

FOIA MARKER

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Folder Title:
[Global Climate Change Policy - Kyoto Protocol Analysis] [Binder]: Global Climate Change White
Facts

Stack:	Row:	Section:	Shelf:	Position:
S	21	5	2	1

>
> 1. Could you send me Global Average Temperature Data from approximately
> 1860 to present.
> 2. I have a data file of CO2 emissions by country for the world from 1950
> to 1992 the title on the data is:
> MARLAND CO2 EMISSIONS DATA THROUGH 1992 AND PENN WORLD TABLES VERSION 5.6
>
> Do you have a full citation for this data set, year etc.?
>
> Thank you for all your help
> -Zachary
>
>

 - global.dat

 - nation95.ems

(Februa 1998)

*** Source: P. D. Jones

D. E. Parker

*** T. J. Osborn

Hadley Centre for Climate

*** K. R. Briffa

Prediction and Research

*** Climatic Research Unit

Meteorological Office

*** School of Environmental Sciences

Bracknell, Berkshire,

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United Kingdom

*** Norwich NR4 7TJ, United Kingdom

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	GAT Level		3-YEAR CE
														Celsius	Far	
1856	-0.22	-0.38	-0.53	-0.39	-0.37	-0.16	-0.33	-0.3	-0.37	-0.4	-0.6	-0.32	-0.36	15.64	60.152	60.044
1857	-0.3	-0.33	-0.51	-0.53	-0.63	-0.42	-0.43	-0.4	-0.53	-0.63	-0.73	-0.35	-0.48	15.52	59.936	60.038
1858	-0.62	-0.83	-0.65	-0.38	-0.36	-0.31	-0.32	-0.28	-0.23	-0.22	-0.65	-0.28	-0.43	15.57	60.026	60.104
1859	-0.29	-0.24	-0.15	-0.14	-0.11	-0.32	-0.3	-0.18	-0.47	-0.18	-0.34	-0.27	-0.25	15.75	60.35	60.158
1860	-0.14	-0.49	-0.57	-0.46	-0.36	-0.14	-0.28	-0.28	-0.22	-0.39	-0.63	-0.72	-0.39	15.61	60.098	60.158
1861	-0.85	-0.53	-0.46	-0.45	-0.71	-0.25	-0.25	-0.11	-0.35	-0.4	-0.48	-0.32	-0.43	15.57	60.026	60.002
1862	-0.74	-0.79	-0.38	-0.22	-0.19	-0.25	-0.49	-0.66	-0.39	-0.38	-0.87	-0.78	-0.51	15.49	59.882	60.062
1863	0.02	-0.08	-0.33	-0.17	-0.39	-0.38	-0.53	-0.36	-0.3	-0.34	-0.37	-0.29	-0.29	15.71	60.278	60.038
1864	-0.8	-0.59	-0.46	-0.45	-0.43	-0.21	-0.25	-0.42	-0.44	-0.6	-0.48	-0.53	-0.47	15.53	59.954	60.182
1865	-0.06	-0.52	-0.57	-0.15	-0.16	-0.28	-0.2	-0.28	-0.11	-0.33	-0.25	-0.29	-0.27	15.73	60.314	60.23
1866	0.1	-0.09	-0.34	-0.16	-0.49	0.07	-0.11	-0.25	-0.19	-0.36	-0.31	-0.38	-0.21	15.79	60.422	60.326
1867	-0.27	0.01	-0.44	-0.24	-0.41	-0.35	-0.28	-0.29	-0.2	-0.24	-0.37	-0.64	-0.31	15.69	60.242	60.344
1868	-0.56	-0.35	-0.11	-0.29	-0.09	-0.26	-0.1	-0.15	-0.16	-0.24	-0.4	-0.13	-0.24	15.76	60.368	60.29
1869	-0.29	0.2	-0.53	-0.21	-0.2	-0.38	-0.34	-0.3	-0.25	-0.43	-0.45	-0.48	-0.3	15.7	60.26	60.272
1870	-0.16	-0.47	-0.41	-0.25	-0.35	-0.31	-0.15	-0.33	-0.33	-0.4	-0.25	-0.67	-0.34	15.66	60.188	60.2
1871	-0.46	-0.6	-0.06	-0.22	-0.39	-0.34	-0.12	-0.29	-0.44	-0.54	-0.38	-0.47	-0.36	15.64	60.152	60.242
1872	-0.3	-0.34	-0.36	-0.17	-0.13	-0.24	-0.14	-0.08	-0.19	-0.3	-0.21	-0.34	-0.23	15.77	60.386	60.272
1873	0.03	-0.29	-0.27	-0.45	-0.36	-0.31	-0.22	-0.2	-0.32	-0.33	-0.44	-0.3	-0.29	15.71	60.278	60.242
1874	-0.05	-0.36	-0.6	-0.57	-0.56	-0.44	-0.17	-0.4	-0.22	-0.49	-0.57	-0.49	-0.41	15.59	60.062	60.128
1875	-0.58	-0.58	-0.61	-0.47	-0.14	-0.24	-0.39	-0.29	-0.37	-0.43	-0.56	-0.41	-0.42	15.58	60.044	60.062
1876	-0.34	-0.33	-0.37	-0.36	-0.52	-0.34	-0.24	-0.22	-0.37	-0.45	-0.66	-0.65	-0.4	15.6	60.08	60.23
1877	-0.25	-0.05	-0.3	-0.37	-0.49	-0.14	-0.03	-0.05	-0.02	-0.05	-0.04	0.17	-0.13	15.87	60.566	60.482
1878	0.04	0.32	0.42	0.26	-0.12	-0.02	-0.1	-0.06	-0.07	-0.14	-0.21	-0.3	0	16	60.8	60.542
1879	-0.22	-0.19	-0.23	-0.3	-0.24	-0.28	-0.29	-0.24	-0.26	-0.25	-0.49	-0.57	-0.3	15.7	60.26	60.452
1880	-0.14	-0.28	-0.19	-0.18	-0.31	-0.36	-0.32	-0.15	-0.3	-0.41	-0.46	-0.25	-0.28	15.72	60.296	60.302
1881	-0.43	-0.28	-0.25	-0.19	-0.03	-0.23	-0.15	-0.12	-0.29	-0.37	-0.45	-0.17	-0.25	15.75	60.35	60.344
1882	0.05	-0.04	0.01	-0.28	-0.3	-0.35	-0.22	-0.2	-0.15	-0.37	-0.39	-0.48	-0.23	15.77	60.386	60.326
1883	-0.42	-0.36	-0.33	-0.39	-0.3	-0.11	-0.22	-0.24	-0.3	-0.43	-0.31	-0.28	-0.31	15.69	60.242	60.26
1884	-0.32	-0.28	-0.33	-0.44	-0.38	-0.33	-0.38	-0.33	-0.27	-0.3	-0.59	-0.39	-0.36	15.64	60.152	60.194
1885	-0.51	-0.49	-0.38	-0.4	-0.45	-0.48	-0.25	-0.33	-0.22	-0.27	-0.19	-0.07	-0.34	15.66	60.188	60.218
1886	-0.31	-0.44	-0.39	-0.19	-0.11	-0.26	-0.19	-0.15	-0.21	-0.31	-0.35	-0.26	-0.27	15.73	60.314	60.212

1887	-0.45	-0.52	-0.33	-0.43	-0.28	-0.38	-0.18	-0.36	-0.27	-0.47	-0.33	-0.4	-0.37	15.63	60.134	60.23
1888	-0.66	-0.53	-0.53	-0.27	-0.28	-0.24	-0.28	-0.26	-0.17	-0.09	-0.2	-0.19	-0.31	15.69	60.242	60.29
1889	-0.12	-0.08	-0.01	-0.02	-0.05	-0.16	-0.18	-0.22	-0.34	-0.25	-0.38	-0.2	-0.17	15.83	60.494	60.278
1890	-0.29	-0.31	-0.32	-0.3	-0.42	-0.34	-0.34	-0.44	-0.47	-0.48	-0.58	-0.37	-0.39	15.61	60.098	60.272
1891	-0.52	-0.49	-0.41	-0.39	-0.2	-0.32	-0.26	-0.23	-0.17	-0.3	-0.54	-0.06	-0.32	15.68	60.224	60.122
1892	-0.42	-0.1	-0.44	-0.43	-0.4	-0.38	-0.48	-0.37	-0.22	-0.38	-0.64	-0.78	-0.42	15.58	60.044	60.08
1893	-1.08	-0.79	-0.37	-0.53	-0.55	-0.34	-0.23	-0.33	-0.35	-0.25	-0.38	-0.31	-0.46	15.54	59.972	60.044
1894	-0.43	-0.33	-0.33	-0.4	-0.37	-0.43	-0.34	-0.33	-0.43	-0.38	-0.44	-0.38	-0.38	15.62	60.116	60.08
1895	-0.48	-0.71	-0.51	-0.34	-0.38	-0.36	-0.35	-0.26	-0.18	-0.27	-0.2	-0.32	-0.36	15.64	60.152	60.26
1896	-0.23	-0.19	-0.35	-0.35	-0.14	-0.08	-0.11	-0.08	-0.04	-0.06	-0.24	-0.06	-0.16	15.84	60.512	60.398
1897	-0.2	-0.12	-0.18	-0.03	-0.01	-0.09	-0.07	-0.13	-0.05	-0.16	-0.44	-0.38	-0.15	15.85	60.53	60.416
1898	-0.05	-0.35	-0.74	-0.49	-0.36	-0.2	-0.25	-0.23	-0.24	-0.44	-0.36	-0.27	-0.33	15.67	60.206	60.38
1899	-0.14	-0.46	-0.47	-0.22	-0.24	-0.34	-0.19	-0.11	-0.08	-0.08	0.1	-0.39	-0.22	15.78	60.404	60.392
1900	-0.2	-0.2	-0.2	-0.15	-0.14	-0.06	-0.11	-0.1	-0.15	0.03	-0.28	-0.02	-0.13	15.87	60.566	60.458
1901	-0.16	-0.23	-0.15	-0.13	-0.14	-0.11	-0.11	-0.13	-0.36	-0.27	-0.45	-0.39	-0.22	15.78	60.404	60.368
1902	-0.19	-0.22	-0.37	-0.43	-0.39	-0.36	-0.36	-0.34	-0.35	-0.42	-0.48	-0.49	-0.37	15.63	60.134	60.182
1903	-0.17	-0.09	-0.3	-0.47	-0.45	-0.52	-0.46	-0.55	-0.54	-0.58	-0.56	-0.63	-0.44	15.56	60.008	60.02
1904	-0.65	-0.52	-0.59	-0.59	-0.51	-0.5	-0.5	-0.49	-0.5	-0.4	-0.31	-0.31	-0.49	15.51	59.918	60.02
1905	-0.47	-0.71	-0.44	-0.53	-0.33	-0.31	-0.3	-0.3	-0.28	-0.37	-0.25	-0.18	-0.37	15.63	60.134	60.104
1906	-0.14	-0.35	-0.29	-0.12	-0.27	-0.26	-0.32	-0.31	-0.34	-0.39	-0.53	-0.29	-0.3	15.7	60.26	60.098
1907	-0.49	-0.55	-0.38	-0.55	-0.61	-0.55	-0.45	-0.49	-0.45	-0.37	-0.6	-0.48	-0.5	15.5	59.9	60.008
1908	-0.44	-0.39	-0.6	-0.54	-0.51	-0.44	-0.49	-0.53	-0.43	-0.6	-0.65	-0.57	-0.52	15.48	59.864	59.894
1909	-0.56	-0.54	-0.67	-0.61	-0.58	-0.5	-0.54	-0.34	-0.29	-0.36	-0.35	-0.61	-0.49	15.51	59.918	59.918
1910	-0.33	-0.49	-0.38	-0.4	-0.49	-0.49	-0.4	-0.44	-0.38	-0.48	-0.61	-0.59	-0.46	15.54	59.972	59.942
1911	-0.52	-0.66	-0.63	-0.64	-0.54	-0.49	-0.44	-0.44	-0.43	-0.4	-0.35	-0.24	-0.48	15.52	59.936	59.99
1912	-0.33	-0.24	-0.39	-0.3	-0.35	-0.27	-0.46	-0.57	-0.54	-0.61	-0.49	-0.39	-0.41	15.59	60.062	60.014
1913	-0.4	-0.47	-0.52	-0.49	-0.58	-0.52	-0.48	-0.37	-0.42	-0.48	-0.24	-0.07	-0.42	15.58	60.044	60.158
1914	-0.04	-0.19	-0.26	-0.34	-0.22	-0.26	-0.32	-0.24	-0.32	-0.1	-0.32	-0.29	-0.24	15.76	60.368	60.326
1915	-0.13	0.05	-0.36	0.03	-0.14	-0.07	-0.07	-0.13	-0.11	-0.26	-0.1	-0.29	-0.13	15.87	60.566	60.362
1916	-0.19	-0.24	-0.41	-0.29	-0.41	-0.48	-0.3	-0.28	-0.34	-0.27	-0.47	-0.68	-0.36	15.64	60.152	60.2
1917	-0.51	-0.84	-0.89	-0.52	-0.75	-0.33	-0.17	-0.24	-0.16	-0.41	-0.33	-0.92	-0.51	15.49	59.882	60.044
1918	-0.4	-0.46	-0.38	-0.56	-0.63	-0.38	-0.4	-0.4	-0.33	-0.03	-0.32	-0.39	-0.39	15.61	60.098	60.08
1919	-0.21	-0.17	-0.42	-0.01	-0.35	-0.25	-0.28	-0.26	-0.18	-0.31	-0.67	-0.47	-0.3	15.7	60.26	60.248
1920	-0.16	-0.45	-0.07	-0.17	-0.09	-0.17	-0.21	-0.1	-0.18	-0.24	-0.47	-0.48	-0.23	15.77	60.386	60.368
1921	-0.09	-0.22	-0.2	-0.13	-0.16	-0.07	-0.14	-0.27	-0.22	-0.18	-0.43	-0.17	-0.19	15.81	60.458	60.368
1922	-0.36	-0.31	-0.31	-0.32	-0.31	-0.28	-0.27	-0.29	-0.29	-0.33	-0.32	-0.26	-0.3	15.7	60.26	60.344
1923	-0.15	-0.45	-0.34	-0.42	-0.29	-0.19	-0.39	-0.39	-0.34	-0.28	0.01	-0.01	-0.27	15.73	60.314	60.26
1924	-0.33	-0.24	-0.31	-0.36	-0.29	-0.24	-0.27	-0.25	-0.31	-0.3	-0.45	-0.58	-0.33	15.67	60.206	60.308
1925	-0.42	-0.31	-0.23	-0.19	-0.29	-0.26	-0.23	-0.12	-0.18	-0.32	-0.12	0.01	-0.22	15.78	60.404	60.422
1926	0.12	0.08	0.04	-0.2	-0.15	-0.14	-0.2	-0.01	-0.13	-0.07	-0.1	-0.14	-0.08	15.92	60.656	60.506
1927	-0.21	-0.14	-0.27	-0.23	-0.24	-0.16	-0.11	-0.1	-0.06	-0.04	-0.2	-0.47	-0.19	15.81	60.458	60.506
1928	-0.1	-0.19	-0.41	-0.32	-0.26	-0.29	-0.16	-0.2	-0.21	-0.18	-0.13	-0.2	-0.22	15.78	60.404	60.332
1929	-0.48	-0.81	-0.41	-0.43	-0.38	-0.34	-0.32	-0.21	-0.28	-0.11	-0.11	-0.6	-0.37	15.63	60.134	60.368

