	Building materials	\$0.223	Sales
SA	Argentina	Ferrocarriles Argentinas	Railway	\$0.219	Sales
SA	Argentina	Deba	Electricity	\$0.205	Sales
SA	Argentina	Naviera Perez Companoc	Forest prods./shipping	\$0.202	Sales
SA	Argentina	Ledesma	Sugar	\$0.196	Sales
SA	Argentina	Obras Sanitarias	Services	\$0.181	Sales
SA	Argentina	Rio Colorado	Petrol	\$0.179	Sales
SA	Argentina	Alba Fabrica Pinturas	Paints	\$0.171	Sales
SA	Argentina	Celulosa Argentina	Paper	\$0.159	Sales
SA	Argentina	Cia Quimica	Agrochemicals	\$0.156	Sales

BUSINESS DATA FILE

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BUSINESS DATA FILE

REGION	COUNTRY	COMPANY /q,r Name	BUSINESS /q,r Type	VALUE /q,r Amount Type US\$bil
SA	Argentina	Encotel	Postal service	\$0.154 Sales
SA	Argentina	Bridas Sapiç	Petroleum services	\$0.152 Sales
SA	Argentina	Est. Modello Terrabusi	Flour products	\$0.145 Sales
AUS	Australia	*	*	* *
E	Austria	*	*	* *
C	Bahamas	*	*	* *
AS	Bahrain	Arab Banking Corp	Bank	\$8.760 Assets
AS	Bahrain	Gulf International Bank	Bank	\$7.420 Assets
AS	Bahrain	Bank of Bahrain & Kuwait	Bank	\$2.290 Assets
AS	Bahrain	Arlabank International	Bank	\$1.910 Assets
AS	Bahrain	National Bank of Bahrain	Bank	\$1.490 Assets
AS	Bahrain	Bahrain National Oil Co	Oil	\$1.454 Sales
AS	Bahrain	United Gulf Bank	Bank	\$1.090 Assets
AS	Bangladesh	Janata Bank of Bangladesh	Bank	\$0.280 Deposits
AS	Bangladesh	Bangladesh Jute Mills Corp-BJMC	Jute products	\$0.206 Sales
AS	Bangladesh	Bangladesh Chemical Inds Corp	Pharmaceuticals/chemicals	\$0.201 Sales
C	Barbados	*	*	* *
E	Belgium	*	*	* *
CA	Belize	*	*	* *
AF	Benin	*	*	* *
C	Bermuda	*	*	* *
SA	Bolivia	YFB Yac Petroleos Fisc Bolivns.	Petroleum sales	\$0.256 Sales
SA	Bolivia	Cominbol	Mining	\$0.204 Sales
SA	Bolivia	Nac de Fundiciones	Metals	\$0.140 Sales
AF	Botswana			
SA	Brazil	Banco do Brasil	Bank	\$54.590 Assets
SA	Brazil	Petrobas	Oil	\$8.810 Sales
SA	Brazil	Banco Brasileiro de Descontos	Bank	\$7.530 Assets
SA	Brazil	Banco de Estado de Sao Paulo	Bank	\$5.290 Assets
SA	Brazil	Banco Itau	Bank	\$4.690 Assets
SA	Brazil	Banco Bamerindus do Brasil	Bank	\$3.510 Assets
SA	Brazil	Uniao de Bancos Brasileiros	Bank	\$3.240 Assets
SA	Brazil	Banco Real	Bank	\$3.000 Assets
SA	Brazil	Petrobras Distribuidora	Petroleum distribution	\$2.570 Sales
SA	Brazil	Banco Economico	Bank	\$2.530 Assets
SA	Brazil	Banco do Nordeste do Brasil	Bank	\$1.990 Assets
SA	Brazil	Eletrobas	Electricity	\$1.967 Sales
SA	Brazil	Banco Mercantil de Sao Paulo	Bank	\$1.960 Assets
SA	Brazil	Banco de Credito Nacional	Bank	\$1.670 Assets
SA	Brazil	Banco do Estado do Rio de Janr.	Bank	\$1.620 Assets
SA	Brazil	Copersucar	Sugar & Alcohol	\$1.480 Sales
SA	Brazil	Banco Safra	Bank	\$1.460 Assets
SA	Brazil	Siderbras	Steel	\$0.950 Sales
SA	Brazil	Cia Vale do Rio Doce	Iron mining	\$0.859 Sales
SA	Brazil	Pao de Acucar	Supermarkets	\$0.824 Sales
SA	Brazil	Telebras	Telecommunications	\$0.772 Sales
SA	Brazil	Eletropaulo	Electricity	\$0.651 Sales
SA	Brazil	Casas de Banha	Commerce	\$0.625 Sales
SA	Brazil	Embratel	Telecommunications	\$0.620 Sales
SA	Brazil	Petro Ipiranga	Oil	\$0.607 Sales

BUSINESS DATA FILE

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BUSINESS DATA FILE

REGION	COUNTRY	COMPANY /q,r Name	BUSINESS /q,r Type	VALUE /q,r Amount Type US\$bil
SA	Brazil	Usiminas	Iron & steel	\$0.564 Sales
SA	Brazil	Cosipa	Steel	\$0.547 Sales
SA	Brazil	Varig	Airline	\$0.536 Sales
SA	Brazil	Cobal	Food retailing	\$0.530 Sales
SA	Brazil	Interbras	Commerce	\$0.525 Sales
SA	Brazil	Rede Ferrovaria Federal	Railway	\$0.479 Sales
SA	Brazil	CESP	Electricity	\$0.448 Sales
SA	Brazil	Copene	Chemicals	\$0.425 Sales
SA	Brazil	Sanbra	Food & chemicals	\$0.400 Sales
SA	Brazil	Sadia Concordia	Food	\$0.380 Sales
SA	Brazil	Agricola de Cotia	Foods	\$0.369 Sales
SA	Brazil	Alpargatas	Clothing	\$0.355 Sales
SA	Brazil	Brastemp	Domestic appliances	\$0.354 Sales
SA	Brazil	Telesp	Telecommunications	\$0.339 Sales
SA	Brazil	Andrade Gutierrez	Construction	\$0.339 Sales
SA	Brazil	Co-op Central Agricola do Sul	Agricultural supplies	\$0.321 Sales
SA	Brazil	Mesbla	Commerce	\$0.312 Sales
SA	Brazil	Petroquimica Uniano	Chemicals	\$0.301 Sales
SA	Brazil	Lojas Arapua	Retailing	\$0.292 Sales
SA	Brazil	Mendes Junior	Engineering	\$0.284 Sales
SA	Brazil	Furnas	Power plant	\$0.282 Sales
SA	Brazil	Tatuape	Textiles	\$0.279 Sales
SA	Brazil	Inds Textile cia Hering	Clothing	\$0.278 Sales
SA	Brazil	Cemig	Electricity	\$0.262 Sales
SA	Brazil	Votorantia	Mining	\$0.247 Sales
SA	Brazil	Norberto Oderbrecht	Construction	\$0.246 Sales
SA	Brazil	Vidraria Santa Marina	Glass	\$0.243 Sales
SA	Brazil	Casas Sendas	Supermarkets	\$0.236 Sales
SA	Brazil	Telerj	Telecommunications	\$0.236 Sales
SA	Brazil	Correios e Telegrafos	Post	\$0.235 Sales
SA	Brazil	Cerv. Brahma	Drinks & tobacco	\$0.234 Sales
SA	Brazil	Milho Brasil	Food products	\$0.232 Sales
SA	Brazil	Comestiveis Disco	Retailing	\$0.231 Sales
SA	Brazil	Uniao Acucar e Cafe	Sugar & coffee refining	\$0.221 Sales
SA	Brazil	Copel	Electricity	\$0.217 Sales
SA	Brazil	Electro Cloro	Chemicals	\$0.216 Sales
SA	Brazil	Copesul	Chemicals	\$0.214 Sales
SA	Brazil	Petroflex	Chemicals	\$0.214 Sales
SA	Brazil	Makro Atacadista	Commerce	\$0.214 Sales
SA	Brazil	Tenenge	Construction	\$0.207 Sales
SA	Brazil	Citrosuco Paulista	Edible oils	\$0.205 Sales
SA	Brazil	Chesf	Electricity	\$0.202 Sales
SA	Brazil	Docenave	Shipping	\$0.201 Sales
SA	Brazil	Electrosul	Electricity	\$0.199 Sales
SA	Brazil	CICA	Food	\$0.198 Sales
SA	Brazil	Distribuidora Petroleos Ipiranga	Petrol & oil distribution	\$0.198 Sales
SA	Brazil	Tristao	Coffee sales	\$0.195 Sales
SA	Brazil	Luchsinger Madorin	Chemicals	\$0.194 Sales
SA	Brazil	Sao Paulo Alpargatas	Clothing/textiles	\$0.194 Sales
SA	Brazil	Queiroz-Galvez	Construction	\$0.193 Sales

BUSINESS DATA FILE

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BUSINESS DATA FILE

REGION	COUNTRY	COMPANY /q,r Name	BUSINESS /q,r Type	VALUE /q,r Amount Type US\$bil
SA	Brazil	Bompreco	Food retailing	\$0.192 Sales
SA	Brazil	Sucocitrico Cutrale	Fruit juice	\$0.190 Sales
SA	Brazil	Ultrafertil	Fertiliser	\$0.190 Sales
SA	Brazil	Acesita	Steel	\$0.189 Sales
SA	Brazil	Consul	Refrigerators	\$0.189 Sales
SA	Brazil	Fepasa	Transportation	\$0.189 Sales
SA	Brazil	Hermes Macedo	Retail	\$0.188 Sales
SA	Brazil	Lundgren-Casas Pernambucanos	Retail	\$0.188 Sales
SA	Brazil	Paes Mendonca	Commerce	\$0.187 Sales
SA	Brazil	Coamo	Agroprocurement	\$0.186 Sales
SA	Brazil	Sadia Comercial	Retail	\$0.191 Sales
SA	Brazil	Duralex	Wood/plastics/ceramics	\$0.181 Sales
SA	Brazil	Joaquim Oliveira	Commerce	\$0.177 Sales
SA	Brazil	CBPD	Construction	\$0.175 Sales
SA	Brazil	Frigorifico Bordon	Abattoir/cold storage	\$0.174 Sales
SA	Brazil	Eluma	Machinery/equipment	\$0.173 Sales
SA	Brazil	Transbrasil	Transport	\$0.171 Sales
SA	Brazil	Frigobras	Cold storage	\$0.169 Sales
SA	Brazil	Eletronorte	Electricity	\$0.169 Sales
SA	Brazil	Intercontinental de Cafe	Coffee exports	\$0.168 Sales
SA	Brazil	Ceval Agro-Industrial	Plastics	\$0.166 Sales
SA	Brazil	Serpro	Data processing	\$0.166 Sales
SA	Brazil	VASP	Airline	\$0.165 Sales
SA	Brazil	Paulista de Forca e Luz	Power plant & electricity	\$0.164 Sales
SA	Brazil	Gradiente Eletronica	Electronic equip.	\$0.164 Sales
SA	Brazil	Confab	Iron & steel	\$0.164 Sales
SA	Brazil	Estadual Energ. Elect. Rs.	Electricity	\$0.164 Sales
SA	Brazil	Cotrijui	Agroprocurement	\$0.163 Sales
SA	Brazil	Supermercados Eldorado	Supermarkets	\$0.162 Sales
SA	Brazil	Sabesp	Water/sewerage	\$0.161 Sales
SA	Brazil	Brinquedos Estrela	Toys	\$0.160 Sales
SA	Brazil	MBR	Mining	\$0.160 Sales
SA	Brazil	Glasurit	Paint	\$0.160 Sales
SA	Brazil	Constran	Construction equip.	\$0.159 Sales
SA	Brazil	CBA	Aluminum	\$0.158 Sales
SA	Brazil	Vulcan-Material Plastico	Plastics	\$0.158 Sales
SA	Brazil	Perdisco Catarinense Alimentos	Cattle	\$0.157 Sales
SA	Brazil	Montreal	Construction	\$0.156 Sales
SA	Brazil	Ref. Petroleos de Manguinhos	Petroleum refining	\$0.155 Sales
SA	Brazil	Cruzeiro do Sul	Airline	\$0.155 Sales
SA	Brazil	Quimbrasil	Chemicals	\$0.152 Sales
SA	Brazil	Engex SA	Auto parts	\$0.152 Sales
SA	Brazil	Alba Quimica	Petrochemicals	\$0.152 Sales
SA	Brazil	Jao Alves	Trading	\$0.151 Sales
SA	Brazil	Copebras	Chemicals	\$0.151 Sales
SA	Brazil	Lojas Americanas	Retailing	\$0.151 Sales
SA	Brazil	Antartica Paulista Brasileira de Bebidos	Drinks	\$0.150 Sales
SA	Brazil	Abril	Publishers	\$0.150 Sales
SA	Brazil	CCN	Haulage	\$0.150 Sales
SA	Brazil	Docegeo	Mining	\$0.149 Sales