1930	-0.34	-0.19	-0.15	-0.17	-0.21	-0.17	-0.09	-0.05	-0.12	-0.07	0.1	-0.07	-0.13	15.87	60.566	60.47
1931	0.04	-0.26	-0.07	-0.14	-0.12	0.07	0.07	0.04	-0.01	0	-0.17	-0.07	-0.05	15.95	60.71	60.632
1932	0.21	-0.27	-0.3	-0.05	-0.15	-0.1	-0.08	-0.06	0.03	-0.01	-0.21	-0.18	-0.1	15.9	60.62	60.572
1933	-0.27	-0.31	-0.32	-0.19	-0.19	-0.14	-0.12	-0.1	-0.19	-0.13	-0.29	-0.55	-0.23	15.77	60.386	60.536
1934	-0.24	-0.11	-0.36	-0.23	-0.06	0	-0.05	-0.01	-0.11	-0.01	-0.02	-0.1	-0.11	15.89	60.602	60.506
1935	-0.25	0.21	-0.21	-0.29	-0.31	-0.16	-0.1	-0.05	-0.1	0.03	-0.33	-0.22	-0.15	15.85	60.53	60.584
1936	-0.22	-0.38	-0.22	-0.22	-0.11	-0.05	0.11	0.04	-0.05	-0.02	-0.06	0	-0.1	15.9	60.62	60.65
1937	-0.16	0.05	-0.24	-0.11	-0.03	0.07	0.1	0.13	0.21	0.15	0	-0.16	0	16	60.8	60.8
1938	0.08	0.08	0.18	0.19	0.07	0.06	0.11	0.12	0.16	0.25	0.12	-0.26	0.1	16.1	60.98	60.872
1939	0.03	0	-0.19	-0.04	0	0.11	0.09	0.11	-0.01	-0.17	-0.06	0.37	0.02	16.02	60.836	60.848
1940	-0.34	-0.12	-0.14	0.07	-0.07	-0.02	0.13	-0.02	0.08	-0.04	-0.11	0.13	-0.04	15.96	60.728	60.824
1941	0.03	0.14	-0.09	0.11	-0.03	0.08	0.06	0.07	-0.07	0.31	0.04	0.08	0.06	16.06	60.908	60.848
1942	0.25	-0.03	0.04	0.05	0.06	0.14	-0.02	0	0.06	0.12	0.03	-0.04	0.06	16.06	60.908	60.908
1943	-0.19	0.12	-0.21	0.04	0.11	-0.07	0.08	0.07	0.07	0.35	0.1	0.29	0.06	16.06	60.908	61.004
1944	0.47	0.29	0.2	0.11	0.19	0.24	0.24	0.27	0.35	0.32	0.02	-0.06	0.22	16.22	61.196	61.004
1945	0.05	-0.07	-0.02	0.16	-0.08	0.05	0	0.31	0.2	0.28	0.07	-0.21	0.06	16.06	60.908	60.92
1946	0.26	0.2	-0.14	0.13	-0.18	-0.23	-0.1	-0.19	-0.02	-0.07	-0.14	-0.43	-0.08	15.92	60.656	60.74
1947	-0.22	-0.2	-0.04	0.03	-0.13	-0.06	-0.07	-0.11	-0.09	0.08	-0.03	-0.19	-0.08	15.92	60.656	60.656
1948	0.12	-0.18	-0.26	-0.09	0.05	0.06	-0.13	-0.03	-0.08	-0.04	-0.12	-0.22	-0.08	15.92	60.656	60.65
1949	0.15	-0.16	-0.23	-0.02	-0.05	-0.14	-0.14	-0.01	-0.1	-0.01	-0.08	-0.25	-0.09	15.91	60.638	60.584
1950	-0.38	-0.3	-0.16	-0.18	-0.1	-0.1	-0.1	-0.15	-0.07	-0.1	-0.43	-0.23	-0.19	15.81	60.458	60.602
1951	-0.36	-0.5	-0.27	-0.07	0.02	0.07	0.04	0.13	0.11	0.12	-0.03	0.19	-0.05	15.95	60.71	60.668
1952	0.16	0.1	-0.11	0.07	0.04	0.07	0.06	0.1	0.11	0	-0.27	-0.06	0.02	16.02	60.836	60.842
1953	0.09	0.19	0.12	0.22	0.13	0.14	0.07	0.09	0.09	0.09	-0.09	0.06	0.1	16.1	60.98	60.782
1954	-0.28	-0.08	-0.17	-0.22	-0.24	-0.12	-0.19	-0.1	-0.07	-0.04	0.03	-0.28	-0.15	15.85	60.53	60.674
1955	0.11	-0.14	-0.41	-0.27	-0.17	-0.09	-0.16	-0.02	-0.09	-0.09	-0.23	-0.31	-0.16	15.84	60.512	60.458
1956	-0.22	-0.36	-0.32	-0.3	-0.29	-0.21	-0.21	-0.22	-0.28	-0.18	-0.27	-0.2	-0.26	15.74	60.332	60.578
1957	-0.16	-0.11	-0.11	-0.03	0.08	0.15	0.07	0.14	0.11	0.06	0.13	0.25	0.05	16.05	60.89	60.746
1958	0.34	0.23	0.08	0.12	0.11	0.06	0.08	0.07	0	0.08	0.07	0.14	0.12	16.12	61.016	60.926
1959	0.13	0.06	0.14	0.09	0.02	0.11	0.05	0.05	0.11	-0.02	-0.15	-0.08	0.04	16.04	60.872	60.896
1960	0	0.22	-0.29	-0.12	-0.11	0.06	0.01	0.07	0.08	0.03	-0.1	0.19	0	16	60.8	60.842
1961	0.04	0.17	0.1	0.1	0.1	0.12	0	0.03	-0.05	-0.07	-0.02	-0.11	0.03	16.03	60.854	60.842
1962	0.04	0.15	0.03	0.04	0	-0.04	0.04	0.03	0.03	0.1	0.01	0.03	0.04	16.04	60.872	60.884
1963	-0.02	0.22	-0.1	-0.03	-0.02	-0.02	0.11	0.12	0.14	0.25	0.17	-0.01	0.07	16.07	60.926	60.734
1964	-0.01	-0.19	-0.28	-0.23	-0.16	-0.12	-0.16	-0.25	-0.29	-0.3	-0.28	-0.39	-0.22	15.78	60.404	60.614
1965	-0.15	-0.29	-0.23	-0.27	-0.15	-0.11	-0.18	-0.14	-0.1	-0.03	-0.15	-0.08	-0.16	15.84	60.512	60.536
1966	-0.08	-0.08	-0.05	-0.11	-0.12	0.05	0.05	0	0.02	-0.06	-0.08	-0.24	-0.06	15.94	60.692	60.632
1967	-0.19	-0.24	-0.09	-0.04	0.07	-0.07	-0.06	-0.02	-0.05	0.14	-0.08	-0.09	-0.06	15.94	60.692	60.674
1968	-0.27	-0.2	0.09	-0.15	-0.17	-0.06	-0.06	-0.04	-0.06	0.01	-0.03	-0.1	-0.09	15.91	60.638	60.728
1969	-0.25	-0.17	0.02	0.12	0.11	0.03	0.06	0.02	0.04	0.04	0.11	0.18	0.03	16.03	60.854	60.746
1970	0.07	0.21	-0.05	0.09	-0.01	-0.01	-0.05	-0.09	-0.06	-0.12	-0.06	-0.24	-0.03	15.97	60.746	60.686
1971	-0.1	-0.35	-0.3	-0.25	-0.2	-0.25	-0.16	-0.13	-0.14	-0.13	-0.08	-0.18	-0.19	15.81	60.458	60.632
1972	-0.42	-0.3	-0.13	-0.04	-0.05	0.02	-0.02	0.05	-0.04	0.05	0.01	0.15	-0.06	15.94	60.692	60.698