BUSINESS DATA FILE

REGION	COUNTRY	Units	CURRENCY /o			BANK /p LIMITS 3/1/85
			1980 Rate US\$1	1982 Rate US\$1	6/85 Rate US\$1	
SA	Brazil	Cruzeiros	52.7	179.5	6220.0	Cond
SA	Brazil	Cruzeiros	52.7	179.5	6220.0	Cond
SA	Brazil	Cruzeiros	52.7	179.5	6220.0	Cond
SA	Brazil	Cruzeiros	52.7	179.5	6220.0	Cond
SA	Brazil	Cruzeiros	52.7	179.5	6220.0	Cond
SA	Brazil	Cruzeiros	52.7	179.5	6220.0	Cond
SA	Brazil	Cruzeiros	52.7	179.5	6220.0	Cond
SA	Brazil	Cruzeiros	52.7	179.5	6220.0	Cond
SA	Brazil	Cruzeiros	52.7	179.5	6220.0	Cond
SA	Brazil	Cruzeiros	52.7	179.5	6220.0	Cond
SA	Brazil	Cruzeiros	52.7	179.5	6220.0	Cond
SA	Brazil	Cruzeiros	52.7	179.5	6220.0	Cond
SA	Brazil	Cruzeiros	52.7	179.5	6220.0	Cond
SA	Brazil	Cruzeiros	52.7	179.5	6220.0	Cond
SA	Brazil	Cruzeiros	52.7	179.5	6220.0	Cond
SA	Brazil	Cruzeiros	52.7	179.5	6220.0	Cond
AS	Brunei	*	*	*	*	None
E	Bulgaria	*	*	*	*	*
AF	Burkina Faso	Francs	211.280	328.610	466.970	Cond
AS	Burma	Kyats	6.598	7.790	8.622	Cond
AS	Burma	Kyats	6.598	7.790	8.622	Cond
AF	Burundi	Francs	90.000	90.000	123.100	Cond
AF	Cameroon	Francs	211.280	328.610	466.970	None
NA	Canada	C. Dollars	1.169	1.234	1.367	None
AF	Cape Verde	Escudo	42.490	52.005	*	Cond
AF	Central African Republic	Francs	211.280	328.610	466.970	Cond
AF	Chad	Francs	211.280	328.610	466.970	Hold
SA	Chile	Pesos	39.000	50.910	155.200	Cond
SA	Chile	Pesos	39.000	50.910	155.200	Cond
SA	Chile	Pesos	39.000	50.910	155.200	Cond
SA	Chile	Pesos	39.000	50.910	155.200	Cond
SA	Chile	Pesos	39.000	50.910	155.200	Cond
SA	Chile	Pesos	39.000	50.910	155.200	Cond
SA	Chile	Pesos	39.000	50.910	155.200	Cond
SA	Chile	Pesos	39.000	50.910	155.200	Cond
SA	Chile	Pesos	39.000	50.910	155.200	Cond
SA	Chile	Pesos	39.000	50.910	155.200	Cond
SA	Chile	Pesos	39.000	50.910	155.200	Cond
SA	Chile	Pesos	39.000	50.910	155.200	Cond
SA	Chile	Pesos	39.000	50.910	155.200	Cond
SA	Chile	Pesos	39.000	50.910	155.200	Cond
SA	Chile	Pesos	39.000	50.910	155.200	Cond
SA	Chile	Pesos	39.000	50.910	155.200	Cond
AS	China	Yuan	1.498	1.893	2.863	Cond
SA	Colombia	Pesos	47.280	64.080	140.800	Cond
SA	Colombia	Pesos	47.280	64.080	140.800	Cond
SA	Colombia	Pesos	47.280	64.080	140.800	Cond
SA	Colombia	Pesos	47.280	64.080	140.800	Cond
SA	Colombia	Pesos	47.280	64.080	140.800	Cond
SA	Colombia	Pesos	47.280	64.080	140.800	Cond
SA	Colombia	Pesos	47.280	64.080	140.800	Cond

BUSINESS DATA FILE

REGION	COUNTRY	COMPANY /q,r Name	BUSINESS /q,r Type	VALUE /q,r Amount Type US\$bil
SA	Brazil	Coral	Chemicals	\$0.148 Sales
SA	Brazil	C.R. Almeida	Construction	\$0.148 Sales
SA	Brazil	Embraer	Aerospace	\$0.147 Sales
SA	Brazil	Minetti y Cia	Flour & pasta products	\$0.147 Sales
SA	Brazil	Sao Paulo Dist. Petroleo	Petroleum sales	\$0.146 Sales
SA	Brazil	Cofap	Autoparts	\$0.144 Sales
SA	Brazil	CCPL	Agroprocurement	\$0.143 Sales
SA	Brazil	Brasilit	Cement pipes	\$0.143 Sales
SA	Brazil	Moinhos Santista	Flour products	\$0.142 Sales
SA	Brazil	Klabin do Parana	Paper products	\$0.141 Sales
SA	Brazil	Laticinios Sao Paulo	Dairy products	\$0.141 Sales
SA	Brazil	Braswey	Chemicals	\$0.140 Sales
SA	Brazil	Equip. Villares	Commerce	\$0.139 Sales
SA	Brazil	Marita	Supermarkets	\$0.139 Sales
SA	Brazil	Siderurgica Nacional	Steel	\$0.521 Sales
SA	Brazil	Camargo Correa	Construction	\$0.416 Sales
AS	Brunei	*	*	* *
E	Bulgaria	*	*	* *
AF	Burkina Faso	*	*	* *
AS	Burma	Mining Corp No. 2	Tin mining	\$0.334 Sales
AS	Burma	Agricultural & Farm Produce Corp	Agroprocurement	\$0.291 Sales
AF	Burundi	*	*	* *
AF	Cameroon	Brasseries du Cameroun	Brewing	\$0.176 Sales
NA	Canada	*	*	* *
AF	Cape Verde	*	*	* *
AF	Central African Republic	*	*	* *
AF	Chad	*	*	* *
SA	Chile	Banco de Chile	Bank	\$4.300 Assets
SA	Chile	Banco del Estado de Chile	Bank	\$4.090 Assets
SA	Chile	Banco de Santiago	Bank	\$2.240 Assets
SA	Chile	Codelco	Copper	\$1.774 Sales
SA	Chile	ENAP	Petroleum products	\$1.268 Sales
SA	Chile	Copec	Fuel	\$0.965 Sales
SA	Chile	Enami	Copper	\$0.328 Sales
SA	Chile	CAP	Steel	\$0.312 Sales
SA	Chile	Endesa	Electricity	\$0.309 Sales
SA	Chile	Chilectra	Electrical plant/electry.	\$0.248 Sales
SA	Chile	Papeles y Cartones	Paper products	\$0.233 Sales
SA	Chile	Acucar Vina del Mar	Sugar refining	\$0.203 Sales
SA	Chile	Soc El Tattersal	Agroprocurement	\$0.173 Sales
SA	Chile	Sudamericana de Vapores	Shipping	\$0.164 Sales
SA	Chile	Telefonos de Chile	Telecommunications	\$0.151 Sales
AS	China	*	*	* *
SA	Colombia	Banco de Bogota	Bank	\$1.770 Assets
SA	Colombia	Colombia Petroleos	Oil	\$1.633 Sales
SA	Colombia	Federacafe	Coffee exports	\$1.577 Sales
SA	Colombia	Avianca	Airline	\$0.410 Sales
SA	Colombia	Telecom	Telephone service	\$0.316 Sales
SA	Colombia	Bavaria	Brewery	\$0.292 Sales
SA	Colombia	Cadenalco	Commerce	\$0.288 Sales

BUSINESS DATA FILE

REGION	COUNTRY	Units	CURRENCY /a			BANK /p LIMITS 3/1/85
			1980 Rate US\$1	1982 Rate US\$1	6/85 Rate US\$1	
SA	Coloabia	Pesos	47.280	64.080	140.800	Cond
SA	Colombia	Pesos	47.280	64.080	140.800	Cond
SA	Coloabia	Pesos	47.280	64.080	140.800	Cond
SA	Colombia	Pesos	47.280	64.080	140.800	Cond
SA	Coloabia	Pesos	47.280	64.080	140.800	Cond
SA	Colombia	Pesos	47.280	64.080	140.800	Cond
SA	Coloabia	Pesos	47.280	64.080	140.800	Cond
SA	Colombia	Pesos	47.280	64.080	140.800	Cond
SA	Coloabia	Pesos	47.280	64.080	140.800	Cond
AF	Comoros	CFA Franc	225.800	300.860	*	Cond
AF	Congo	Francs	211.280	328.610	466.970	Cond
OC	Cook Islands	*	*	*	*	*
CA	Costa Rica	Colones	8.570	37.407	50.050	Cond
CA	Costa Rica	Colones	8.570	37.407	50.050	Cond
AS	Cyprus	Pounds	0.353	0.475	0.624	None
AS	Cyprus	Pounds	0.353	0.475	0.624	None
E	Czechoslovakia	*	*	*	*	*
E	Denmark	Kroner	5.636	8.332	10.996	None
AF	Djibouti	Francs	117.720	117.720	*	Cond
C	Dominica	ECdollars	2.700	2.700	2.700	Cond
C	Dominican Republic	Pesos	1.000	1.000	3.210	Cond
SA	Ecuador	Sucres	25.000	30.026	67.175	Cond
AF	Egypt	Pounds	0.700	0.700	0.700	Cond
AF	Egypt	Pounds	0.700	0.700	0.700	Cond
AF	Egypt	Pounds	0.700	0.700	0.700	Cond
AF	Egypt	Pounds	0.700	0.700	0.700	Cond
AF	Egypt	Pounds	0.700	0.700	0.700	Cond
AF	Egypt	Pounds	0.700	0.700	0.700	Cond
AF	Egypt	Pounds	0.700	0.700	0.700	Cond
CA	El Salvador	Colones	2.500	2.500	2.500	Cond
AF	Equatorial Guinea	Ekuele	158.500	*	*	Cond
AF	Ethiopia	Birr	2.070	2.070	2.070	Cond
OC	Fiji	Dollars	0.818	0.932	1.181	Cond
E	Finland	Markkaa	3.730	4.820	6.364	None
E	France	Francs	4.226	6.572	9.339	None
AF	Gabon	Francs	211.280	328.610	466.970	None
AF	Gambia	Dalasis	1.719	2.285	3.903	Hold
E	Germany, East	*	*	*	*	*
E	Germany, West	Deutsche Mark	1.818	2.427	3.063	None
AF	Ghana	Cedis	2.750	2.750	52.910	Cond
E	Greece	Drachmas	42.620	66.800	135.880	None
C	Grenada	ECdollars	2.700	2.700	2.700	Cond
CA	Guatemala	Quetzales	1.000	1.000	1.000	Cond
AF	Guinea	Sylli	19.350	21.210	*	Hold
AF	Guinea Bissau	Escudo	34.499	37.802	*	Cond
SA	Guyana	Guy. Dollars	2.550	3.000	4.300	Hold
C	Haiti	Gourdes	5.000	5.000	5.000	Hold
CA	Honduras	Lempiras	2.000	2.000	2.000	Cond
AS	Hong Kong	HK, Dollar	*	*	*	None
AS	Hong Kong	HK, Dollar	*	*	*	None