1973	0.17	0.28	0.2	0.15	0.12	0.15	0.07	0.04	-0.03	0	-0.09	-0.05	0.08	16.08	60.944	60.704
1974	-0.34	-0.36	-0.2	-0.15	-0.13	-0.11	-0.09	-0.07	-0.14	-0.12	-0.18	-0.27	-0.18	15.82	60.476	60.668
1975	-0.03	-0.07	-0.02	-0.06	-0.03	-0.08	-0.11	-0.16	-0.06	-0.2	-0.27	-0.3	-0.12	15.88	60.584	60.488
1976	-0.17	-0.31	-0.39	-0.16	-0.28	-0.18	-0.18	-0.18	-0.16	-0.33	-0.19	-0.14	-0.22	15.78	60.404	60.632
1977	-0.15	0.08	0.14	0.14	0.1	0.13	0.05	0	0.08	0.01	0.16	-0.05	0.06	16.06	60.908	60.686
1978	0.05	0.01	0.06	-0.01	-0.07	-0.13	-0.05	-0.16	-0.05	-0.08	0.07	-0.06	-0.03	15.97	60.746	60.854
1979	-0.05	-0.1	0.04	-0.09	-0.02	0.07	0.01	0.07	0.12	0.16	0.16	0.39	0.06	16.06	60.908	60.878
1980	0.16	0.16	0.05	0.13	0.19	0.13	0.08	0.05	0	0.02	0.19	0.08	0.1	16.1	60.98	60.98
1981	0.34	0.2	0.23	0.18	0.05	0.1	0.02	0.1	0.06	0.03	0.05	0.28	0.14	16.14	61.052	60.974
1982	0	0.05	-0.06	0.09	0.07	-0.02	0.01	0	0.11	0.09	0.02	0.3	0.05	16.05	60.89	61.058
1983	0.47	0.4	0.28	0.18	0.16	0.16	0.18	0.25	0.23	0.15	0.28	0.14	0.24	16.24	61.232	60.986
1984	0.17	0.04	0.09	-0.01	0.15	0.01	0.01	0.09	0.02	-0.01	-0.11	-0.27	0.02	16.02	60.836	60.956
1985	0.02	-0.13	0.01	0.02	0.05	-0.04	-0.05	0.05	0	0.05	-0.02	0.02	0	16	60.8	60.866
1986	0.17	0.14	0.11	0.11	0.1	0.13	0.04	0.05	0.07	0.12	0.02	0.06	0.09	16.09	60.962	60.992
1987	0.17	0.35	0.06	0.15	0.19	0.17	0.3	0.28	0.33	0.22	0.2	0.38	0.23	16.23	61.214	61.142
1988	0.42	0.24	0.31	0.32	0.27	0.28	0.2	0.21	0.24	0.2	0.09	0.22	0.25	16.25	61.25	61.196
1989	0.12	0.2	0.2	0.13	0.12	0.12	0.22	0.21	0.18	0.23	0.15	0.26	0.18	16.18	61.124	61.268
1990	0.28	0.37	0.58	0.38	0.27	0.33	0.27	0.3	0.24	0.41	0.42	0.3	0.35	16.35	61.43	61.292
1991	0.35	0.4	0.24	0.42	0.31	0.39	0.36	0.27	0.25	0.24	0.15	0.15	0.29	16.29	61.322	61.274
1992	0.39	0.37	0.31	0.15	0.19	0.17	-0.02	0.04	0.01	0.02	-0.02	0.15	0.15	16.15	61.07	61.178
1993	0.35	0.36	0.3	0.23	0.25	0.16	0.15	0.11	0.05	0.15	-0.01	0.15	0.19	16.19	61.142	61.16
1994	0.23	-0.01	0.26	0.28	0.29	0.27	0.23	0.25	0.26	0.35	0.44	0.31	0.26	16.26	61.268	61.304
1995	0.5	0.64	0.4	0.3	0.29	0.37	0.4	0.44	0.33	0.4	0.38	0.25	0.39	16.39	61.502	61.322
1996	0.18	0.36	0.23	0.16	0.28	0.25	0.28	0.22	0.17	0.13	0.16	0.28	0.22	16.22	61.196	61.424
1997	0.28	0.36	0.36	0.32	0.31	0.43	0.45	0.48	0.52	0.59	0.49	0.53	0.43	16.43	61.574	61.385

Anomalies are expressed in degrees Celsius and are relative to the 1961-1990 mean.

Atmospheric carbon dioxide record from Mauna Loa

[Graphics](#)[Digital Data](#)

C.D. Keeling, T.P. Whorf

Scripps Institution of Oceanography, University of California, La Jolla, California 92093-0220, U.S.A.

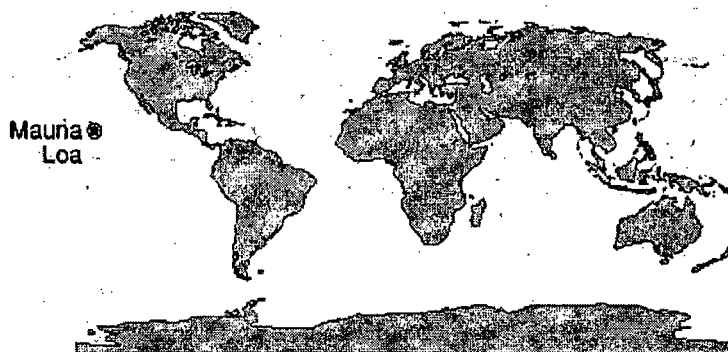
Period of Record

1958-1996

Methods

Air samples at Mauna Loa are collected continuously from air intakes at the top of four 7-m towers and one 27-m tower. Four air samples are collected each hour for the purpose of determining the CO₂ concentration. Determinations of CO₂ are made by using a Siemens Ultramat 3 nondispersive infrared gas analyzer with a water vapor freeze trap. This analyzer registers the concentration of CO₂ in a stream of air flowing at ~0.5 L/min. Every 20 minutes, the flow is replaced by a stream of calibrating gas or "working reference gas". In December 1983, CO₂-in-N₂ calibration gases were replaced with the currently used CO₂-in-air calibration gases. These calibration gases and other reference gases are compared periodically to determine the instrument sensitivity and to check for possible contamination in the air-handling system. These reference gases are themselves calibrated against specific standard gases whose CO₂ concentrations are determined manometrically. Greater details about the sampling methods at Mauna Loa are given in Keeling et al. (1982).

Hourly averages of atmospheric CO₂ concentration, wind speed, and wind direction are plotted as a basis for selecting data for further processing. Data are selected for periods of steady hourly data to within ~0.5 parts per million by volume (ppmv); at least six consecutive hours of steady data are required to form a daily average. Greater details about the data selection criteria used at Mauna Loa are given in Bacastow et al. (1985).



*Mauna Loa, Hawaii, U.S.A.
Barren lava field of an active volcano
19°32' N, 155°35' W, 3397 m above MSL*

Trends

The Mauna Loa atmospheric CO₂ measurements constitute the longest continuous record of atmospheric CO₂ concentrations available in the world. The Mauna Loa site is considered one of the most favorable locations for measuring undisturbed air because possible local influences of vegetation or human activities on atmospheric CO₂ concentrations are minimal and any influences from volcanic vents may be excluded from the records. The methods and equipment used to obtain these measurements have remained essentially unchanged during the 39-year monitoring program.

Because of the favorable site location, continuous monitoring, and careful selection and scrutiny of the data, the Mauna Loa record is considered to be a precise record and a reliable indicator of the regional trend in the concentrations of atmospheric CO₂ in the middle layers of the troposphere. The Mauna Loa record shows a 14.8% increase in the mean annual concentration, from 315.83 parts per million by volume (ppmv) of dry air in 1959 to 362.57 ppmv in 1996.

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*** Atmospheric CO2 concentrations (ppmv) derived from in situ ***
*** air samples collected at Mauna Loa Observatory, Hawaii ***
***
*** Source: C.D. Keeling ***
*** T.P. Whorf ***
*** Scripps Institution of Oceanography ***
*** University of California ***
*** La Jolla, California USA 92093-0220 ***
***
*** August 1997 ***
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Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1958	-99.99	-99.99	315.56	317.29	317.34	-99.99	315.69	314.78	313.05	-99.99	313.18	314.50	-99.99
1959	315.42	316.31	316.50	317.56	318.13	318.00	316.39	314.65	313.68	313.18	314.66	315.43	315.83
1960	316.27	316.81	317.42	318.87	319.87	319.43	318.01	315.74	314.00	313.68	314.84	316.03	316.75
1961	316.73	317.54	318.38	319.31	320.42	319.61	318.42	316.63	314.83	315.16	315.94	316.85	317.49
1962	317.78	318.40	319.53	320.42	320.85	320.45	319.45	317.25	316.11	315.27	316.53	317.53	318.30
1963	318.58	318.92	319.70	321.22	322.08	321.31	319.58	317.61	316.05	315.83	316.91	318.20	318.83
1964	319.41	-99.99	-99.99	-99.99	322.06	321.73	320.27	318.53	316.54	316.72	317.53	318.55	-99.99
1965	319.27	320.28	320.73	321.97	322.00	321.71	321.05	318.71	317.66	317.14	318.70	319.25	319.87
1966	320.46	321.43	322.23	323.54	323.91	323.59	322.24	320.20	318.48	317.94	319.63	320.87	321.21
1967	322.17	322.34	322.88	324.25	324.83	323.93	322.38	320.76	319.10	319.24	320.56	321.80	322.02
1968	322.40	322.99	323.73	324.86	325.40	325.20	323.98	321.95	320.18	320.09	321.16	322.74	322.89
1969	323.83	324.27	325.47	326.50	327.21	326.54	325.72	323.50	322.22	321.62	322.69	323.95	324.46
1970	324.89	325.82	326.77	327.97	327.91	327.50	326.18	324.53	322.93	322.90	323.85	324.96	325.52
1971	326.01	326.51	327.01	327.62	328.76	328.40	327.20	325.27	323.20	323.40	324.63	325.85	326.16
1972	326.60	327.47	327.58	329.56	329.90	328.92	327.88	326.16	324.68	325.04	326.34	327.39	327.29
1973	328.37	329.40	330.14	331.33	332.31	331.90	330.70	329.15	327.35	327.02	327.99	328.48	329.51
1974	329.18	330.55	331.32	332.48	332.92	332.08	331.01	329.23	327.27	327.21	328.29	329.41	330.08
1975	330.23	331.25	331.87	333.14	333.80	333.43	331.73	329.90	328.40	328.17	329.32	330.59	330.99
1976	331.58	332.39	333.33	334.41	334.71	334.17	332.89	330.77	329.14	328.78	330.14	331.52	331.98
1977	332.75	333.24	334.53	335.90	336.57	336.10	334.76	332.59	331.42	330.98	332.24	333.68	333.73
1978	334.80	335.22	336.47	337.59	337.84	337.72	336.37	334.51	332.60	332.38	333.75	334.78	335.34
1979	336.05	336.59	337.79	338.71	339.30	339.12	337.56	335.92	333.75	333.70	335.12	336.56	336.68
1980	337.84	338.19	339.91	340.60	341.29	341.00	339.39	337.43	335.72	335.84	336.93	338.04	338.52
1981	339.06	340.30	341.21	342.33	342.74	342.08	340.32	338.26	336.52	336.68	338.19	339.44	339.76
1982	340.57	341.44	342.53	343.39	343.96	343.18	341.88	339.65	337.81	337.69	339.09	340.32	340.96
1983	341.20	342.35	342.93	344.77	345.58	345.14	343.81	342.21	339.69	339.82	340.98	342.82	342.61
1984	343.52	344.33	345.11	346.88	347.25	346.62	345.22	343.11	340.90	341.18	342.80	344.04	344.25
1985	344.79	345.82	347.25	348.17	348.74	348.07	346.38	344.51	342.92	342.62	344.06	345.38	345.73
1986	346.11	346.78	347.68	349.37	350.03	349.37	347.76	345.73	344.68	343.99	345.48	346.72	346.97
1987	347.84	348.29	349.23	350.80	351.66	351.07	349.33	347.92	346.27	346.18	347.64	348.78	348.75
1988	350.25	351.54	352.05	353.41	354.04	353.62	352.22	350.27	348.55	348.72	349.91	351.18	351.31
1989	352.60	352.92	353.53	355.26	355.52	354.97	353.75	351.52	349.64	349.83	351.14	352.37	352.75
1990	353.50	354.55	355.23	356.04	357.00	356.07	354.67	352.76	350.82	351.04	352.69	354.07	354.04
1991	354.59	355.63	357.03	358.48	359.22	358.12	356.06	353.92	352.05	352.11	353.64	354.89	355.48
1992	355.88	356.63	357.72	359.07	359.58	359.17	356.94	354.92	352.94	353.23	354.09	355.33	356.29

1993	356.63	357.10	358.32	359.41	360.23	359.55	357.53	355.48	353.67	353.95	355.30	356.78	356.99
1994	358.34	358.89	359.95	361.25	361.67	360.94	359.55	357.49	355.84	356.00	357.59	359.05	358.88
1995	359.98	361.03	361.66	363.48	363.82	363.30	361.93	359.49	358.08	357.77	359.57	360.69	360.90
1996	362.03	363.22	363.99	364.66	365.36	364.91	363.58	361.41	359.37	359.50	360.65	362.21	362.57

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OPTIONAL FORM 99 (7-90)

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of pages ▶ 4

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Fax #	395-6853	Fax #	202-260-6405

NSN 7540-01-317-7388

5099-101

GENERAL SERVICES ADMINISTRATION

Sea Level
Rise Data

Table 4. Regional and National Coastal Wetland Losses

Region	Standard Protection	Total Protection			Standard Protection			No Protection		
	<u>Baseline</u>	<u>50 cm</u>	<u>100 cm</u>	<u>200 cm</u>	<u>50 cm</u>	<u>100 cm</u>	<u>200 cm</u>	<u>50 cm</u>	<u>100 cm</u>	<u>200 cm</u>
<u>Northeast</u>										
Best estimate (sq mi)	39	88	93	100	55	58	33	27	8	-67
Best estimate (%)	7	15	16	17	9	10	6	5	1	-11
Sampling error (sq mi)	20	56	60	64	29	34	25	43	69	112
<u>Mid-Atlantic</u>										
Best estimate (sq mi)	-39	485	520	625	201	341	429	120	280	361
Best estimate (%)	-5	65	70	84	27	46	58	16	38	48
Sampling error (sq mi)	87	197	200	208	273	238	247	270	232	241
<u>South Atlantic</u>										
Best estimate (sq mi)	59	2295	2422	2542	1438	1669	1812	1313	1516	1606
Best estimate (%)	-2	60	64	67	38	44	48	34	40	42
Sampling error (sq mi)	201	526	506	510	516	558	621	517	573	656
<u>South/Gulf Coast of Florida Peninsula</u>										
Best estimate (sq mi)	-157	623	829	1020	92	157	165	63	122	120
Best estimate (%)	-8	33	44	55	5	8	9	3	7	6
Sampling error (sq mi)	110	274	380	477	230	313	474	235	320	481
<u>Louisiana</u>										
Best estimate (sq mi)	2271	2450	3742	4758	2368	3732	4686	2354	3732	4685
Best estimate (%)	52	56	85	99	54	85	99	54	85	99
Sampling error (sq mi)	421	338	735	882	385	735	902	385	735	902
<u>Florida Panhandle, Alabama, Mississippi, Texas</u>										
Best estimate (sq mi)	270	530	1031	1121	396	932	994	360	918	982
Best estimate (%)	22	44	85	92	33	77	82	30	75	81
Sampling error (sq mi)	209	279	761	812	306	779	821	319	779	823

Table 4. Regional and National Coastal Wetland Losses (continued)

West Coast

Best estimate (sq mi)	-71	37	36	39	-286	-440	-651	-332	-518	-791
Best estimate (%)	-111	58	56	61	-447	-688	-1017	-519	-809	-1236
Sampling error (sq mi)	44	22	21	23	202	282	336	209	280	371

Southeast (original 11,735)

Wetlands Lost:										
Best estimate (sq mi)	2,325	5899	8024	9443	4296	6491	7647	4090	6289	7342
Best estimate (%)	+20	50	68	80	37	55	65	35	54	63
95% low (sq mi)	a	4408(37)	5535(47)	a	2783(24)	3976(34)	4722(40)	2563(22)	3572(30)	4379(37)
95% high (sq mi)	a	7390(63)	10513(90)	a	5809(50)	9006(77)	10572(90)	5617(48)	8826(75)	10305(88)

Wetlands Left: ^b										
Best estimate (sq mi)	NC	NC	2843	2294	NC	NC	NC	NC	NC	NC
Best estimate (%)	NC	NC	24	20	NC	NC	NC	NC	NC	NC
95% low (sq mi)	NC	NC	779	848	NC	NC	NC	NC	NC	NC
95% high (sq mi)	NC	NC	4907	3740	NC	NC	NC	NC	NC	NC

United States (original 13,145)

Wetlands Lost:										
Best estimate (sq mi)	2255	6511	8673	10206	4263	6441	7423	3904	6046	6892
Best estimate (%)	17	50	66	78	32	49	56	30	50	52
95% low (sq mi)	1168(9)	4944(38)	a	a	2591(20)	3813(29)	4350(33)	2216(17)	3388(26)	3758(29)
95% high (sq mi)	3341(25)	8077(61)	a	a	5934(45)	9068(69)	10495(80)	5592(43)	8703(66)	10025(76)

Wetlands Left: ^b										
Best estimate (sq mi)	NC	NC	4472	2897	NC	NC	NC	NC	NC	NC
Best estimate (%)	NC	NC	34	22	NC	NC	NC	NC	NC	NC
95% low (sq mi)	NC	NC	2302(18)	1302(10)	NC	NC	NC	NC	NC	NC
95% high (sq mi)	NC	NC	6642(51)	4492(34)	NC	NC	NC	NC	NC	NC

NC = Not calculated.

^a = Confidence intervals not calculated for cases where sampling error exceeds best estimate.^b = Wetlands left only calculated for cases when sampling error exceeded best estimate for wetlands lost.

Table 5. Loss of Dryland

		(Square Miles)			
	<u>Baseline</u>	<u>50 cm</u>	<u>100 cm</u>	<u>200 cm</u>	
<u>Northeast</u>					
No Protection	nc	139	235	472	
Standard Protection	32	71	126	262	
<u>Mid Atlantic</u>					
No Protection	nc	904	1205	1771	
Standard Protection	448	705	928	1385	
<u>South Atlantic</u>					
No Protection	nc	1094	1600	2561	
Standard Protection	493	886	1272	2023	
<u>South Florida and Gulf Coast of Florida Peninsula</u>					
No Protection	nc	768	1278	2035	
Standard Protection	272	717	1196	1907	
<u>Louisiana</u>					
No Protection	nc	1364	1417	1638	
Standard Protection	1178	1249	1295	1449	
<u>Florida Panhandle, Alabama, Mississippi, and Texas</u>					
No Protection	nc	905	1091	1548	
Standard Protection	563	809	976	1405	
<u>Pacific Coast</u>					
No Protection	nc	511	903	1771	
Standard Protection	92	444	867	1537	
<u>United States</u>					
No Protection		5313	7727	11793	
Best Estimate	nc	989	1289	1783	
Error	nc	7311	10330	15394	
95% High	nc	3315	5123	8191	
95% Low	nc				
<u>Standard Protection</u>					
Best Estimate	3078	4164	6661	9967	
Error	804	982	1250	1747	
95% High	4686	6147	9186	13496	
95% Low	1470	2180	4136	6438	

5685

Table 5. Loss of Dryland (continued)

		(Square Miles)			
		<u>Baseline</u>	<u>50 cm</u>	<u>100 cm</u>	<u>200 cm</u>
<u>Southeast</u>					
No Protection					
Best Estimate	nc	4131	5386	7782	
Error	nc	890	1084	1478	
95% High	nc	5929	3196	4796	
95% Low	nc	2333	7576	10767	
Standard Protection					
Best Estimate	nc	3661	4739	7116	
Error	nc	888	1075	1460	
95% High	nc	5455	6910	10065	
95% Low	nc	1867	2567	4166	

nc = not calculated.

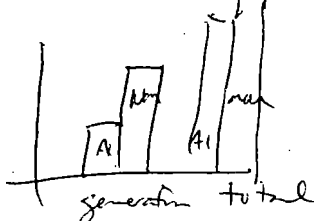


Table 27. Cumulative Projected Worldwide Electric Power Investments by Region, 1995-2010
(Billion Nominal Dollars)

Investment Type	^{A1} North America	Latin America	^{A1} Western Europe	China	^{A1} OECD Pacific Rim	East Asia	South Asia	Central and Eastern Europe	^{A1} FSU	Middle East	Africa	World Total
Generation												
Solid Fuel	94	22	102	222	51	100	71	19	24	2	27	734
Natural Gas	32	23	89	1	14	41	13	10	33	27	16	298
Oil	1	8	1	0	0	1	1	7	2	2	6	29
Nuclear	6	3	8	18	39	21	6	3	26	0	0	129
Renewable	17	52	15	67	5	6	48	5	13	3	5	235
→ Subtotal	149	108	215	308	108	169	139	44	98	34	54	1,426
Other Investments												
Transmission	14	42	20	31	10	28	23	3	14	4	12	200
Distribution	54	36	78	84	39	61	60	11	30	10	19	480
General	14	17	20	43	10	17	21	6	14	5	7	173
Subtotal	82	94	118	156	59	105	103	19	58	18	38	854
→ Total	231	202	333	467	167	275	242	63	156	52	91	2,279
Annual Average	15	13	25	31	11	18	16	4	10	3	6	152

Note: North America includes Canada and the United States; Western Europe includes European Union countries, Finland, Switzerland, Iceland, Norway, and Turkey. OECD Pacific Rim includes Australia, Japan, and New Zealand. Central and Eastern Europe includes Albania, Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovakia, former Yugoslavia. East Asia includes Brunei, Hong Kong, Indonesia, Kampuchea, Laos, Malaysia, North Korea, Papua New Guinea, Philippines, Singapore, Republic of Korea, Taiwan, Thailand, Vietnam, Pacific Islands, Afghanistan, Mongolia. South Asia includes Pakistan, India, Bangladesh, Nepal, Sri Lanka. Latin America includes Mexico and all South and Central American nations, as well as the nations of the Caribbean. Middle East includes Israel, Jordan, Iran, Iraq, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, United Arab Emirates, and Yemen.

Source: Estimates by Resource Dynamics, based on International Energy Agency, *World Energy Outlook 1995* (Paris, France, 1995), Capacity Constraints Scenario, base case.

barriers for domestic or foreign investors has spawned the development of independent power producers that significantly augment power generation capacity.

Although global capital markets and the global pool of savings are considered adequate to the task of funding future electricity investments, for several nations investment funds may not be forthcoming unless difficult electricity policy reforms are adopted. These reforms are necessary in order to provide investors (both foreign and domestic) with expectations of achieving adequate rates of return at acceptable levels of risk. The state and methodology of policy reform varies widely among developing nations. Clearly, however, there is strong pressure toward reform. Significant policy reforms are underway in developed countries as well, where the pressure for reform stems from an expectation that increased competition will reduce the cost of electricity. The precise character of reform varies widely among countries, and in most areas it is still evolving.

Regional Highlights

Developing Asia

Of all the regions, Asia is expected to show the most rapid increase in economic growth and electricity con-

sumption over the next few decades. Whereas developing Asia accounted for only 16 percent of total world electricity consumption in 1995, it is expected to account for 42 percent of demand growth between now and 2020.

China

In part, China's vast size will drive the growth of electricity demand. China, with 1.2 billion people, is the world's most populous nation. It also has had one of the fastest growing economies in recent years, a trend that is projected to continue, although at a reduced rate.

Electricity consumption in China is expected to grow at a 5.8-percent annual rate over the forecast period. The high level of coal use in China's electricity industry reflects the country's ample coal reserves. China accounts for nearly one-third of all world coal production [4, p. 73] and has about 11 percent of the world's coal reserves [2, p. 30]. As a consequence, coal accounted for 76 percent of China's electricity fuel in 1995 (Figure 76). That share is expected to fall slightly by 2020, even while overall coal consumption increases threefold. Renewables (largely hydropower), which accounted for 19 percent of China's electricity consumption in 1995, are expected to have a 14-percent share of the power

APPENDIX I

TABLE 1

MEMBER STATES	EMISSION REDUCTIONS IN 2010 FOR CO ₂ , CH ₄ , AND N ₂ O TOGETHER (GWP100 WEIGHTED), COMPARED TO 1990
BELGIUM	-10%
DENMARK	-25%
GERMANY	-25%
GREECE	+30%
SPAIN	+17%
FRANCE	0%
IRELAND	+15%
ITALY	-7%
LUXEMBOURG	-30%
NETHERLANDS	-10%
AUSTRIA	-25%
PORTUGAL	+40%
FINLAND	0%
SWEDEN	+5%
UNITED KINGDOM	-10%

ESTONIA	1994	4821
KAZAKHS	1994	67307
KYRGYZS	1994	1987
LATVIA	1994	2981
LITHUANI	1994	4169
GEORGIA	1994	1874
RUSSIAN	1994	439028
TAJIKIST	1994	633
TURKME	1994	8122
UKRAINE	1994	112354
UZBEKIS	1994	28738
TOTAL		703949
ARMENIA	1995	996
AZERBAIJ	1995	11620
BELARUS	1995	16185
ESTONIA	1995	4488
KAZAKHS	1995	60447
KYRGYZS	1995	1491
LATVIA	1995	2543
LITHUANI	1995	4043
GEORGIA	1995	2114
RUSSIAN	1995	496182
TAJIKIST	1995	1021
TURKME	1995	7733
UKRAINE	1995	119599
UZBEKIS	1995	26986
TOTAL		755448

CPIU 7.013

Fuel 0.1
HH Fuel .261

GAS
High
Gas rate
with Gas Elec
Elec 1.248
↑ 3.3 %

Appendix 3.