BUSINESS DATA FILE

REGION	COUNTRY	COMPANY /q,r Name	BUSINESS /q,r Type	VALUE /q,r Amount Type US\$bil
SA	Colombia	FMG Flota Mercante	Shipping	\$0.261 Sales
SA	Colombia	Rafael Espinosa Hnos	Coffee exports	\$0.208 Sales
SA	Colombia	Exito	Commerce	\$0.207 Sales
SA	Colombia	Gpo Bonchy	Coffee exports	\$0.193 Sales
SA	Colombia	Colpuertos	Port services	\$0.193 Sales
SA	Colombia	Coltejer	Yarns/fabrics	\$0.182 Sales
SA	Colombia	Energia Bogota	Electricity	\$0.174 Sales
SA	Colombia	Idema	Agroprocurement	\$0.171 Sales
SA	Colombia	Carvajal	Office equipment	\$0.151 Sales
AF	Comoros	*	*	* *
AF	Congo	Comaf	Oil refinery	\$0.144 Sales
OC	Cook Islands	*	*	* *
CA	Costa Rica	Banco Nacional de Costa Rica	Bank	\$0.520 Deposits
CA	Costa Rica	Banco de Costa Rica	Bank	\$0.430 Deposits
AS	Cyprus	Bank of Cyprus	Bank	\$0.600 Deposits
AS	Cyprus	Central Bank of Cyprus	Bank	\$0.260 Deposits
E	Czechoslovakia	*	*	* *
E	Denmark	*	*	* *
AF	Djibouti	*	*	* *
C	Dominica	*	*	* *
C	Dominican Republic	*	*	* *
SA	Ecuador	CEPE	Oil	\$1.529 Sales
AF	Egypt	National Bank of Egypt	Bank	\$7.510 Assets
AF	Egypt	Banque Misr	Bank	\$6.110 Assets
AF	Egypt	Banque du Caire	Bank	\$4.570 Assets
AF	Egypt	Arab African International Bank	Bank	\$4.440 Assets
AF	Egypt	Bank of Alexandria	Bank	\$3.220 Assets
AF	Egypt	Suez Canal Co	Canal Co	\$0.957 Sales
AF	Egypt	Egyptian Iron & Steel Co	Iron & steel	\$0.258 Sales
CA	El Salvador	Instituto Nacional de Cafe	Coffee	\$0.420 Sales
AF	Equatorial Guinea	*	*	* *
AF	Ethiopia	*	*	* *
OC	Fiji	*	*	* *
E	Finland	*	*	* *
E	France	*	*	* *
AF	Gabon	*	*	* *
AF	Gambia	*	*	* *
E	Germany, East	*	*	* *
E	Germany, West	*	*	* *
AF	Ghana	Ghana Commercial Bank	Bank	\$2.960 Assets
E	Greece	*	*	* *
C	Grenada	*	*	* *
CA	Guatemala	*	*	* *
AF	Guinea	*	*	* *
AF	Guinea Bissau	*	*	* *
SA	Guyana	*	*	* *
C	Haiti	*	*	* *
CA	Honduras	*	*	* *
AS	Hong Kong	Hong Kong Bank	Bank	\$58.070 Assets
AS	Hong Kong	Swire Pacific	Hotels/aviation/property	\$1.540 Sales

BUSINESS DATA FILE

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BUSINESS DATA FILE

REGION	COUNTRY	COMPANY /q,r Name	BUSINESS /q,r Type	VALUE /q,r Amount Type US\$bil
AS	Hong Kong	Hong Kong Land	Property	\$1.313 Sales
AS	Hong Kong	Winsor Industrial Corp	Textiles	\$1.160 Sales
AS	Hong Kong	Jardine Matheson	Commerce	\$1.143 Sales
AS	Hong Kong	China Light & Power	Electricity	\$0.818 Sales
AS	Hong Kong	Hutchison Whampoa	Gen. manufacturing/trade	\$0.521 Sales
AS	Hong Kong	Hang Chong Investment Co	Holding co	\$0.379 Sales
AS	Hong Kong	Sun Hai Kai	Holding co	\$0.379 Sales
AS	Hong Kong	Hong Kong Electric	Electricity	\$0.370 Sales
AS	Hong Kong	New World Development	Hotels/constrctn/shipping	\$0.285 Sales
AS	Hong Kong	Cheung Kong	Hotels	\$0.277 Sales
AS	Hong Kong	Chow Sang Sang	Property/commerce	\$0.267 Sales
AS	Hong Kong	Wheelock Marden	Investment Holding	\$0.257 Sales
AS	Hong Kong	Textile Alliance	Textiles	\$0.205 Sales
AS	Hong Kong	World Wide Properties	Property	\$0.191 Sales
AS	Hong Kong	Swire Properties	Property	\$0.182 Sales
AS	Hong Kong	Conic Investments	Electronics/plastics	\$0.168 Sales
AS	Hong Kong	Kowloon Motor Bus Co	Bus service	\$0.152 Sales
E	Hungary	*	*	* *
E	Iceland	*	*	* *
AS	India	State Bank of India	Bank	\$28.020 Assets
AS	India	Indian Oil	Oil	\$9.760 Sales
AS	India	Bank of Baroda	Bank	\$5.230 Assets
AS	India	Bank of India	Bank	\$4.980 Assets
AS	India	Punjab National Bank	Bank	\$4.830 Assets
AS	India	Food Corporation of India	Trade	\$4.017 Sales
AS	India	Canara Bank	Bank	\$3.960 Assets
AS	India	United Commercial Bank of India	Bank	\$3.530 Assets
AS	India	Steel Authority of India	Steel	\$3.260 Sales
AS	India	Syndicate Bank	Bank	\$3.230 Assets
AS	India	Oil & Gas Commission	Oil & gas	\$2.990 Sales
AS	India	Birla Group	Industrial group	\$2.843 Sales
AS	India	Tata Group	Industrial Group	\$2.369 Sales
AS	India	Hindustan Petroleum	Oil	\$1.989 Sales
AS	India	State Trading Corp	Trade	\$1.736 Sales
AS	India	Bharat Petroleum	Oil	\$1.634 Sales
AS	India	Goenka Group	Gen. industrial group	\$1.184 Sales
AS	India	Minerals & Metals Trading Corp	Trade	\$1.142 Sales
AS	India	Bharat Heavy Electricals	Power plant & machinery	\$1.117 Sales
AS	India	Tata Iron & Steel	Iron & steel	\$0.843 Sales
AS	India	Madras Refineries	Oil refinery	\$0.720 Sales
AS	India	Telco	Heavy engineering	\$0.719 Sales
AS	India	Air India	Airline	\$0.700 Sales
AS	India	Associated Cement	Cement	\$0.576 Sales
AS	India	Shipping Corporation of India	Shipping	\$0.570 Sales
AS	India	Cochin Refineries	Oil refinery	\$0.550 Sales
AS	India	Indian Airlines	Airline	\$0.484 Sales
AS	India	Indian Petrochemicals	Chemicals	\$0.456 Sales
AS	India	Delhi Cloth Mills	Textiles & engineering	\$0.449 Sales
AS	India	Reliance Textiles	Textiles	\$0.414 Sales
AS	India	Voltas	Engineering	\$0.381 Sales

BUSINESS DATA FILE

REGION	COUNTRY	Units	CURRENCY /o			BANK /p LIMITS 3/1/85
			1980 Rate US\$1	1982 Rate US\$1	6/85 Rate US\$1	
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	India	Rupees	7.863	9.455	12.462	None
AS	Indonesia	Rupiahs	6.270	661.400	1117.400	None
AS	Indonesia	Rupiahs	6.270	661.400	1117.400	None
AS	Indonesia	Rupiahs	6.270	661.400	1117.400	None
AS	Indonesia	Rupiahs	6.270	661.400	1117.400	None
AS	Indonesia	Rupiahs	6.270	661.400	1117.400	None
AS	Indonesia	Rupiahs	6.270	661.400	1117.400	None
AS	Indonesia	Rupiahs	6.270	661.400	1117.400	None
AS	Indonesia	Rupiahs	6.270	661.400	1117.400	None
AS	Indonesia	Rupiahs	6.270	661.400	1117.400	None
AS	Indonesia	Rupiahs	6.270	661.400	1117.400	None
AS	Indonesia	Rupiahs	6.270	661.400	1117.400	None
AS	Indonesia	Rupiahs	6.270	661.400	1117.400	None
AS	Indonesia	Rupiahs	6.270	661.400	1117.400	None
AS	Iraq	Dinars	0.295	0.298	0.311	Cond
E	Ireland	Pounds	0.486	0.703	0.979	None
AS	Israel	Shekels	5.120	24.270	1137.880	None
E	Italy	Lire	856.4	856.4	1954.100	None