12:00 Sat
by Liberty Bell

Goods

GDP

1995	1996
0	0 Bermuda
477338	484359 Canada
0	0 Greenlan
154601	162435 Mexico
0	0 Saint Pier
5450200	5600800 United St
0	0 Antarctica
0	0 Antigua a
129107	134604 Argentina
0	0 Aruba
2916	0 Bahamas,
1540	0 Barbados
465	471 Belize
5900	0 Bolivia
332616	0 Brazil
0	0 Cayman I
36009	38610 Chile
50581	51628 Colombia
6423	6378 Costa Ric
0	0 Cuba
155	0 Dominica
6720	7213 Dominica
14249	14667 Ecuador
6113	7265 El Salvad
0	0 Falkland I
0	0 French G
191	0 Grenada
0	0 Guadelou
9715	10021 Guatemal
430	0 Guyana
1696	1743 Haiti
5380	5543 Honduras
3810	4031 Jamaica
0	0 Martiniqu
0	0 Montserra
0	0 Netherlan
3609	3819 Nicaragua
6189	6345 Panama
5057	5121 Paraguay
27890	28605 Peru
31972	0 Puerto Ri
0	0 Saint Kitts
0	0 Saint Luci
205	0 Saint Vinc
0	0 Suriname
4882	0 Trinidad a
0	0 Turks and
8418	8830 Uruguay

57984	57053 Venezuel
0	0 Virgin Isla
0	0 Virgin Isla
144703	147346 Austria
166940	169444 Belgium
0	0 Bosnia an
0	0 Croatia
117631	120499 Denmark
0	0 Faroe Isla
92833	96242 Finland
0	0 Former Y
1041766	1056967 France
1500645	1520634 Germany
0	0 Germany,
0	0 Germany,
0	0 Gibraltar
53230	54614 Greece
5667	5989 Iceland
50428	54322 Ireland
884548	890676 Italy
8775	0 Luxembo
0	0 Macedoni
2603	0 Malta
265482	274856 Netherlan
102173	107560 Norway
51147	52670 Portugal
0	0 Serbia an
6913.31157	7127 Slovenia
357489	365124 Spain
171862	173753 Sweden
186758	186404 Switzerlan
113518	121464 Turkey
786546	803346 United Kin
0	0 Albania
2510	2643 Armenia
2644	2678 Azerbaija
16408	16835 Belarus
22307	20115 Bulgaria
32671	34098 Czech Re
3580	3723 Estonia
0	0 Former C
0	0 Former U.
2247	2494 Georgia
22235	22462 Hungary
13742	13893 Kazakhst
2293	2421 Kyrgyzsta
5114	5257 Latvia
4192	4343 Lithuania
3064	2837 Moldova
65974	69932 Poland
27881	28918 Romania

246882	235126 Russia
14824	15854 Slovakia
1568	1344 Tajikistan
3049	2932 Turkmeni
52606	47780 Ukraine
13793	14014 Uzbekista
4536	4650 Bahrain
5875	0 Cyprus
188123	195836 Iran
0	0 Iraq
58904	61497 Israel
7747	8153 Jordan
22929	23480 Kuwait
0	0 Lebanon
13128	13890 Oman
6532	6695 Qatar
97286	97278 Saudi Ara
17592	18559 Syria
32794	33122 United Ar
0	0 Yemen
69633	73114 Algeria
0	0 Angola
2033	0 Benin
2655	2840 Botswana
0	0 Burkina F
0	0 Burundi
8451	8751 Cameroo
0	0 Cape Ver
1163	1085 Central Af
0	0 Chad
0	0 Comoros
0	0 Congo (Br
5065	5130 Congo (Ki
10028	10680 Cote d'Ivo
0	0 Djibouti
43733	45971 Egypt
0	0 Equatorial
0	0 Eritrea
7325	8263 Ethiopia
4732	4909 Gabon
0	0 Gambia,
7191	7565 Ghana
0	0 Guinea
0	0 Guinea-Bi
10066	10484 Kenya
0	0 Lesotho
0	0 Liberia
23552	24141 Libya
2787	2851 Madagasc
1357	0 Malawi
0	0 Mali

0	0 Mauritani
2777	2928 Mauritius
22664	25376 Morocco
0	0 Mozambiq
2296	2330 Namibia
0	0 Niger
39349	40608 Nigeria
0	0 Reunion
0	0 Rwanda
0	0 Saint Hele
0	0 Sao Tome
0	0 Senegal
0	0 Seychelle
467	0 Sierra Leo
0	0 Somalia
90156	93055 South Afri
0	0 Sudan
2920	0 Swaziland
5117	5373 Tanzania
0	0 Togo
12848	13715 Tunisia
10629	11532 Uganda
0	0 Western
2018	2148 Zambia
6623	6987 Zimbabwe
0	0 Afghanist
0	0 American
261363	271692 Australia
24297	25589 Banglade
413	439 Bhutan
0	0 Brunei
13112	13855 Burma
0	0 Cambodia
538181	590385 China
0	0 Cook Isla
0	0 Fiji
0	0 French Po
0	0 Guam
0	0 Hawaiian
68984	72036 Hong Kon
382260	0 India
129609	139741 Indonesia
3028685	3136421 Japan
0	0 Kiribati
0	0 Korea, No
253664	271740 Korea, So
1770	1889 Laos
0	0 Macau
62769	0 Malaysia
126	0 Maldives
0	0 Mongolia

0	0 Nauru
4369	4664 Nepal
0	0 New Cale
43938	44850 New Zeal
0	0 Niue
49589	52400 Pakistan
0	0 Papua Ne
43200	45258 Philippine
0	0 Samoa
39775	42686 Singapore
0	0 Solomon I
0	0 Sri Lanka
172517	181816 Taiwan
106250	0 Thailand
0	0 Tonga
0	0 U.S. Pacif
152	0 Vanuatu
64511	0 Vietnam
0	0 Wake Isla

Table H1 World Carbon Dioxide Emissions from the Consumption and Flaring of Fossil Fuels, 1980-1996

(Million Metric Tons of Carbon)

Country	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Bermuda	0.157	0.135	0.14	0.152	0.149	0.148	0.139	0.195	0.214	0.26	0.181	0.151	0.122	0.142	0.138	0.137	0.152
Canada	125.2	118.8	112.1	111	114.6	118.7	114.7	119.7	129.5	133.6	127.1	124.5	128.5	127.2	132.3	136.7	141.3
Greenland	0.001	0.001	0.001	0.001	0.001	0	0	0	0	0	0	0	0	0	0	0	0
Mexico	68.09	73.75	72.91	69.58	74.14	72.71	75.03	76.17	77.05	79.11	78.81	82.69	87.71	88.75	90.08	82.91	86.32
Saint Pierre and Miquelon	0.039	0.041	0.042	0.04	0.041	0.038	0.048	0.061	0.064	0.073	0.072	0.068	0.063	0.034	0.035	0.023	0.028
United States	1291	1257	1190	1183	1247	1247	1248	1288	1351	1363	1348	1333	1354	1384	1404	1415	1466
North America	1484	1450	1375	1364	1436	1439	1437	1485	1557	1576	1554	1540	1570	1600	1627	1635	1694
Antarctica	0.043	0.042	0.029	0.042	0.043	0.061	0.055	0.056	0.058	0.057	0.058	0.061	0.061	0.06	0.06	0.062	0.062
Antigua and Barbuda	0.095	0.085	0.122	0.06	0.067	0.089	0.089	0.108	0.111	0.111	0.116	0.114	0.114	0.119	0.125	0.136	0.125
Argentina	25.34	24.74	25.82	26.19	27.76	24.98	27.65	29.25	29.72	29.62	27.17	28.33	30.95	33.45	32.31	32.78	35.08
Aruba	0	0	0	0	0	0	0	0	0.116	0.151	0.159	0.173	0.185	0.19	0.201	0.235	0.247
Bahamas, The	1.208	1.197	1.095	0.844	0.756	0.682	0.665	0.737	0.677	0.773	0.821	0.708	0.605	0.627	0.723	0.858	0.965
Barbados	0.281	0.279	0.296	0.313	0.302	0.337	0.364	0.343	0.326	0.349	0.362	0.367	0.371	0.37	0.343	0.314	0.306
Belize	0.056	0.058	0.055	0.049	0.053	0.06	0.072	0.057	0.042	0.06	0.086	0.097	0.083	0.081	0.077	0.089	0.089
Bolivia	1.198	1.227	1.016	1.191	1.106	1.008	1.031	1.007	1.141	1.296	1.376	1.341	1.68	1.817	2.19	1.809	1.717
Brazil	51.85	48.47	47.59	44.56	48.64	51.14	55.65	57.45	57.74	59.61	57.77	60.42	60.83	65.41	64.17	64.25	71.22
Cayman Islands	0.027	0.03	0.03	0.029	0.03	0.031	0.031	0.03	0.074	0.075	0.076	0.082	0.083	0.078	0.084	0.091	0.093
Chile	6.84	6.334	5.299	5.506	5.677	5.374	5.174	5.404	6.408	7.823	8.264	8.061	8.499	9.054	10.11	10.72	11
Colombia	10.78	11.04	11.55	11.77	12.08	12.06	12.23	11.64	12.91	12.97	13.09	13.95	15.14	14.37	13.85	13.03	14.1
Costa Rica	0.668	0.666	0.62	0.659	0.582	0.61	0.559	0.651	0.758	0.815	0.764	0.812	1.016	1.088	1.084	1.265	1.291
Cuba	8.76	8.965	9.808	8.839	9.205	9.407	10.07	9.858	10.01	10.24	9.958	9.236	8.208	8.036	7.904	7.378	7.289
Dominica	0.006	0.009	0.009	0.009	0.009	0.011	0.011	0.012	0.015	0.016	0.016	0.016	0.016	0.017	0.019	0.022	0.023
Dominican Republic	1.587	1.504	1.63	1.93	1.763	1.893	1.91	2.258	2.335	2.392	2.452	2.405	2.775	2.408	2.673	2.942	2.957
Ecuador	3.66	3.859	4.234	3.681	3.611	3.698	4.298	3.953	4.209	4.107	4.289	4.61	5.281	4.544	4.818	4.986	5.116
El Salvador	0.551	0.501	0.466	0.515	0.498	0.555	0.626	0.609	0.655	0.654	0.695	0.783	0.9	0.879	0.971	1.236	1.192
Falkland Islands	0.003	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.009	0.008	0.007	0.007	0.007	0.007	0.007	0.008	0.008
French Guiana	0.101	0.086	0.111	0.115	0.092	0.093	0.106	0.119	0.142	0.159	0.188	0.213	0.172	0.236	0.234	0.261	0.254
Grenada	0.013	0.015	0.016	0.015	0.017	0.017	0.019	0.02	0.021	0.022	0.034	0.034	0.035	0.038	0.044	0.041	0.038
Guadeloupe	0.138	0.198	0.229	0.232	0.249	0.237	0.258	0.301	0.331	0.368	0.397	0.416	0.377	0.443	0.448	0.46	0.473
Guatemala	1.204	1.037	1.046	1.051	0.916	1.019	0.892	0.893	0.979	0.994	1.043	0.993	1.192	1.297	1.457	1.417	1.446
Guyana	0.439	0.48	0.385	0.339	0.36	0.401	0.384	0.292	0.291	0.192	0.185	0.219	0.24	0.312	0.311	0.262	0.294
Haiti	0.239	0.17	0.238	0.209	0.209	0.239	0.223	0.353	0.395	0.342	0.203	0.217	0.239	0.175	0.145	0.253	0.24
Honduras	0.477	0.431	0.443	0.466	0.486	0.463	0.475	0.465	0.536	0.65	0.747	0.731	0.741	0.734	0.809	0.935	0.937
Jamaica	2.244	1.559	1.722	1.862	1.471	1.32	1.392	1.484	1.539	1.967	2.095	2.183	2.348	2.341	2.387	2.667	2.729
Martinique	0.186	0.179	0.177	0.175	0.158	0.188	0.206	0.229	0.277	0.397	0.427	0.349	0.392	0.544	0.533	0.528	0.524
Montserrat	0.005	0.006	0.006	0.006	0.006	0.006	0.006	0.007	0.008	0.008	0.01	0.01	0.011	0.011	0.011	0.013	0.012
Netherlands Antilles	4.311	4.497	4.539	4.026	3.384	2.991	3.086	3.348	3.149	3.319	3.407	3.05	3.024	3.143	3.055	2.477	2.496
Nicaragua	0.52	0.532	0.541	0.523	0.467	0.585	0.576	0.572	0.586	0.577	0.551	0.528	0.637	0.627	0.498	0.718	0.739
Panama	1.564	1.516	1.407	1.489	1.457	1.01	1.038	1.252	1.077	1.007	1.107	1.401	1.812	1.74	1.836	1.317	1.384
Paraguay	0.392	0.368	0.355	0.372	0.402	0.449	0.449	0.563	0.51	0.653	0.63	0.575	0.668	0.701	0.905	0.939	0.985
Peru	6.323	6.544	7.097	6.743	6.486	6.389	6.662	6.64	6.756	5.86	5.436	5.117	5.473	6.015	6.426	6.55	6.786
Puerto Rico	7.566	7.866	6.094	5.894	6.611	5.969	6.223	6.541	5.887	5.491	5.469	6.425	6.122	6.703	6.476	5.407	5.528
Saint Kitts and Nevis	0.014	0.014	0.018	0.014	0.014	0.015	0.015	0.016	0.018	0.018	0.018	0.021	0.021	0.023	0.027	0.027	0.026
Saint Lucia	0.031	0.025	0.03	0.028	0.028	0.034	0.034	0.038	0.047	0.047	0.047	0.047	0.049	0.047	0.052	0.052	0.051
Saint Vincent/Grenadines	0.01	0.009	0.01	0.01	0.009	0.011	0.011	0.012	0.015	0.021	0.022	0.021	0.022	0.02	0.033	0.034	0.036
Suriname	0.641	0.517	0.447	0.306	0.279	0.342	0.363	0.32	0.316	0.336	0.447	0.41	0.39	0.403	0.401	0.406	0.418

Trinidad and Tobago	2.796	2.68	2.571	4.052	4.313	4.784	4.759	4.748	4.8	4.982	5.157	5.26	4.761	5.305	5.935	6.096	6.613
Turks and Caicos Islands	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Uruguay	1.704	1.543	1.449	1.126	1.069	0.992	0.963	1.118	1.347	1.357	1.263	1.19	1.262	1.404	1.245	1.194	1.232
Venezuela	25.03	27.37	27.67	25.83	25.81	25.64	27.64	28.25	28.01	28.79	29.23	29.97	29.9	30.63	31.73	31.02	31.13
Virgin Islands, U.S.	4.152	3.621	2.884	1.956	2.259	2.629	1.945	2.304	1.563	2.359	2.187	2.29	2.204	2.521	2.525	3.128	3.167
Virgin Islands, British	0.006	0.009	0.01	0.009	0.009	0.01	0.01	0.012	0.013	0.014	0.014	0.014	0.015	0.015	0.015	0.015	0.016
Central and South America	173	170.3	169.2	163	168.7	167.8	178.2	183.3	185.9	191.1	187.8	193.3	198.9	208	209.3	208.4	220.4
Austria	16.54	16.58	15.4	14.74	15.94	15.96	16.68	17.12	16.03	16.25	17.3	17.59	16.52	16.25	16.14	15.75	15.75
Belgium	37.43	37.48	35.35	31.19	31.94	32.09	32.37	31.98	31.43	32.8	34.2	35.41	34.09	33.26	34.41	34.23	36.35
Bosnia and Herzegovina	0	0	0	0	0	0	0	0	0	0	0	0	3.035	2.251	1.699	2.346	2.706
Croatia	0	0	0	0	0	0	0	0	0	0	0	0	4.39	4.333	4.469	4.606	4.554
Denmark	18.47	16.96	15.67	14.48	15.29	17.72	17.6	17.47	16.08	16.07	15.34	17.52	16.66	16	17.49	18.69	19.89
Faroe Islands	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Finland	15.63	14.68	13.34	12.49	12.1	13.18	13.62	14.1	13.71	14.49	14.94	14.49	13.11	14.17	15.51	12.47	13.7
Former Yugoslavia	29.36	31.6	32.71	34.29	39.16	40.74	39.98	40.36	41.11	41.11	40.27	35.94	0	0	0	0	0
France	135.4	122.3	116.6	112.5	107.6	107.9	100.6	99.32	93.87	101.7	103.1	108.5	104.1	98.13	94.45	97.15	101.5
Germany	0	0	0	0	0	0	0	0	0	0	0	252.9	242.5	241.7	236.4	235.4	237.8
Germany, East	82.56	81.78	83.42	81.56	86.26	90.9	92.16	90.8	89.36	85.19	78.23	0	0	0	0	0	0
Germany, West	207.7	196	190.6	190.4	194.1	188.5	195.1	191.2	189.5	183.6	189	0	0	0	0	0	0
Gibraltar	0.15	0.17	0.15	0.118	0.113	0.265	0.395	0.399	0.517	0.441	0.458	0.473	0.842	0.868	0.872	0.861	0.884
Greece	15.08	15.14	14.71	15.61	16	17.26	17.59	19.18	20.76	21.19	22.34	22.42	21.92	22.78	23.19	22.96	23.9
Iceland	0.498	0.468	0.448	0.485	0.485	0.53	0.548	0.564	0.59	0.53	0.642	0.586	0.542	0.648	0.68	0.65	0.7
Ireland	6.162	5.894	5.61	5.497	5.374	5.616	6.266	6.187	6.231	6.481	6.953	7.197	7.452	7.474	7.72	8.326	8.386
Italy	102.4	103.9	101.9	99.3	99.85	102.7	101.5	109.9	108.4	113.3	113.3	113	112.9	108	106.1	115.8	116.2
Luxembourg	3.217	2.74	2.597	2.442	2.682	2.708	2.643	2.512	2.672	2.796	2.94	3.081	3.029	3.269	2.933	2.447	2.439
Macedonia (Former Yugoslav Repub	0	0	0	0	0	0	0	0	0	0	0	0	2.991	3.297	3.102	1.734	1.638
Malta	0.378	0.4	0.447	0.319	0.401	0.386	0.443	0.448	0.516	0.551	0.548	0.546	0.507	0.532	0.52	0.538	0.559
Netherlands	53.26	50.19	48.91	45.42	47	50.32	54.92	55.69	56.27	55.9	59.23	61.13	60.11	58.69	58.85	57.32	58.31
Norway	9.259	8.14	7.487	7.725	8.152	8.816	9.474	10.46	9.041	9.779	9.466	8.893	9.656	9.101	9.523	10.37	11.15
Portugal	6.516	5.719	7.901	8.138	7.798	8.598	8.638	9.237	9.44	11.96	12.15	12.25	13.02	12.34	12.42	13.03	12.35
Serbia and Montenegro	0	0	0	0	0	0	0	0	0	0	0	0	13.18	10.7	10.8	8.065	8.768
Slovenia	0	0	0	0	0	0	0	0	0	0	0	0	3.365	3.626	3.448	3.921	3.993
Spain	59.02	60.11	65.11	64.06	60.64	59.61	59.47	58.91	59.37	66.4	62.13	64.64	65.66	62.03	63.95	66.97	63.17
Sweden	24.11	21.22	18.39	17.05	16.32	17.49	17.24	17.12	16.86	15.55	14.89	14.55	14.77	14.88	15.06	15.91	15.65
Switzerland	13.07	11.37	10.59	11.6	11.41	11.59	12.31	11.67	11.62	11.53	12.11	12.54	12.58	12.07	12.25	11.38	12.12
Turkey	18.04	17.97	20.23	21.7	22.91	25.6	28.64	30.13	31.53	32.34	35.1	37.47	36.57	38.57	37.32	40.18	42.8
United Kingdom	167.7	162.3	154	156.5	156.4	160.8	161.6	164	162.2	166.5	168.3	166.9	157.1	157.1	153.6	146.2	154.5
Western Europe	1022	983.1	961.6	947.6	958	979.3	989.8	998.7	987	1006	1013	1008	970.5	952	942.9	947.2	969.8
Albania	2.239	2.23	2.342	2.431	2.5	2.526	2.523	2.394	2.518	2.27	1.692	1.149	0.984	0.772	0.61	0.461	0.487
Armenia	0	0	0	0	0	0	0	0	0	0	0	0	2.481	1.287	1.089	1.742	1.988
Azerbaijan	0	0	0	0	0	0	0	0	0	0	0	0	15.14	13.06	11.95	7.204	7.459
Belarus	0	0	0	0	0	0	0	0	0	0	0	0	23.88	20.98	17.69	15.28	15.25
Bulgaria	27.65	26.99	28.04	28.09	28.09	28.85	28.31	28.36	27.13	24.42	21.27	17.03	17.27	16.68	15.87	15.15	15.83
Czech Republic	0	0	0	0	0	0	0	0	0	0	0	0	0	46.13	49.39	47.04	46.99
Estonia	0	0	0	0	0	0	0	0	0	0	0	0	6.597	4.587	4.495	4.289	4.113
Former Czechoslovakia	88.49	87.46	87.24	88.41	90.48	89.83	89.95	90.59	88.76	84.87	78.73	71.96	65.12	0	0	0	0
Former U.S.S.R.	807.3	825.2	854.7	873.6	900.3	924.2	956.7	969	994.1	970.3	992.8	912.4	0	0	0	0	0
Georgia	0	0	0	0	0	0	0	0	0	0	0	0	3.706	1.908	1.153	1.857	1.825
Hungary	23.75	18.62	18.63	22.19	22.13	23.55	22.05	21.18	20.36	19.66	18.35	17.9	17.22	17.81	17.2	17.75	18.07

Kazakhstan	0	0	0	0	0	0	0	0	0	0	0	0	66.69	53.88	38.27	38.62	38.43
Kyrgyzstan	0	0	0	0	0	0	0	0	0	0	0	0	4.57	3.33	2.526	2.073	2.202
Latvia	0	0	0	0	0	0	0	0	0	0	0	0	3.491	2.367	2.263	2.421	2.41
Lithuania	0	0	0	0	0	0	0.000	0.000	0	0	0	0	5.978	4.645	4.778	4.441	4.662
Moldova	0	0	0	0	0	0	0	0	0	0	0	0	5.232	3.968	2.878	2.314	2.423
Poland	115.2	104	104.8	105.4	109.9	114.3	115.5	119.1	116.5	111.9	89.81	89.05	89.29	91.55	86.17	85.44	84.4
Romania	46.76	47.14	29.26	50.67	49.15	50.16	51.59	53.31	52.79	55.09	48.74	35.69	33.16	33.18	31.77	33.53	33.79
Russia	0	0	0	0	0	0	0	0	0	0	0	0	558.9	511.4	450.6	416.8	401.5
Slovakia	0	0	0	0	0	0	0	0	0	0	0	0	0	10.87	10.48	9.983	7.142
Tajikistan	0	0	0	0	0	0	0	0	0	0	0	0	1.915	1.423	1.114	0.852	0.894
Turkmenistan	0	0	0	0	0	0	0	0	0	0	0	0	4.905	4.863	4.617	4.514	4.38
Ukraine	0	0	0	0	0	0	0	0	0	0	0	0	147.6	139.5	118	106.5	97.9
Uzbekistan	0	0	0	0	0	0	0	0	0	0	0	0	26.03	31.71	27.24	27.04	27.86
Eastern Europe & Former U.S.S.R.	1111	1112	1125	1171	1203	1233	1267	1284	1302	1268	1251	1145	1100	1016	900.2	845.2	820
Bahrain	2.133	2.424	2.562	2.908	2.619	3.036	3.336	4.004	3.53	3.709	4.078	4.569	3.958	4.714	4.647	4.212	4.393
Cyprus	0.815	0.719	0.777	0.861	0.879	0.884	0.995	1.119	1.133	1.372	1.423	1.393	1.71	1.643	1.856	1.806	1.891
Iran	33.09	31.99	38.79	43.56	42.96	45.17	45.83	48.07	50.04	53.72	55.7	62.4	63.88	64.83	66.29	69.63	72.92
Iraq	13.95	10.74	10.51	11.65	11.95	13.33	15.37	14.56	16.5	17.54	18.89	11.61	15.63	18.39	20.48	20.02	21.05
Israel	6.958	6.995	7.516	7.705	7.774	7.442	7.842	8.584	9.331	9.588	9.882	10.2	11.79	12.68	12.98	12.3	12.85
Jordan	1.475	1.791	2.053	2.141	2.116	2.335	2.606	2.875	2.667	2.704	2.897	2.707	3.181	3.072	3.411	3.483	3.572
Kuwait	8.538	6.774	6.277	6.953	7.232	7.148	7.769	8.91	10.06	11.32	7.255	9.75	4.748	7.588	8.187	8.382	8.72
Lebanon	1.831	1.717	1.662	1.632	1.641	1.914	1.89	1.974	1.784	1.359	1.268	2.259	2.211	2.761	3.164	3.401	3.434
Oman	1.057	1.126	1.38	1.566	2.143	2.03	2.408	2.468	2.202	2.832	3.388	3.865	3.66	4.011	4.082	3.614	3.699
Qatar	3.781	3.744	3.751	3.316	3.938	3.567	3.605	3.695	3.642	3.966	4.844	5.835	6.526	7.441	7.634	7.652	7.79
Saudi Arabia	48.76	47.1	44.85	46.32	50.23	49.22	53.99	54.27	56.73	55.97	56.61	61.55	62.59	64.75	61.04	67.26	69.78
Syria	4.665	4.9	5.115	6.016	6.56	6.924	7.052	7.952	8.402	8.908	10.46	9.501	10.08	10.89	11.33	10.49	10.65
United Arab Emirates	8.205	9.833	10.17	12.03	13.5	17.03	18.22	19.44	21.36	22.33	21.55	25.8	27.76	25.96	25.5	26.91	29.7
Yemen	1.92	1.96	2.235	1.97	2.614	2.8	2.712	2.568	2.695	2.977	3.142	3.231	3.317	2.75	2.667	2.762	2.861
Middle East	137.2	131.8	137.6	148.6	156.1	162.8	173.6	180.5	190.1	198.3	201.4	214.7	221	231.5	233.3	241.9	253.3
Algeria	16.44	13.52	16.22	17.69	18.59	17.51	18.28	19.66	20.57	20.46	21.47	22.43	21.82	21.91	22.17	23.12	23.47
Angola	0.993	1.015	1.035	1.109	1.007	1.261	1.3	1.317	1.371	1.343	2.007	2.094	2.12	2.096	2.001	3.178	3.157
Benin	0.117	0.122	0.081	0.117	0.119	0.129	0.138	0.103	0.129	0.135	0.134	0.137	0.137	0.134	0.14	0.142	0.16
Botswana	0.346	0.351	0.329	0.314	0.307	0.395	0.442	0.517	0.552	0.621	0.733	0.761	0.805	0.796	0.818	0.901	0.893
Burkina Faso	0.113	0.12	0.121	0.117	0.12	0.118	0.134	0.141	0.143	0.128	0.135	0.158	0.159	0.171	0.185	0.176	0.193
Burundi	0.029	0.033	0.029	0.033	0.039	0.043	0.041	0.024	0.072	0.078	0.085	0.096	0.092	0.1	0.1	0.091	0.09
Cameroon	0.639	0.552	0.72	0.717	0.726	0.753	0.831	0.77	0.75	0.884	0.94	0.952	0.974	0.831	0.868	0.969	0.956
Cape Verde	0.092	0.092	0.039	0.039	0.049	0.048	0.015	0.016	0.023	0.025	0.026	0.027	0.029	0.028	0.031	0.03	0.036
Central African Republic	0.041	0.051	0.057	0.06	0.051	0.058	0.062	0.062	0.066	0.063	0.068	0.071	0.073	0.074	0.078	0.078	0.081
Chad	0.08	0.075	0.075	0.075	0.036	0.034	0.077	0.065	0.045	0.046	0.101	0.089	0.09	0.046	0.046	0.046	0.048
Comoros	0.012	0.012	0.012	0.012	0.012	0.01	0.01	0.014	0.015	0.015	0.019	0.018	0.018	0.022	0.019	0.019	0.02
Congo (Brazzaville)	0.214	0.245	0.206	0.145	0.138	0.26	0.26	0.286	0.227	0.256	0.279	0.248	0.245	0.902	0.923	0.885	0.87
Congo (Kinshasa)	0.954	1.034	1.079	1.067	0.987	0.965	1.063	0.951	1.174	1.083	1.003	1.075	1.213	1.236	1.225	0.953	0.971
Cote d'Ivoire(IvoryCoast)	1.172	1.26	1.12	1.153	1.2	1.166	1.3	1.444	1.533	1.652	1.557	1.617	1.662	1.863	2.217	2.009	2.154
Djibouti	0.454	0.362	0.368	0.264	0.226	0.217	0.497	0.497	0.498	0.497	0.476	0.482	0.484	0.488	0.491	0.49	0.49
Egypt	11.71	13.89	15.55	17.97	19.92	21.69	23.06	23.46	23.39	23.97	25.86	26.32	25.9	25.71	26.22	24.91	25.79
Equatorial Guinea	0.016	0.016	0.02	0.019	0.021	0.023	0.023	0.022	0.022	0.033	0.033	0.035	0.033	0.036	0.036	0.036	0.041
Eritrea	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.258	0.345	0.355
Ethiopia	0.459	0.458	0.533	0.615	0.597	0.72	0.695	0.776	0.729	0.811	0.819	0.667	0.98	0.899	0.591	0.629	0.611
Gabon	1.313	1.348	1.329	1.358	1.452	1.484	1.096	1.063	1.145	1.566	1.566	1.572	1.656	1.629	1.618	1.631	1.676