BUSINESS DATA FILE

REGION	COUNTRY	COMPANY /q,r Name	BUSINESS /q,r Type	VALUE /q,r	
				Amount	Type
				US\$bil	
AS	India	Railways Board	Railway	\$0.375	Sales
AS	India	Bharat Earth Movers	Construction equipaent	\$0.363	Sales
AS	India	Gwalior Rayon	Textiles	\$0.353	Sales
AS	India	Mahindra & Mahindra	Transportatn. & machinery	\$0.352	Sales
AS	India	Oil India	Oil/gas	\$0.347	Sales
AS	India	National Fertilizer	Fertiliser	\$0.342	Sales
AS	India	Larsen & Toubro	Construction equipaent	\$0.331	Sales
AS	India	Dunlop India	Rubber products	\$0.313	Sales
AS	India	Hindustan Motors	Automobiles	\$0.282	Sales
AS	India	Century Spinning	Textiles	\$0.276	Sales
AS	India	Hindalco	Aluminum	\$0.270	Sales
AS	India	Escorts	Transpt & constrctn equip	\$0.265	Sales
AS	India	Shaw Wallace	Brewery	\$0.261	Sales
AS	India	Birla Jute	Jute	\$0.252	Sales
AS	India	Hindustan Aeronautics	Aerospace	\$0.239	Sales
AS	India	Gujarat Fertilizer	Fertiliser	\$0.217	Sales
AS	India	Rallis India	Chemicals	\$0.212	Sales
AS	India	Ballarpur Inds	Paper/chemicals	\$0.202	Sales
AS	India	Indian Telephone Industries	Telecommunications	\$0.201	Sales
AS	India	ITC	Tobacco	\$0.200	Sales
AS	India	YST	Tobacco	\$0.194	Sales
AS	India	CESC	Electricity	\$0.193	Sales
AS	India	MRF	Tyres	\$0.191	Sales
AS	India	E & D Parry	Fertiliser	\$0.179	Sales
AS	India	Golden Tobacco	Tobacco	\$0.177	Sales
AS	India	Ceat Tyres	Tyres	\$0.175	Sales
AS	India	Ambalal Sarabhai	Pharmaceuticals	\$0.175	Sales
AS	India	Bajaj Autos	Motor cycles	\$0.175	Sales
AS	India	NOCIL	Chemicals	\$0.170	Sales
AS	India	J K Synthetics	Fibres	\$0.169	Sales
AS	India	Tata Oil Mills	Soap & detergents	\$0.167	Sales
AS	India	Premier Autos	Motor vehicles	\$0.160	Sales
AS	India	Bombay Suburban Electric Supply	Electricity	\$0.146	Sales
AS	India	Tata Power	Hydroelectric plant	\$0.144	Sales
AS	India	Modi Rubber	Rubber	\$0.143	Sales
AS	Indonesia	Pertamina	Oil	\$7.500	Sales
AS	Indonesia	Bank Negara Indonesia	Bank	\$4.990	Assets
AS	Indonesia	Bsnk Dagong Negara	Bank	\$4.100	Assets
AS	Indonesia	Bank Bumi Daya	Bank	\$3.490	Assets
AS	Indonesia	PT Perkebunan XIII	Agroprocurement	\$2.500	Sales
AS	Indonesia	Astra International	Commerce	\$0.965	Sales
AS	Indonesia	Garuda International Airlines	Airline	\$0.669	Sales
AS	Indonesia	PT Perkebunan XXI/XXII	Agroprocurement	\$0.430	Sales
AS	Indonesia	PT Wijaya Karya	Construction materials	\$0.415	Sales
AS	Indonesia	Perusahaan Aspal Negara	Construction materials	\$0.191	Sales
AS	Indonesia	Budidharma Daja Manunggal	Textiles/steel	\$0.160	Sales
AS	Iraq	Rafidain bank	Bank	\$22.360	Assets
E	Ireland	*	*	*	*
AS	Israel	*	*	*	*
E	Italy	*	*	*	*

BUSINESS DATA FILE

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BUSINESS DATA FILE

REGION	COUNTRY	COMPANY /q,r Name	BUSINESS /q,r Type	VALUE /q,r	
				Amount US\$bil	Type
AF	Ivory Coast	Soc Ivorien de Raffinage	Oil refining	\$0.473	Sales
AF	Ivory Coast	EECI	Electricity	\$0.176	Sales
C	Jamaica	*	*	*	*
AS	Japan	*	*	*	*
AS	Jordan	Jordan Int'l Airlines-Alia	Airline	\$0.289	Sales
AF	Kenya	*	*	*	*
OC	Kiribati	*	*	*	*
AS	Korea, South	Korea Exchange Bank	Bank	\$11.900	Assets
AS	Korea, South	Bank of Seoul & Trust Co	Bank	\$11.740	Assets
AS	Korea, South	Hyundai Group	Machinery/equipment	\$9.300	Sales
AS	Korea, South	Korea Development Bank	Bank	\$8.910	Assets
AS	Korea, South	Samsung Group	Constructn/elctrnics/trdng	\$7.167	Sales
AS	Korea, South	Lucky Group	Constructn/plastics/textils	\$7.159	Sales
AS	Korea, South	Commercial Bank of Korea	Bank	\$6.780	Assets
AS	Korea, South	Hanil Bank	Bank	\$6.740	Assets
AS	Korea, South	Korea First Bank	Bank	\$6.690	Assets
AS	Korea, South	Daewoo Group	Constructn/machnry/textils	\$6.313	Sales
AS	Korea, South	Sunkyoung Group	Trade & gen. manufactrng	\$6.210	Sales
AS	Korea, South	Cho-Heung Bank	Bank	\$6.000	Assets
AS	Korea, South	Daewoo Corp	Trade	\$3.892	Sales
AS	Korea, South	Small & Medium Industry Bank	Bank	\$3.690	Assets
AS	Korea, South	Yukong	Oil	\$3.495	Sales
AS	Korea, South	Ssangyong Cement Industries Corp	Cement/petroleum	\$3.257	Sales
AS	Korea, South	Samsung Co	Tradng/machnry/electrnics	\$2.541	Sales
AS	Korea, South	Korea Explosives	Explosives	\$2.417	Sales
AS	Korea, South	Pohang Iron & Steel	Iron & Steel	\$2.256	Sales
AS	Korea, South	Hyosung Group	Textiles/industrial equip	\$2.107	Sales
AS	Korea, South	Hyundai Company	Machinery & equipment	\$1.944	Sales
AS	Korea, South	Sunkyoung Co	General Manufacturing	\$1.582	Sales
AS	Korea, South	Korean Airlines	Airline	\$1.174	Sales
AS	Korea, South	Lucky Co	Construction	\$1.133	Sales
AS	Korea, South	Dae Lim Industrial	Construction	\$1.062	Sales
AS	Korea, South	Kukje-ICC	Trade/footwear	\$1.010	Sales
AS	Korea, South	Goldstar Corp	Electronics	\$0.941	Sales
AS	Korea, South	Ssangyong Corp	Trade	\$0.898	Sales
AS	Korea, South	Samsung Electronics	Electronics	\$0.889	Sales
AS	Korea, South	Hyosung Corp	Trading	\$0.763	Sales
AS	Korea, South	Hyundai Motor Co	Transport equipment	\$0.726	Sales
AS	Korea, South	Han Yang	Construction	\$0.654	Sales
AS	Korea, South	Ssangyong Cement	Cement	\$0.633	Sales
AS	Korea, South	Sam Hwan Corp	Constructn/mining/trading	\$0.623	Sales
AS	Korea, South	Dong Ah	Construction	\$0.561	Sales
AS	Korea, South	Kia Industries Co	Transport equipment	\$0.507	Sales
AS	Korea, South	Hanil Development Co	Construction	\$0.481	Sales
AS	Korea, South	Hanil Synthetic Fibre	Synthetic fibre	\$0.478	Sales
AS	Korea, South	Lucky Ltd	Construction/resins	\$0.473	Sales
AS	Korea, South	Cheil Sugar	Sugar	\$0.471	Sales
AS	Korea, South	Samsung Construction	Construction	\$0.459	Sales
AS	Korea, South	Sam ho International Co	Construction	\$0.445	Sales
AS	Korea, South	Miryung Construction	Construction	\$0.443	Sales

BUSINESS DATA FILE

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BUSINESS DATA FILE

REGION	COUNTRY	COMPANY /q,r Name	BUSINESS /q,r Type	VALUE /q,r Amount Type US\$b:1
AS	Korea,South	Chinhung International	Construction	\$0.415 Sales
AS	Korea,South	Keang Nam Enterprises	Construction	\$0.407 Sales
AS	Korea,South	Korea Shipping	Shipping	\$0.399 Sales
AS	Korea,South	Samui Co	Shipping	\$0.367 Sales
AS	Korea,South	Union Steel	Steel	\$0.363 Sales
AS	Korea,South	Nam Kwang Construction	Construction	\$0.363 Sales
AS	Korea,South	Daewoo Heavy Industries	Transport equipaent	\$0.340 Sales
AS	Korea,South	Kang Won Industrial Co	Coal/steel	\$0.306 Sales
AS	Korea,South	Dongkok Trading Co	Trade	\$0.305 Sales
AS	Korea,South	Kukdong Construction	Construction	\$0.304 Sales
AS	Korea,South	Lucky Development Co	Construction	\$0.303 Sales
AS	Korea,South	Dongson Engineering	Construction	\$0.294 Sales
AS	Korea,South	Korea Shipbuilding	Shipbuilding	\$0.292 Sales
AS	Korea,South	Korea Mining & Smelting	Non-ferrous metals	\$0.285 Sales
AS	Korea,South	Life Corporation	Construction	\$0.271 Sales
AS	Korea,South	Sam Yang Foods	Food prods.	\$0.257 Sales
AS	Korea,South	Choongnam Spinning	Textiles	\$0.255 Sales
AS	Korea,South	Kolon Industries	Textiles	\$0.254 Sales
AS	Korea,South	Tongyong Nylon	Textiles	\$0.249 Sales
AS	Korea,South	Samick Housing	Construction	\$0.246 Sales
AS	Korea,South	Poong Lim Industries	Construction	\$0.246 Sales
AS	Korea,South	Taihan Electric Wire	Electricals/wire & cable	\$0.242 Sales
AS	Korea,South	Gold Star Cables	Electricals/wire & cable	\$0.229 Sales
AS	Korea,South	Hanshin Construction	Construction	\$0.220 Sales
AS	Korea,South	Daewoo Electric	Electronics	\$0.215 Sales
AS	Korea,South	Sambi Construction	Construction	\$0.210 Sales
AS	Korea,South	Daesung Industries	Chemicals	\$0.208 Sales
AS	Korea,South	Pacific Chemicals	Chemicals	\$0.207 Sales
AS	Korea,South	Hankook Tire Manufacturing	Tyres	\$0.205 Sales
AS	Korea,South	Sunkyoung Fibres	Synthetic fibres	\$0.201 Sales
AS	Korea,South	Pacific Construction	Construction	\$0.199 Sales
AS	Korea,South	Sam Yang Tire & Rubber	Tyres	\$0.198 Sales
AS	Korea,South	Jungwoo Development	Construction	\$0.195 Sales
AS	Korea,South	Kolon General	Construction	\$0.194 Sales
AS	Korea,South	Lotte Confectionery	Food	\$0.192 Sales
AS	Korea,South	Korea Plastic	Chemicals	\$0.187 Sales
AS	Korea,South	Korea Express	Transport	\$0.184 Sales
AS	Korea,South	Tongyang Cement	Minerals	\$0.183 Sales
AS	Korea,South	Cheil Wool Textiles	Textiles	\$0.177 Sales
AS	Korea,South	Cheil Synthetic Textiles	Textiles	\$0.168 Sales
AS	Korea,South	Pusan Steel Pipe	Steel pipe	\$0.164 Sales
AS	Korea,South	Taihan Sugar Industries	Sugar	\$0.163 Sales
AS	Korea,South	Dong Bung Oil & Flour	Food	\$0.159 Sales
AS	Korea,South	Oriental Brewery	Beer & wine	\$0.158 Sales
AS	Korea,South	Korea Development	Construction	\$0.146 Sales
AS	Korea,South	Korea Hapsun	Textiles	\$0.143 Sales
AS	Kuwait	Kuwait Petroleum	Oil	\$10.744 Sales
AS	Kuwait	National Bank of Kuwait	Bank	\$9.050 Assets
AS	Kuwait	Gulf Bank	Bank	\$7.120 Assets
AS	Kuwait	Commerical Bank of Kuwait	Bank	\$6.580 Assets

BUSINESS DATA FILE

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BUSINESS DATA FILE

REGION	COUNTRY	COMPANY /q,r Name	BUSINESS /q,r Type	VALUE /q,r	
				Amount	Type
				US\$bil	
AS	Kuwait	Alahli Bank of Kuwait	Bank	\$5.750	Assets
AS	Kuwait	Bank of Kuwait and the Middle East	Bank	\$3.550	Assets
AS	Kuwait	Kuwait Frgn. T. Con. & Invst. Co	Bank	\$3.140	Assets
AS	Kuwait	Burgon Bank	Bank	\$2.350	Assets
AS	Kuwait	Kuwait Real Estate Bank	Bank	\$1.850	Assets
AS	Kuwait	Kuwait Investment Co	Bank	\$1.250	Assets
AS	Kuwait	Kuwait Int'l Investment Co	Bank	\$0.720	Assets
AS	Laos	*	*	*	*
AS	Lebanon	Middle East Airlines	Airline	\$0.159	Sales
AF	Lesotho	*	*	*	*
AF	Liberia	*	*	*	*
AF	Libya	Libyan National Oil Corp	Oil	\$7.292	Sales
AF	Libya	Wahda Bank	Bank	\$2.980	Assets
AF	Libya	Jamahyria Bank	Bank	\$2.500	Assets
AF	Libya	Libyan Arab Foreign Bank	Bank	\$2.480	Assets
E	Liechtenstein	*	*	*	*
E	Luxembourg	*	*	*	*
AF	Madagascar	*	*	*	*
AF	Malawi	*	*	*	*
AS	Malaysia	Bank Bumiputra Malaysia	Bank	\$7.200	Assets
AS	Malaysia	Malayan Banking Bhd	Bank	\$4.450	Assets
AS	Malaysia	Petronas	Petrochemicals	\$2.150	Sales
AS	Malaysia	Sime Darby	Trading/rubber	\$0.945	Sales
AS	Malaysia	Malaysian Airlines	Airline	\$0.531	Sales
AS	Malaysia	Pernas	Rubber	\$0.516	Sales
AS	Malaysia	UMM	Transport equipment	\$0.503	Sales
AS	Malaysia	Datuk Keramat	Tin & batteries	\$0.399	Sales
AS	Malaysia	Tan Chong Motor	Vehicle assembly	\$0.315	Sales
AS	Malaysia	Magnum Corp Bhd	Rubber/tin/batteries	\$0.292	Sales
AS	Malaysia	Malaysian Int'l Shipping Corp	Shipping	\$0.279	Sales
AS	Malaysia	Tractors Malaysia	Agricultural machinery	\$0.272	Sales
AS	Malaysia	Sejati Motors	Motor vehicles	\$0.266	Sales
AS	Malaysia	Harrison Malaysia Bhd	Rubber/oil plantations	\$0.253	Sales
AS	Malaysia	Palaco Holdings	Oil palm	\$0.212	Sales
AS	Malaysia	Perlis	Sugar	\$0.204	Sales
AS	Malaysia	Malayan Breweries	Brewery	\$0.176	Sales
AS	Malaysia	Malaysian Mining Corp	Tin	\$0.167	Sales
AS	Malaysia	Federal Flour Mills	Flour milling	\$0.164	Sales
AS	Maldives	*	*	*	*
AF	Mali	*	*	*	*
E	Malta	*	*	*	*
AF	Mauritania	*	*	*	*
AF	Mauritius	*	*	*	*
NA	Mexico	Peaex	Oil	\$17.330	Sales
NA	Mexico	Banco Nacional de Mexico	Bank	\$10.510	Assets
NA	Mexico	Bancomer	Bank	\$9.860	Assets
NA	Mexico	Banca Serfin	Bank	\$4.130	Assets
NA	Mexico	Banco Nacional de Comercio Exterior	Bank	\$3.690	Assets
NA	Mexico	Multibanco Comeraex	Bank	\$3.500	Assets
NA	Mexico	Conasupo	Food	\$1.200	Sales

BUSINESS DATA FILE

REGION	COUNTRY	Units	CURRENCY /o			BANK /p LIMITS 3/1/85
			1980	1982	6/85	
			Rate US\$1	Rate US\$1	Rate US\$1	
NA	Mexico	Pesos	22.950	56.400	224.970	None
NA	Mexico	Pesos	22.950	56.400	224.970	None
NA	Mexico	Pesos	22.950	56.400	224.970	None
NA	Mexico	Pesos	22.950	56.400	224.970	None
NA	Mexico	Pesos	22.950	56.400	224.970	None
NA	Mexico	Pesos	22.950	56.400	224.970	None
NA	Mexico	Pesos	22.950	56.400	224.970	None
NA	Mexico	Pesos	22.950	56.400	224.970	None
NA	Mexico	Pesos	22.950	56.400	224.970	None
NA	Mexico	Pesos	22.950	56.400	224.970	None
NA	Mexico	Pesos	22.950	56.400	224.970	None
NA	Mexico	Pesos	22.950	56.400	224.970	None
NA	Mexico	Pesos	22.950	56.400	224.970	None
NA	Mexico	Pesos	22.950	56.400	224.970	None
NA	Mexico	Pesos	22.950	56.400	224.970	None
NA	Mexico	Pesos	22.950	56.400	224.970	None
NA	Mexico	Pesos	22.950	56.400	224.970	None
NA	Mexico	Pesos	22.950	56.400	224.970	None
NA	Mexico	Pesos	22.950	56.400	224.970	None
NA	Mexico	Pesos	22.950	56.400	224.970	None
NA	Mexico	Pesos	22.950	56.400	224.970	None
NA	Mexico	Pesos	22.950	56.400	224.970	None
NA	Mexico	Pesos	22.950	56.400	224.970	None
NA	Mexico	Pesos	22.950	56.400	224.970	None
NA	Mexico	Pesos	22.950	56.400	224.970	None
NA	Mexico	Pesos	22.950	56.400	224.970	None
E	Monaco	*	*	*	*	None
AF	Morocco	Dirhams	3.937	6.023	10.459	Cond
AF	Morocco	Dirhams	3.937	6.023	10.459	Cond
AF	Morocco	Dirhams	3.937	6.023	10.459	Cond
AF	Morocco	Dirhams	3.937	6.023	10.459	Cond
AF	Morocco	Dirhams	3.937	6.023	10.459	Cond
AF	Morocco	Dirhams	3.937	6.023	10.459	Cond
AF	Morocco	Dirhams	3.937	6.023	10.459	Cond
AF	Morocco	Dirhams	3.937	6.023	10.459	Cond
AF	Mozambique	*	*	*	*	Cond
OC	Nauru	*	*	*	*	None
AS	Nepal	Rupees	12.000	13.244	18.125	Cond
E	Netherlands	Guilders	1.988	2.670	3.453	None
C	Netherlands Antilles	Guilders	1.800	1.800	1.800	None
OC	New Zealand	N.Z. Dollars	1.027	1.330	2.183	None
CA	Nicaragua	Cordoba	10.050	10.050	10.050	Hold

BUSINESS DATA FILE

REGION	COUNTRY	COMPANY /q,r Name	BUSINESS /q,r Type	VALUE /q,r	
				Amount	Type
				US\$bil	
NA	Mexico	Grupo Industrial Alfa	Steel	\$1.080	Sales
NA	Mexico	Telefonos de Mexico	Telecommunications	\$0.804	Sales
NA	Mexico	Sidermex	Steel	\$0.716	Sales
NA	Mexico	Vitro	Glass/ceramics	\$0.602	Sales
NA	Mexico	DSFI	Chemicals	\$0.597	Sales
NA	Mexico	Industrias Penoles	Minerals	\$0.562	Sales
NA	Mexico	Aurrera	Commerce	\$0.555	Sales
NA	Mexico	Gigante	Commerce	\$0.486	Sales
NA	Mexico	Valores Industrial	Food	\$0.480	Sales
NA	Mexico	Pesqueros Mexico	Fish products	\$0.434	Sales
NA	Mexico	Mexicana de Aviacion	Airline	\$0.425	Sales
NA	Mexico	Ferrocarriles Nac de Mexico	Railway	\$0.404	Sales
NA	Mexico	Banca Promex	Bank	\$0.360	Deposits
NA	Mexico	Cydsa	Chemicals	\$0.351	Sales
NA	Mexico	Minera Mexico	Mining	\$0.350	Sales
NA	Mexico	Banco de Credito y Servicios	Bank	\$0.340	Deposits
NA	Mexico	Aeronaves de Mexico	Airline	\$0.337	Sales
NA	Mexico	Banco de Cédulas Hipotecarias	Bank	\$0.310	Deposits
NA	Mexico	Gpo Industrial Biobo	Bread & flour products	\$0.300	Sales
NA	Mexico	Salinas y Rocha	Retailing	\$0.255	Sales
NA	Mexico	Gpo Industrial Unidas	Mechanical engineering	\$0.240	Sales
NA	Mexico	Mexico Hidalgo	Textiles	\$0.226	Sales
NA	Mexico	Cementos Mexicanos	Cement	\$0.212	Sales
NA	Mexico	Cerv Moctezuma	Brewery	\$0.190	Sales
NA	Mexico	ConduMex	Wire & cables	\$0.184	Sales
NA	Mexico	Maritima Mexicana	Shipping	\$0.183	Sales
NA	Mexico	Tubos de Acero de Mexico	Steel tubes	\$0.181	Sales
NA	Mexico	Mexicana de Cobre	Copper mining	\$0.176	Sales
NA	Mexico	Impulsora del Pequeno Comercio	Food distribution	\$0.169	Sales
NA	Mexico	Gpo. Ind. Saltillo	Engineering	\$0.161	Sales
NA	Mexico	Siderurgica Lazaro Cardenas Las Truchas	Steel	\$0.152	Sales
NA	Mexico	Gpo. Gamesa	Food	\$0.152	Sales
NA	Mexico	Fabrica de Jabon la Corona	Soaps/oils	\$0.150	Sales
NA	Mexico	Tolteca de Mexico	Road transport/consrtctn	\$0.146	Sales
E	Monaco	*	*	*	*
AF	Morocco	OCP	Phosphate mining	\$1.024	Sales
AF	Morocco	Banque Centrale Populaire	Bank	\$0.920	Deposits
AF	Morocco	OCE	Agricultural exports	\$0.534	Sales
AF	Morocco	SAMIR	Petroleum refining	\$0.501	Sales
AF	Morocco	Regie des Tabacs	Tobacco	\$0.279	Sales
AF	Morocco	ONCF	Transport	\$0.251	Sales
AF	Morocco	RAM	Airline	\$0.177	Sales
AF	Morocco	Afriquia	Petroleum prods.	\$0.168	Sales
AF	Mozambique	ENACOMO	Agri-exports	\$0.265	Sales
OC	Nauru	*	*	*	*
AS	Nepal	*	*	*	*
E	Netherlands	*	*	*	*
C	Netherlands Antilles	*	*	*	*
OC	New Zealand	*	*	*	*
CA	Nicaragua	*	*	*	*