Gambia, The	0.044	0.044	0.044	0.044	0.046	0.048	0.044	0.051	0.053	0.052	0.053	0.056	0.056	0.058	0.065	0.06	0.064
Ghana	0.627	0.569	0.625	0.537	0.619	0.545	0.632	0.732	0.826	0.943	0.784	0.862	0.914	0.947	1.042	0.987	1.037
Guinea	0.253	0.24	0.252	0.221	0.254	0.206	0.291	0.309	0.315	0.305	0.407	0.318	0.321	0.33	0.336	0.32	0.329
Guinea-Bissau	0.024	0.024	0.023	0.023	0.03	0.032	0.022	0.048	0.054	0.056	0.073	0.075	0.075	0.085	0.086	0.07	0.068
Kenya	1.648	1.677	1.525	1.461	1.583	1.523	1.693	1.484	1.651	1.783	1.804	1.579	1.768	1.808	1.9	1.867	1.933
Lesotho	0.028	0.037	0.028	0.028	0.028	0.042	0.042	0.042	0.028	0.042	0.042	0.042	0.043	0.044	0.048	0.046	0.047
Liberia	0.569	0.521	0.534	0.522	0.445	0.445	0.352	0.271	0.331	0.27	0.157	0.093	0.094	0.105	0.103	0.102	0.106
Libya	8.805	7.453	7.83	7.855	7.446	7.966	7.191	7.469	8.615	9.138	11.12	10.91	9.413	9.572	9.558	9.826	10.25
Madagascar	0.355	0.299	0.235	0.335	0.322	0.355	0.23	0.35	0.388	0.271	0.264	0.271	0.293	0.303	0.336	0.338	0.321
Malawi	0.165	0.153	0.157	0.126	0.12	0.134	0.142	0.133	0.131	0.158	0.173	0.215	0.212	0.207	0.221	0.232	0.238
Mali	0.117	0.15	0.115	0.118	0.121	0.134	0.1	0.116	0.059	0.129	0.129	0.133	0.136	0.139	0.141	0.141	0.143
Mauritania	0.161	0.176	0.177	0.174	0.211	0.23	0.14	0.186	0.223	0.29	0.259	0.274	0.862	0.922	0.913	0.822	0.83
Mauritius	0.255	0.222	0.215	0.255	0.255	0.261	0.339	0.278	0.398	0.47	0.534	0.529	0.608	0.633	0.602	0.653	0.668
Morocco	4.224	4.253	4.327	4.505	4.26	4.46	5.087	5.056	5.241	5.805	6	6.185	6.3	6.772	7.608	6.685	6.848
Mozambique	0.751	0.677	0.72	0.696	0.607	0.635	0.343	0.324	0.463	0.365	0.326	0.327	0.324	0.319	0.305	0.33	0.325
Namibia	0	0	0	0	0	0	0	0	0	0	0.644	0.34	0.286	0.36	0.346	0.292	0.279
Niger	0.17	0.176	0.184	0.203	0.219	0.22	0.186	0.21	0.278	0.292	0.298	0.301	0.305	0.309	0.313	0.313	0.321
Nigeria	18.85	15.32	15.75	15.48	16.13	16.96	16.22	16.33	17.31	20.74	22.34	24.09	25.4	26.3	25.88	25.27	25.86
Reunion	0.168	0.165	0.177	0.204	0.223	0.223	0.218	0.243	0.294	0.315	0.337	0.394	0.381	0.517	0.507	0.502	0.492
Rwanda	0.042	0.096	0.093	0.088	0.145	0.131	0.112	0.162	0.138	0.169	0.175	0.177	0.183	0.19	0.188	0.187	0.196
Saint Helena	0	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.001	0.001	0.002	0.002	0.002	0.002
Sao Tome and Principe	0.009	0.009	0.009	0.009	0.009	0.01	0.01	0.01	0.01	0.01	0.019	0.02	0.021	0.021	0.021	0.021	0.024
Senegal	0.716	0.691	0.707	0.679	0.798	0.775	0.792	0.808	0.693	0.718	0.702	0.646	0.792	0.807	0.966	1.017	1.012
Seychelles	0.061	0.048	0.045	0.076	0.081	0.086	0.087	0.093	0.128	0.135	0.125	0.134	0.138	0.14	0.142	0.142	0.142
Sierra Leone	0.196	0.211	0.198	0.215	0.212	0.2	0.246	0.263	0.285	0.285	0.287	0.3	0.214	0.222	0.18	0.212	0.225
Somalia	0.285	0.356	0.363	0.355	0.372	0.365	0.379	0.287	0.292	0.296	0.271	0.163	0.152	0.157	0.157	0.151	0.156
South Africa	64.17	69.38	74.28	75.2	80.57	81.61	83.45	85.15	86.54	80.5	80.66	84.04	87.74	90.1	94.04	93.94	96
Sudan	0.902	0.962	1.033	1.007	0.926	1.009	1.184	1.151	1.246	1.175	1.066	1.538	1.406	1.327	1.168	0.98	1.036
Swaziland	0.173	0.189	0.189	0.148	0.162	0.19	0.193	0.199	0.205	0.206	0.206	0.192	0.175	0.14	0.167	0.168	0.171
Tanzania	0.561	0.641	0.586	0.559	0.577	0.6	0.629	0.631	0.658	0.69	0.767	0.638	0.695	0.723	0.654	0.623	0.664
Togo	0.162	0.147	0.144	0.156	0.188	0.17	0.148	0.136	0.103	0.222	0.116	0.282	0.199	0.148	0.169	0.168	0.163
Tunisia	2.344	2.646	2.524	2.918	3.062	2.998	3.272	2.984	3.261	3.579	3.575	3.749	3.478	4.175	4.659	3.834	4.218
Uganda	0.207	0.129	0.154	0.15	0.154	0.162	0.219	0.154	0.235	0.217	0.232	0.257	0.263	0.275	0.277	0.277	0.277
Western Sahara	0.046	0.045	0.053	0.052	0.053	0.054	0.054	0.056	0.057	0.057	0.06	0.06	0.06	0.058	0.058	0.062	0.06
Zambia	1.027	0.906	0.966	0.861	0.833	0.794	0.84	0.809	0.956	0.803	0.78	0.698	0.793	0.715	0.714	0.622	0.633
Zimbabwe	2.426	2.345	2.22	2.632	2.52	2.611	3.375	3.984	4.055	4.195	4.109	4.355	4.485	4.247	4.567	2.422	2.579
Africa	145.7	145.5	155.4	160.8	169.2	173.1	177.6	181.7	188	188.3	196.2	203.1	207.1	212.1	218.5	214.3	219.8
Afghanistan	0.387	0.452	0.462	0.535	0.554	0.578	0.437	1.079	1.785	1.748	1.723	0.816	0.46	0.441	0.428	0.362	0.387
American Samoa	0.092	0.132	0.189	0.119	0.138	0.129	0.133	0.135	0.134	0.153	0.159	0.159	0.163	0.161	0.154	0.153	0.163
Australia	54.27	54.71	56.77	56.39	58.67	61.38	62.12	64.38	66.71	70.52	74.22	73.91	77.53	76.72	76.95	79.57	79.13
Bangladesh	2.145	2.348	2.496	2.242	2.61	2.759	3.162	3.337	3.649	3.822	4.058	4.025	4.474	4.633	5.056	5.352	5.531
Bhutan	0.001	0.007	0.009	0.008	0.007	0.009	0.009	0.022	0.023	0.022	0.035	0.034	0.035	0.038	0.041	0.043	0.049
Brunei	1.394	1.518	1.592	1.316	1.192	1.344	0.944	1.412	1.263	1.432	1.243	0.771	0.995	1.001	0.954	0.942	0.929
Burma	1.135	1.147	1.283	1.42	1.527	1.614	1.532	1.252	1.196	1.251	1.226	1.236	1.232	1.285	1.474	1.61	1.615
Cambodia	0.011	0.011	0.011	0.071	0.078	0.08	0.045	0.124	0.129	0.129	0.129	0.132	0.136	0.135	0.138	0.141	0.143
China	393	389.4	407.4	431.6	467.1	506.2	538.2	573.8	612.8	620.3	619.9	649	671.8	709.9	759.2	792.3	804.8
Cook Islands	0.007	0.015	0.016	0.016	0.016	0.016	0.108	0.102	0.1	0.013	0.013	0.011	0.013	0.013	0.013	0.013	0.013
Fiji	0.39	0.229	0.299	0.279	0.189	0.188	0.152	0.225	0.232	0.284	0.304	0.278	0.232	0.235	0.233	0.239	0.249
French Polynesia	0.061	0.09	0.124	0.162	0.235	0.209	0.264	0.272	0.271	0.269	0.254	0.251	0.238	0.233	0.186	0.192	0.197