BUSINESS DATA FILE

REGION	COUNTRY	Units	CURRENCY /o			BANK /p LIMITS 3/1/85
			1980 Rate US\$1	1982 Rate US\$1	6/85 Rate US\$1	
AF	Niger	Francs	211.280	328.610	466.970	Cond
AF	Nigeria	Naira	0.547	0.673	0.892	Hold
AF	Nigeria	Naira	0.547	0.673	0.892	Hold
AF	Nigeria	Naira	0.547	0.673	0.892	Hold
AF	Nigeria	Naira	0.547	0.673	0.892	Hold
AF	Nigeria	Naira	0.547	0.673	0.892	Hold
AF	Nigeria	Naira	0.547	0.673	0.892	Hold
AF	Nigeria	Naira	0.547	0.673	0.892	Hold
AF	Nigeria	Naira	0.547	0.673	0.892	Hold
AF	Nigeria	Naira	0.547	0.673	0.892	Hold
AF	Nigeria	Naira	0.547	0.673	0.892	Hold
AF	Nigeria	Naira	0.547	0.673	0.892	Hold
AF	Nigeria	Naira	0.547	0.673	0.892	Hold
AF	Nigeria	Naira	0.547	0.673	0.892	Hold
OC	Niue	*	*	*	*	*
E	Norway	Kroner	4.939	6.454	8.818	None
AS	Oman	*	*	*	*	None
AS	Oman	*	*	*	*	None
AS	Oman	*	*	*	*	None
AS	Pakistan	Rupees	9.900	11.847	15.979	Cond
AS	Pakistan	Rupees	9.900	11.847	15.979	Cond
AS	Pakistan	Rupees	9.900	11.847	15.979	Cond
AS	Pakistan	Rupees	9.900	11.847	15.979	Cond
AS	Pakistan	Rupees	9.900	11.847	15.979	Cond
AS	Pakistan	Rupees	9.900	11.847	15.979	Cond
AS	Pakistan	Rupees	9.900	11.847	15.979	Cond
AS	Pakistan	Rupees	9.900	11.847	15.979	Cond
AS	Pakistan	Rupees	9.900	11.847	15.979	Cond
AS	Pakistan	Rupees	9.900	11.847	15.979	Cond
AS	Pakistan	Rupees	9.900	11.847	15.979	Cond
AS	Pakistan	Rupees	9.900	11.847	15.979	Cond
AS	Pakistan	Rupees	9.900	11.847	15.979	Cond
CA	Panama	Balboas	1.000	1.000	*	Cond
OC	Papua New Guinea	Kina	0.670	0.738	1.024	Cond
SA	Paraguay	Guaranies	126.000	126.000	240.000	Cond
SA	Peru	Soles	288.900	697.600	10751.4	Hold
SA	Peru	Soles	288.900	697.600	10751.4	Hold
SA	Peru	Soles	288.900	697.600	10751.4	Hold
AS	Philippines	Pesos	7.511	8.540	18.473	Cond
AS	Philippines	Pesos	7.511	8.540	18.473	Cond
AS	Philippines	Pesos	7.511	8.540	18.473	Cond
AS	Philippines	Pesos	7.511	8.540	18.473	Cond
AS	Philippines	Pesos	7.511	8.540	18.473	Cond
AS	Philippines	Pesos	7.511	8.540	18.473	Cond
AS	Philippines	Pesos	7.511	8.540	18.473	Cond
AS	Philippines	Pesos	7.511	8.540	18.473	Cond
AS	Philippines	Pesos	7.511	8.540	18.473	Cond
AS	Philippines	Pesos	7.511	8.540	18.473	Cond
AS	Philippines	Pesos	7.511	8.540	18.473	Cond
AS	Philippines	Pesos	7.511	8.540	18.473	Cond
AS	Philippines	Pesos	7.511	8.540	18.473	Cond

BUSINESS DATA FILE

REGION	COUNTRY	COMPANY /q,r Name	BUSINESS /q,r Type	VALUE /q,r Amount Type US\$bil
AF	Niger	Cominak	Mining	\$0.158 Sales
AF	Nigeria	First Bank of Nigeria	Bank	\$5.520 Assets
AF	Nigeria	NNPC	Oil	\$3.284 Sales
AF	Nigeria	Union Bank of Nigeria	Bank	\$5.030 Assets
AF	Nigeria	United Bank for Africa	Bank	\$4.600 Assets
AF	Nigeria	New Africa Development Co	Distribution	\$0.743 Sales
AF	Nigeria	Prestige Industries	Textiles	\$0.415 Sales
AF	Nigeria	Nigerian Bottling	Soft drinks	\$0.369 Sales
AF	Nigeria	Nigerian Cocoa Board	Cocoa	\$0.334 Sales
AF	Nigeria	Flour Mills of Nigeria	Flour milling	\$0.296 Sales
AF	Nigeria	Nigerian Breweries	Beer	\$0.259 Sales
AF	Nigeria	Ibru Organisation	Brewery/shipbldg/commerce	\$0.238 Sales
AF	Nigeria	Leventis Motors	Vehicle assembly	\$0.188 Sales
AF	Nigeria	Nigerian Technical Co	Vehicle distribution	\$0.171 Sales
AF	Nigeria	African Petroleum	Oil	\$0.354 Sales
OC	Niue	*	*	* *
E	Norway	*	*	* *
AS	Oman	Bank of Oman	Bank	\$2.210 Assets
AS	Oman	National Bank of Dubai	Bank	\$1.950 Assets
AS	Oman	Union Bank of the Middle East	Bank	\$1.210 Assets
AS	Pakistan	Habib Bank	Bank	\$4.820 Assets
AS	Pakistan	United Bank	Bank	\$3.450 Assets
AS	Pakistan	National Bank of Pakistan	Bank	\$3.230 Assets
AS	Pakistan	Pakistan State Oil	Oil refining & marketing	\$1.154 Sales
AS	Pakistan	Pakistan International Airlines	Airline	\$0.676 Sales
AS	Pakistan	National Oil Refinery	Oil refining	\$0.601 Sales
AS	Pakistan	Rice Export	Commerce	\$0.439 Sales
AS	Pakistan	Pakistan Automobile Corp	Automobiles	\$0.285 Sales
AS	Pakistan	Pakistan Refinery	Oil refinery	\$0.174 Sales
AS	Pakistan	Karachi Electric Supply	Electricity	\$0.164 Sales
AS	Pakistan	National Shipping Corp	Shipping	\$0.140 Sales
AS	Pakistan	Cotton Export Corp	Cotton	\$0.359 Sales
CA	Panama	Panama Canal	Canal	\$0.377 Sales
OC	Papua New Guinea	*	*	* *
SA	Paraguay	*	*	* *
SA	Peru	Petroperu	Oil	\$0.975 Sales
SA	Peru	Centromin	Mining	\$0.314 Sales
SA	Peru	Electrolina	Electricity	\$0.144 Sales
AS	Philippines	Philippine National Bank	Bank	\$5.650 Assets
AS	Philippines	Development Bank of the Philippines	Bank	\$4.870 Assets
AS	Philippines	Philippines National Oil	Oil	\$2.690 Sales
AS	Philippines	Petrophil	Oil	\$1.377 Sales
AS	Philippines	Manila Electric	Electricity	\$0.631 Sales
AS	Philippines	San Miguel	Brewery/animal feed	\$0.598 Sales
AS	Philippines	Philippine Airlines	Airline	\$0.529 Sales
AS	Philippines	CDCP	Construction	\$0.366 Sales
AS	Philippines	United Coconut Mills	Copra	\$0.363 Sales
AS	Philippines	Consolidated Bank & Trust Corp	Bank	\$0.340 Deposits
AS	Philippines	Pacific Banking Corp	Bank	\$0.340 Deposits
AS	Philippines	Rizal Commercial Banking corp	Bank	\$0.320 Deposits

BUSINESS DATA FILE

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BUSINESS DATA FILE

REGION	COUNTRY	COMPANY /q,r Name	BUSINESS /q,r Type	VALUE /q,r Amount Type US\$bil
AS	Philippines	Atlas Consolidated	Copper mining	\$0.209 Sales
AS	Philippines	Filipro Inc	Milk products	\$0.203 Sales
AS	Philippines	La Cuerte Cigar & Cigarette	Tobacco	\$0.183 Sales
AS	Philippines	Philippines Long Distance Telephones	Telecommunications	\$0.177 Sales
AS	Philippines	Philippines Petroleum	Oil	\$0.167 Sales
AS	Philippines	Marinduque Mining & Inds.	Mining	\$0.159 Sales
AS	Philippines	Shoe Mart	Retailing	\$0.158 Sales
AS	Philippines	Planters Products Inc	Fertiliser	\$0.147 Sales
AS	Philippines	National Steel Corp	Steel	\$0.144 Sales
AS	Philippines	Mercury Drug Company	Pharmaceuticals	\$0.142 Sales
AS	Philippines	Benguet	Copper	\$0.141 Sales
AS	Portugal	*	*	* *
E	Qatar	Qatar National Bank	Bank	\$1.670 Assets
AS	Qatar	*	*	* *
E	Romania	*	*	* *
AF	Rwanda	*	*	* *
C	Saint Christopher/Nevis	*	*	* *
C	Saint Lucia	*	*	* *
C	Saint Vincent/Grenadines	*	*	* *
E	San Marino	*	*	* *
AF	Sao Tome/Principe	*	*	* *
AS	Saudi Arabia	National Commercial Bank	Bank	\$14.700 Assets
AS	Saudi Arabia	Riyadh Bank	Bank	\$7.860 Assets
AS	Saudi Arabia	Saudi American Bank	Bank	\$3.510 Assets
AS	Saudi Arabia	Al Bank Al Saudi Al Fransi	Bank	\$3.250 Assets
AS	Saudi Arabia	Al-Bank Al Saudi Al Hollandi	Bank	\$2.050 Assets
AS	Saudi Arabia	Arab National Bank	Bank	\$1.920 Assets
AS	Saudi Arabia	Saudi British Bank	Bank	\$1.890 Assets
AS	Saudi Arabia	Arab Petroleum Investments Bani	Bank	\$0.710 Assets
AS	Saudi Arabia	Arab Investment Co	Bank	\$0.650 Assets
AS	Senegal	SAR	Petroleum refinery	\$0.252 Sales
AF	Senegal	SONACOS	Agriculture	\$0.185 Sales
AF	Seychelles	*	*	* *
AF	Sierra Leone	*	*	* *
AS	Singapore	Development Bank of Singapore	Bank	\$5.500 Assets
AS	Singapore	United Overseas Bank	Bank	\$4.900 Assets
AS	Singapore	Overseas Chinese Banking Group	Bank	\$2.980 Assets
AS	Singapore	Overseas Union Bank	Bank	\$2.880 Assets
AS	Singapore	Singapore Airlines (SIA)	Airline	\$1.271 Sales
AS	Singapore	Straits Trading Co	Tin mining & refining	\$0.490 Sales
AS	Singapore	Cold Storage Holdings	Cold storage	\$0.362 Sales
AS	Singapore	Neptune Orient Lines	Shipping	\$0.352 Sales
AS	Singapore	Keppel Shipyard	Shipbuilding & repair	\$0.351 Sales
AS	Singapore	Telecommunications Authority of Singapore	Telephone service	\$0.316 Sales
AS	Singapore	Public Utilities Board	Gas/water/electricity	\$0.276 Sales
AS	Singapore	Times Publishing	Publishing	\$0.185 Sales
AS	Singapore	Cycle & Carriage	Vehicle assembly	\$0.157 Sales
AS	Singapore	National Iron & Steel Mills	Iron & steel	\$0.152 Sales
AS	Singapore	Singapore Bus Service	Bus service	\$0.145 Sales
AS	Singapore	Guthrie	Engineering	\$0.145 Sales

BUSINESS DATA FILE

REGION	COUNTRY	Units	CURRENCY /o			BANK /p
			1980	1982	6/85	LIMITS
			Rate US\$1	Rate US\$1	Rate US\$1	3/1/85
AS	Singapore	Sing. Dollars	2.141	2.140	2.227	None
OC	Solomon Islands	S.I. Dollars	0.830	0.971	1.421	Cond
AF	Somalia	Shillings	6.295	10.750	40.608	Hold
AF	South Africa	Rand	0.778	1.082	1.975	Cond
E/AS	Soviet Union	Rupel	*	*	*	*
E	Spain	Pesetas	71.700	109.860	174.690	None
AS	Sri Lanka	Rupees	16.534	20.812	27.421	Cond
AF	Sudan	Pounds	0.500	0.938	2.500	Hold
SA	Suriname	Guilders	1.785	1.785	*	Cond
AF	Swaziland	Emalangeni	0.778	1.082	1.975	Cond
E	Sweden	Kronor	4.230	6.283	8.851	None
E	Switzerland	Francs	1.676	2.030	2.570	None
AS	Syria	Pounds	3.925	3.925	3.925	Hold
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
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AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
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AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
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AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
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AS	Taiwan	*	*	*	*	None
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AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
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AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None
AS	Taiwan	*	*	*	*	None

BUSINESS DATA FILE

REGION	COUNTRY	COMPANY /q,r Name	BUSINESS /q,r Type	VALUE /q,r Amount Type US\$bil
AS	Singapore	United Engineers	Heavy engineering	\$0.140 Sales
DC	Solomon Islands	*	*	*
AF	Somalia	*	*	*
AF	South Africa	*	*	*
E/AS	Soviet Union	*	*	*
E	Spain	*	*	*
AS	Sri Lanka	Ceylon Petroleum	Petrol	\$0.542 Sales
AF	Sudan	*	*	*
SA	Suriname	*	*	*
AF	Swaziland	*	*	*
E	Sweden	*	*	*
E	Switzerland	*	*	*
AS	Syria	Commercial Bank of Syria	Bank	\$8.060 Assets
AS	Taiwan	Bank of Taiwan	Bank	\$8.260 Assets
AS	Taiwan	Chinese Petroleum	Oil	\$5.352 Sales
AS	Taiwan	Land Bank of Taiwan	Bank	\$5.170 Assets
AS	Taiwan	First Commercial Bank	Bank	\$4.250 Assets
AS	Taiwan	Chang Hwa Commercial Bank	Bank	\$3.670 Assets
AS	Taiwan	Hua Nan Commercial Bank	Bank	\$3.510 Assets
AS	Taiwan	Int'l Commercial Bank of China	Bank	\$2.790 Assets
AS	Taiwan	Taiwan Power	Electricity	\$2.723 Sales
AS	Taiwan	Bank of Communications	Bank	\$2.520 Assets
AS	Taiwan	Farmers Bank of China	Bank	\$2.400 Assets
AS	Taiwan	Formosa Plastics Group	Chemicals	\$2.361 Sales
AS	Taiwan	Taiwan Tobacco & Wine	Tobacco & wine	\$1.514 Sales
AS	Taiwan	Nankang Rubber Tire Co	Tyres	\$0.701 Sales
AS	Taiwan	Taiwan Sugar	Sugar	\$0.600 Sales
AS	Taiwan	Nan Ya Plastics	Plastics	\$0.598 Sales
AS	Taiwan	China Steel	Steel	\$0.435 Sales
AS	Taiwan	Formosa Plastics	Plastics	\$0.422 Sales
AS	Taiwan	BES Engineering Co	Engineering	\$0.405 Sales
AS	Taiwan	Formosa Chemical & Fibre	Synthetic fibre	\$0.405 Sales
AS	Taiwan	Yue Loong Motors	Automobiles	\$0.393 Sales
AS	Taiwan	Far Eastern Textiles	Textiles	\$0.318 Sales
AS	Taiwan	Ta Tung	Electricals	\$0.276 Sales
AS	Taiwan	Taiwan Cement	Cement	\$0.265 Sales
AS	Taiwan	President Enterprises	Food products	\$0.228 Sales
AS	Taiwan	Chung Shing Textile	Garments	\$0.173 Sales
AS	Taiwan	Asia Cement	Cement	\$0.171 Sales
AS	Taiwan	Sampo	Domestic elect appliances	\$0.166 Sales
AS	Taiwan	San Yang Inds	Motor vehicles	\$0.164 Sales
AS	Taiwan	Taiwan Fertilizer	Fertiliser	\$0.160 Sales
AS	Taiwan	Wei-chuan Foods Corp.	Food	\$0.148 Sales
AS	Taiwan	Taiwan Aluminum Corp	Aluminum	\$0.170 Sales
AF	Tanzania	Tanzania Breweries	Beer	\$0.255 Sales
AS	Thailand	Bangkok Bank	Bank	\$9.350 Assets
AS	Thailand	Krung Thai Bank	Bank	\$3.510 Assets
AS	Thailand	Thai Farmers Bank	Bank	\$3.260 Assets
AS	Thailand	Thai Oil Refinery Co	Oil	\$1.117 Sales
AS	Thailand	Siam Cement	Cement	\$0.492 Sales

BUSINESS DATA FILE

REGION	COUNTRY	Units	CURRENCY /o			BANK /p LIMITS 3/1/85
			1980	1982	6/85	
			Rate	Rate	Rate	
			US\$1	US\$1	US\$1	
AS	Thailand	Baht	20.476	23.000	27.386	None
AS	Thailand	Baht	20.476	23.000	27.386	None
AF	Togo	Francs	211.280	328.610	466.970	Cond
OC	Tonga	*	*	*	*	Cond
C	Trinidad/Tobago	TT Dollars	2.400	2.400	2.400	None
AF	Tunisia	Dinars	0.405	0.591	0.853	None
AF	Tunisia	Dinars	0.405	0.591	0.853	None
AF	Tunisia	Dinars	0.405	0.591	0.853	None
AF	Tunisia	Dinars	0.405	0.591	0.853	None
AF	Tunisia	Dinars	0.405	0.591	0.853	None
AF	Tunisia	Dinars	0.405	0.591	0.853	None
E/AS	Turkey	Liras	76.040	162.550	532.770	Cond
E/AS	Turkey	Liras	76.040	162.550	532.770	Cond
E/AS	Turkey	Liras	76.040	162.550	532.770	Cond
E/AS	Turkey	Liras	76.040	162.550	532.770	Cond
E/AS	Turkey	Liras	76.040	162.550	532.770	Cond
E/AS	Turkey	Liras	76.040	162.550	532.770	Cond
E/AS	Turkey	Liras	76.040	162.550	532.770	Cond
E/AS	Turkey	Liras	76.040	162.550	532.770	Cond
E/AS	Turkey	Liras	76.040	162.550	532.770	Cond
E/AS	Turkey	Liras	76.040	162.550	532.770	Cond
E/AS	Turkey	Liras	76.040	162.550	532.770	Cond
E/AS	Turkey	Liras	76.040	162.550	532.770	Cond
OC	Tuvalu	Shillings	7.424	85.750	*	*
AF	Uganda	Shillings	7.420	94.050	600.000	Hold
AS	United Arab Emirates	Dirhams	3.707	3.671	3.671	None
E	United Kingdom	Pounds	0.430	0.571	0.781	None
SA	Uruguay	New Pesos	9.099	13.909	94.500	Cond
SA	Uruguay	New Pesos	9.099	13.909	94.500	Cond
SA	Uruguay	New Pesos	9.099	13.909	94.500	Cond
SA	Uruguay	New Pesos	9.099	13.909	94.500	Cond
SA	Uruguay	New Pesos	9.099	13.909	94.500	Cond
SA	Uruguay	New Pesos	9.099	13.909	94.500	Cond
OC	Vanuatu	Vatu	68.290	96.210	110.370	*
SA	Venezuela	Bolivares	4.293	4.293	7.500	Cond
SA	Venezuela	Bolivares	4.293	4.293	7.500	Cond
SA	Venezuela	Bolivares	4.293	4.293	7.500	Cond
SA	Venezuela	Bolivares	4.293	4.293	7.500	Cond
SA	Venezuela	Bolivares	4.293	4.293	7.500	Cond
SA	Venezuela	Bolivares	4.293	4.293	7.500	Cond
SA	Venezuela	Bolivares	4.293	4.293	7.500	Cond
SA	Venezuela	Bolivares	4.293	4.293	7.500	Cond
SA	Venezuela	Bolivares	4.293	4.293	7.500	Cond
SA	Venezuela	Bolivares	4.293	4.293	7.500	Cond
SA	Venezuela	Bolivares	4.293	4.293	7.500	Cond
SA	Venezuela	Bolivares	4.293	4.293	7.500	Cond
SA	Venezuela	Bolivares	4.293	4.293	7.500	Cond
SA	Venezuela	Bolivares	4.293	4.293	7.500	Cond
SA	Venezuela	Bolivares	4.293	4.293	7.500	Cond

BUSINESS DATA FILE

REGION	COUNTRY	COMPANY /q,r Name	BUSINESS /q,r Type	VALUE /q,r	
				Amount	Type
				US\$bil	
AS	Thailand	Thailand Smelting & Refining Co	Tin	\$0.371	Sales
AS	Thailand	Boon Rawd Brewery	Brewery	\$0.182	Sales
AF	Togo	*	*	*	*
OC	Tonga	*	*	*	*
C	Trinidad/Tobago	*	*	*	*
AF	Tunisia	Ste. Tunisienne de Banque	Bank	\$2.900	Assets
AF	Tunisia	STEG	Gas	\$0.198	Sales
AF	Tunisia	STIR	Petroleum refining	\$0.196	Sales
AF	Tunisia	Tunis Air	Airline	\$0.186	Sales
AF	Tunisia	L'Industriel du Plastique	Plastics	\$0.166	Sales
AF	Tunisia	Phosphates Gafsa	Phosphates	\$0.150	Sales
E/AS	Turkey	T C Ziraat Bankasi	Bank	\$5.350	Assets
E/AS	Turkey	Turkiye is Bankasi	Bank	\$3.820	Assets
E/AS	Turkey	Tupras-Turkiye Petrol Rafineriler	Oil	\$3.011	Sales
E/AS	Turkey	Koc Holding	Constructn/transport equip	\$2.928	Sales
E/AS	Turkey	Haci Omer Sabanci	Tyres/textiles/food	\$2.335	Sales
E/AS	Turkey	Akbank	Bank	\$1.730	Assets
E/AS	Turkey	Turkiye Petrolleri	Oil	\$1.347	Sales
E/AS	Turkey	Eregli Demir ve Celik Fab.	Iron & steel	\$0.464	Sales
E/AS	Turkey	Turkiye Korum Isletmeleri Kurumu	Coal	\$0.462	Sales
E/AS	Turkey	Turkiye Seker Fabrikalari	Sugar	\$0.416	Sales
E/AS	Turkey	T. Demir ve Celik Isletmeleri	Steel	\$0.363	Sales
E/AS	Turkey	Petkim Petrokimya	Petrochemicals	\$0.292	Sales
E/AS	Turkey	Cay Isletmeleri Genel. Mud.	Tea	\$0.250	Sales
E/AS	Turkey	Et ve Balik Kurumu	Meat & fish marketing	\$0.142	Sales
OC	Tuvalu	*	*	*	*
AF	Uganda	*	*	*	*
AS	United Arab Emirates	National Bank of Abu Dhabi	Bank	\$6.130	Assets
E	United Kingdom	*	*	*	*
SA	Uruguay	Banco de la Republica Oriental del Uruguay	Bank	\$1.830	Assets
SA	Uruguay	Ancap	Fuel	\$0.617	Sales
SA	Uruguay	Distribuidor ANCAP	Petrol Distribution	\$0.203	Sales
SA	Uruguay	UTE Admin NAC de Usinas	Electricity	\$0.203	Sales
SA	Uruguay	ANTEL	Telephone service	\$0.192	Sales
SA	Uruguay	Conaprole	Milk products	\$0.140	Sales
OC	Vanuatu	*	*	*	*
SA	Venezuela	Petroven	Oil	\$14.890	Sales
SA	Venezuela	Banco Provincial	Bank	\$3.890	Assets
SA	Venezuela	Banco Mercantil	Bank	\$3.640	Assets
SA	Venezuela	Banco de Venezuela	Bank	\$2.530	Assets
SA	Venezuela	Cevceria Polar	Beer	\$1.770	Sales
SA	Venezuela	Banco Union	Bank	\$1.750	Deposits
SA	Venezuela	Sidor	Iron & steel	\$1.060	Sales
SA	Venezuela	Banco Latino	Bank	\$0.850	Deposits
SA	Venezuela	Banco Consolidado	Bank	\$0.760	Deposits
SA	Venezuela	Banco de Maracaibo	Bank	\$0.690	Deposits
SA	Venezuela	CANTV	Telecommunications	\$0.640	Sales
SA	Venezuela	CVG Ferrominera del Orinoco	Iron mining	\$0.581	Sales
SA	Venezuela	Cadafé	Electricity	\$0.514	Sales
SA	Venezuela	CADA	Supermarkets	\$0.488	Sales

REGION	COUNTRY
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BUSINESS DATA FILE

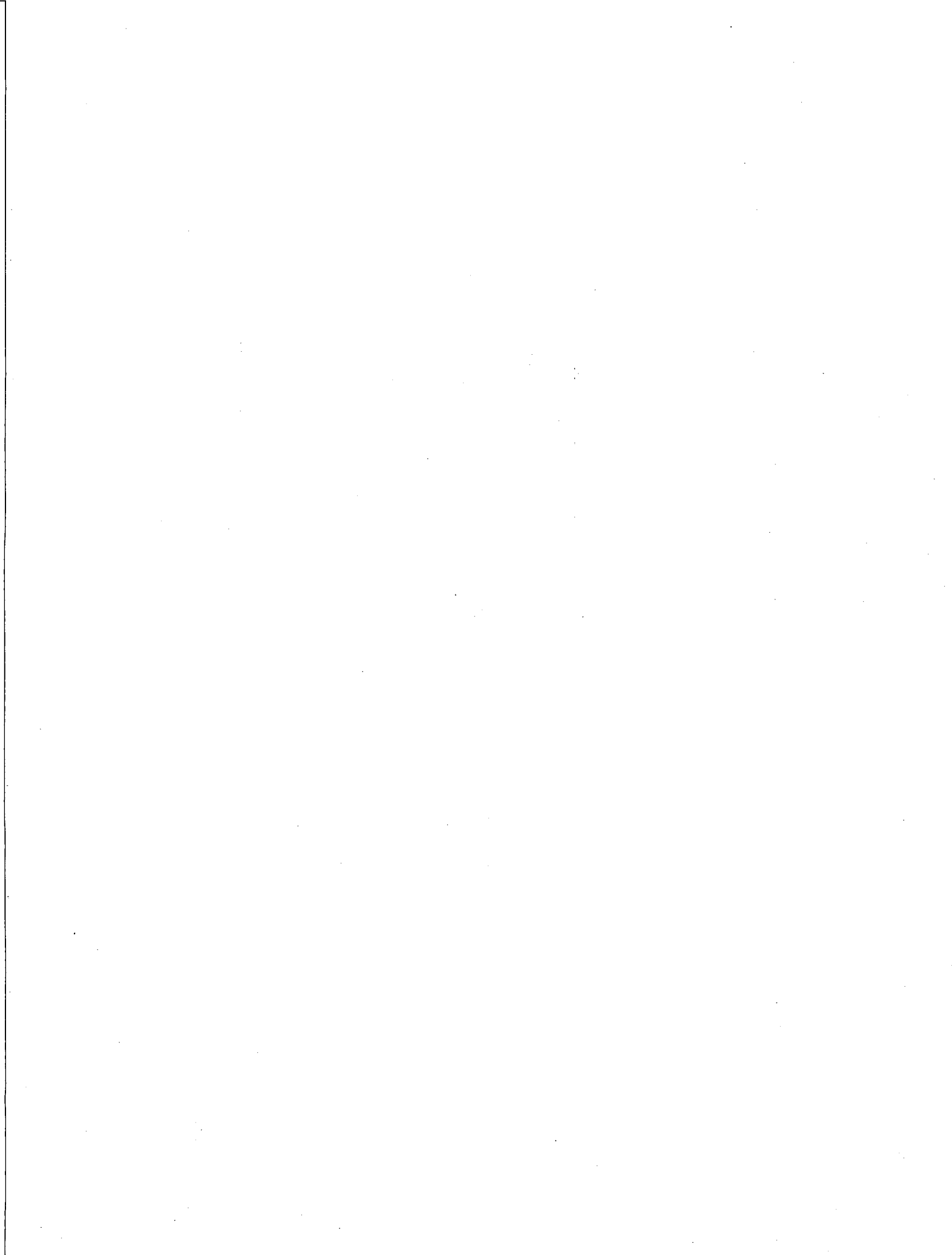
REGION	COUNTRY	COMPANY /q,r Name	BUSINESS /q,r Type	VALUE /q,r	
				Amount US\$bil	Type
SA	Venezuela	Banco Royal Venezolana	Bank	\$0.450	Deposits
SA	Venezuela	Sivensa	Steel products	\$0.443	Sales
SA	Venezuela	Banco Caracas	Bank	\$0.430	Deposits
SA	Venezuela	Corpo-Mercado	Agroprocurement	\$0.417	Sales
SA	Venezuela	Banca Exterior	Bank	\$0.360	Deposits
SA	Venezuela	Banco la Guaira Internatioanl	Bank	\$0.340	Deposits
SA	Venezuela	Venalum	Aluminum	\$0.319	Sales
SA	Venezuela	Electricidad de Caracas	Electricity	\$0.310	Sales
SA	Venezuela	Pequiven	Chemicals	\$0.308	Sales
SA	Venezuela	Viasa	Airline	\$0.278	Sales
SA	Venezuela	Gpo Bulton	Commerce	\$0.258	Sales
SA	Venezuela	Maquinarias Venequip	Industrial machinery	\$0.245	Sales
SA	Venezuela	Catana	Tobacco	\$0.243	Sales
SA	Venezuela	Corimon	Chemicals	\$0.235	Sales
SA	Venezuela	Refin de Maiz Remavenca	Corn products	\$0.233	Sales
SA	Venezuela	Ind Yuqueri	Fruit juice/chocolate	\$0.232	Sales
SA	Venezuela	Venezolana de Cementos	Cement	\$0.232	Sales
SA	Venezuela	Central Madeireinse	Supermarkets	\$0.209	Sales
SA	Venezuela	Tamayo y Cia	Commerce	\$0.180	Sales
SA	Venezuela	CA Tocars	Machinery	\$0.177	Sales
SA	Venezuela	ACO	Machinery	\$0.177	Sales
SA	Venezuela	Ilapeca	Milk products	\$0.176	Sales
SA	Venezuela	Edelca	Electricity	\$0.170	Sales
SA	Venezuela	Indulac	Milk prods.	\$0.163	Sales
SA	Venezuela	Cerv. Nacional	Brewery	\$0.155	Sales
SA	Venezuela	Energia Electric de Venezuela	Electricity	\$0.151	Sales
SA	Venezuela	CAVM	Shipping	\$0.148	Sales
SA	Venezuela	Interson	Construction equipment	\$0.144	Sales
QC	Western Samoa	*	*	*	*
AS	Yemen Arab Republic	*	*	*	*
E	Yugoslavia	*	*	*	*
AF	Zaire	Gecamines	Mining	\$0.826	Sales
AF	Zaire	Petrozaire	Petroleum	\$0.342	Sales
AF	Zambia	ZIMCO	Mining	\$1.811	Sales
AF	Zambia	Zambia Consolidated Copper	Copper	\$1.140	Sales
AF	Zambia	Memaco	Marketing	\$1.071	Sales
AF	Zambia	Bank of Zambia	Bank	\$0.860	Deposits
AF	Zambia	Indeco	General industrial	\$0.662	Sales
AF	Zambia	National Import & Export Co	Trade	\$0.207	Sales
AF	Zimbabwe	TA Holdings	Tobacco	\$0.212	Sales
AF	Zimbabwe	National Foods	Food	\$0.203	Sales
AF	Zimbabwe	Delta Corporation	Brewery	\$0.200	Sales
AF	Zimbabwe	National Railways Zimbabwe	Railway	\$0.193	Sales

* NOT AVAILABLE

7. ABBREVIATIONS AND CONVERSION FACTORS

8. REFERENCES

9. SOURCES CONSULTED



7. ABBREVIATIONS AND CONVERSION FACTORS

bdoe	Barrel per day of oil equivalent
boe	Barrel of oil equivalent
Btu	British thermal unit
Gtoe	Gigaton of oil equivalent (1,000 ktoe)
GW	Gigawatt (1,000 MW)
gWh	Gigawatt hour
Hz	Hertz
kcal	Kilocalorie (1,000 calories)
kgoe	Kilogram of oil equivalent
ktoe	Thousand metric tons of oil equivalent
kV	Kilovolts (1,000 volts)
kW	Kilowatt (1,000 watts)
kWh	Kilowatt hour
MMCFD	Million cubic feet per day
mtoe	Million tons of oil equivalent
MW	Megawatt (1,000 kW)
One toe	$= 10.2 \times 10^6$ Kilocalories
	$= 40.5 \times 10^6$ BTUs
	$= 42,700 \times 10^6$ Joules
	$= 4.0 \times 10^3$ kWh of primary electricity at thermal replacement value based on an efficiency of about 34 percent in thermal electricity generation.
	$= 40.47 \times 10^3$ cubic feet of natural gas
	$= 1.46$ tons of standard coal
One liter	$= .2642$ gallons
One kilometer	$= .621$ miles
One hectare	$= 2.471$ acres
One hectare	$= 1581.44$ square miles

tce	Metric ton of coal equivalent
tcf	Trillion cubic feet
toe	Metric ton of oil equivalent
tpy	Metric ton per year
TW	Terawatt (1,000 GW)

8. REFERENCES

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9. SOURCES CONSULTED

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