Guam	1.074	1.355	1.143	1.114	0.382	0.184	0.303	0.211	0.219	0.202	0.505	0.572	0.6	0.906	1.184	1.038	0.961
Hawaiian Trade Zone	1.897	2.127	1.947	1.644	2.269	2.166	1.257	0	0	0	0	0	0	0	0	0	0
Hong Kong	5.61	5.878	6.393	7.156	7.682	7.828	8.654	9.679	10.81	11.17	10.68	11.25	11.83	12.75	11.87	12.11	11.34
India	82.23	89.64	93.11	100.7	109.8	119.5	129.3	131	139.5	146.3	155	160.8	175.2	184.3	192.8	223.6	231.8
Indonesia	23.25	25.47	25.65	26.43	27.5	29.11	28.51	31.43	32.66	36.7	38.73	40.5	45.13	51.29	51.93	57.25	60.91
Japan	260.4	255.5	237.5	230.5	248.5	244.8	237.3	239.9	257.1	265.7	274.1	281.6	286.8	279.1	295.9	280.8	290.7
Kiribati	0.007	0.008	0.007	0.007	0.006	0.006	0.005	0.006	0.006	0.006	0.006	0.007	0.006	0.006	0.006	0.006	0.006
Korea, North	33.85	33.97	34.69	37.27	40.17	40.88	41.41	42.57	44.02	45.45	46.79	47.56	46.87	48.42	48.44	49.43	50.99
Korea, South	35.05	36.97	38.42	38.77	41.56	44.47	47.15	47.68	53.53	56.01	60.92	70.14	73.64	96.31	94.66	102.3	112.5
Laos	0.116	0.046	0.043	0.044	0.04	0.046	0.055	0.055	0.055	0.061	0.06	0.066	0.071	0.073	0.077	0.081	0.07
Macau	0.139	0.129	0.137	0.193	0.199	0.177	0.249	0.277	0.275	0.294	0.299	0.298	0.307	0.337	0.355	0.344	0.381
Malaysia	7.306	8.007	8.532	10.35	11.83	12.36	13.14	12.37	12.63	14.16	17.58	19.06	19.6	22.69	23.37	23.3	25.74
Maldives	0.004	0.004	0.004	0.004	0.012	0.014	0.023	0.023	0.024	0.024	0.027	0.027	0.028	0.033	0.065	0.093	0.079
Mongolia	2.067	1.871	2.111	2.184	2.358	2.659	2.885	3.096	3.333	3.011	3.021	3.071	2.521	2.49	2.553	2.61	2.72
Nauru	0.04	0.04	0.04	0.04	0.041	0.041	0.041	0.041	0.041	0.041	0.043	0.043	0.044	0.043	0.043	0.044	0.046
Nepal	0.133	0.109	0.142	0.143	0.182	0.155	0.188	0.226	0.224	0.235	0.202	0.257	0.298	0.323	0.369	0.375	0.365
New Caledonia	0.526	0.501	0.35	0.313	0.351	0.38	0.377	0.408	0.395	0.446	0.429	0.467	0.482	0.519	0.503	0.503	0.51
New Zealand	5.521	5.235	5.845	5.831	5.997	6.223	6.694	6.909	7.029	7.549	7.744	7.815	8.534	8.434	8.453	9.473	9.769
Niue	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Pakistan	9.266	9.971	11.38	11.46	11.94	12.86	13.62	14.91	15.65	16.42	17.77	18.06	18.93	20.22	22.4	22.97	24.26
Papua New Guinea	0.525	0.524	0.524	0.524	0.595	0.624	0.629	0.697	0.653	0.668	0.678	0.671	0.701	0.705	0.673	0.706	0.757
Philippines	9.957	9.251	9.346	9.375	8.187	7.639	7.768	9.155	9.731	10.85	11.22	11.28	12.39	13.69	13.97	14.51	15
Samoa	0.027	0.029	0.031	0.031	0.037	0.032	0.032	0.032	0.032	0.034	0.036	0.036	0.036	0.036	0.034	0.037	0.04
Singapore	8.675	8.933	9.729	9.668	9.57	9.615	11.97	13.25	14.19	15.34	16.66	17.64	19.85	21.51	22.97	21.03	21.62
Solomon Islands	0.029	0.041	0.037	0.041	0.04	0.036	0.036	0.041	0.045	0.047	0.048	0.048	0.047	0.046	0.045	0.046	0.04
Sri Lanka	1.427	1.399	1.495	1.558	1.698	1.335	1.425	1.624	1.442	1.311	1.427	1.437	1.52	1.711	1.796	1.87	1.914
Taiwan	20.26	18.47	18.05	19.95	22.36	21.4	23.86	24.66	28.77	31.71	32.01	33.74	35.33	42.43	43.38	46.72	51.24
Thailand	9.8	9.937	9.542	10.2	11.13	12.57	12.6	14.28	16.29	19.27	23.03	25.47	27.47	31.34	34	42.13	43.54
Tonga	0.009	0.012	0.012	0.012	0.013	0.013	0.013	0.019	0.023	0.024	0.024	0.027	0.027	0.028	0.031	0.031	0.031
U.S. Pacific Islands	0.043	0.043	0.043	0.043	0.041	0.036	0.036	0.036	0.05	0.077	0.079	0.079	0.08	0.078	0.078	0.08	0.08
Vanuatu	0.03	0.026	0.026	0.024	0.032	0.035	0.034	0.015	0.039	0.034	0.036	0.027	0.018	0.018	0.018	0.018	0.018
Vietnam	4.598	4.474	4.728	4.86	4.859	5.383	5.205	5.951	5.597	4.321	5.286	4.897	5.215	7.264	7.918	7.692	7.78
Wake Island	0.359	0.358	0.358	0.358	0.351	0.346	0.343	0.343	0.343	0.343	0.334	0.334	0.339	0.347	0.344	0.347	0.353
Far East and Oceania	977.2	980.4	992	1025	1102	1157	1202	1257	1343	1388	1428	1488	1551	1642	1725	1802	1859
World Total	5051	4973	4916	4980	5192	5313	5425	5570	5754	5816	5831	5792	5819	5862	5856	5894	6036

Source: EIA, International Energy Database, December 1997.
Office of Energy Markets and End Use

Mike Grillot- Contact

Table E1 World Primary Energy Consumption (Btu), 1980-1996
(Quadrillion Btu)

Country	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Bermuda	0.008	0.007	0.007	0.008	0.008	0.007	0.007	0.01	0.011	0.013	0.009	0.008	0.006	0.007	0.007	0.007	0.008
Canada	9.519	9.279	8.762	8.806	9.237	9.807	9.971	10.13	10.87	11.13	10.88	10.82	11.06	11.37	11.68	11.79	12.2
Greenland	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0	0	0	0.007	0	0	0	0
Mexico	3.782	4.097	4.321	4.105	4.43	4.35	4.463	4.502	4.674	4.831	4.892	5.146	5.295	5.345	5.406	5.456	5.624
Saint Pierre and Miquelon	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.004	0.004	0.003	0.003	0.002	0.002	0.001	0.001
United States	75.82	74.06	70.76	70.69	74.1	74.03	74.3	76.91	80.26	81.84	84.16	83.98	85.18	87.05	88.57	90.37	93.36
North America	89.13	87.45	83.86	83.61	87.78	88.2	88.74	91.55	95.82	97.82	99.95	99.96	101.5	103.8	105.7	107.6	111.2
Antarctica	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Antigua and Barbuda	0.006	0.005	0.007	0.004	0.005	0.005	0.005	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.007	0.007	0.006
Argentina	1.577	1.543	1.615	1.645	1.777	1.691	1.841	1.975	1.962	1.889	1.841	1.901	2.148	2.302	2.375	2.476	2.598
Aruba	0	0	0	0	0	0	0.001	0.001	0.006	0.007	0.008	0.009	0.009	0.01	0.01	0.012	0.013
Bahamas, The	0.06	0.063	0.054	0.041	0.037	0.033	0.033	0.036	0.034	0.038	0.041	0.037	0.031	0.033	0.036	0.042	0.048
Barbados	0.014	0.015	0.015	0.016	0.015	0.017	0.018	0.017	0.016	0.018	0.018	0.019	0.019	0.019	0.018	0.018	0.018
Belize	0.003	0.003	0.003	0.003	0.003	0.003	0.004	0.003	0.002	0.003	0.005	0.005	0.004	0.004	0.004	0.005	0.005
Bolivia	0.074	0.083	0.073	0.074	0.072	0.066	0.067	0.066	0.077	0.085	0.092	0.091	0.1	0.097	0.108	0.126	0.12
Brazil	4.071	3.942	4.003	4.006	4.397	4.672	5.167	5.251	5.454	5.62	5.656	5.901	5.953	6.198	6.496	6.762	7.238
Cayman Islands	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.005	0.005
Chile	0.428	0.42	0.357	0.377	0.391	0.394	0.389	0.407	0.446	0.503	0.561	0.56	0.61	0.663	0.708	0.756	0.794
Colombia	0.684	0.705	0.755	0.766	0.839	0.855	0.89	0.819	0.915	0.947	0.961	1.002	1.002	1.048	1.085	1.121	1.273
Costa Rica	0.055	0.057	0.055	0.057	0.056	0.059	0.058	0.065	0.071	0.077	0.077	0.079	0.088	0.097	0.101	0.11	0.116
Cuba	0.446	0.454	0.492	0.449	0.465	0.474	0.49	0.48	0.487	0.496	0.485	0.451	0.4	0.397	0.404	0.414	0.409
Dominica	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Dominican Republic	0.086	0.086	0.09	0.107	0.092	0.1	0.109	0.127	0.133	0.134	0.138	0.138	0.162	0.143	0.161	0.174	0.175
Ecuador	0.187	0.194	0.214	0.197	0.208	0.22	0.236	0.233	0.242	0.237	0.253	0.268	0.298	0.289	0.313	0.324	0.335
El Salvador	0.048	0.045	0.044	0.048	0.049	0.049	0.052	0.051	0.056	0.056	0.06	0.062	0.069	0.073	0.082	0.096	0.097
Falkland Islands	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
French Guiana	0.005	0.004	0.006	0.006	0.005	0.005	0.005	0.006	0.007	0.008	0.009	0.011	0.009	0.012	0.012	0.013	0.013
Grenada	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Guadeloupe	0.007	0.01	0.013	0.013	0.015	0.013	0.013	0.015	0.017	0.019	0.02	0.021	0.02	0.023	0.024	0.024	0.025
Guatemala	0.064	0.056	0.057	0.062	0.053	0.06	0.064	0.064	0.07	0.074	0.077	0.075	0.085	0.088	0.099	0.107	0.11
Guyana	0.021	0.024	0.02	0.017	0.02	0.02	0.019	0.015	0.015	0.01	0.009	0.011	0.013	0.016	0.016	0.013	0.015
Haiti	0.015	0.011	0.014	0.013	0.013	0.015	0.014	0.021	0.023	0.021	0.012	0.013	0.014	0.011	0.009	0.015	0.014
Honduras	0.033	0.031	0.031	0.033	0.034	0.032	0.038	0.036	0.046	0.052	0.059	0.059	0.06	0.061	0.066	0.073	0.073
Jamaica	0.118	0.099	0.086	0.092	0.075	0.067	0.068	0.073	0.083	0.096	0.102	0.105	0.115	0.117	0.12	0.133	0.136
Martinique	0.009	0.009	0.009	0.009	0.008	0.01	0.01	0.012	0.014	0.02	0.022	0.018	0.02	0.027	0.027	0.028	0.027
Montserrat	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001
Netherlands Antilles	0.238	0.222	0.215	0.198	0.186	0.155	0.152	0.154	0.143	0.152	0.156	0.14	0.138	0.156	0.168	0.152	0.154
Nicaragua	0.032	0.033	0.034	0.034	0.036	0.04	0.04	0.04	0.04	0.045	0.042	0.04	0.045	0.045	0.039	0.051	0.053
Panama	0.09	0.091	0.081	0.084	0.088	0.072	0.076	0.086	0.079	0.075	0.081	0.093	0.112	0.111	0.118	0.117	0.121
Paraguay	0.027	0.027	0.028	0.029	0.032	0.063	0.042	0.063	0.059	0.056	0.055	0.054	0.058	0.068	0.081	0.083	0.1
Peru	0.403	0.423	0.426	0.392	0.405	0.414	0.444	0.455	0.457	0.409	0.382	0.38	0.378	0.429	0.458	0.489	0.499
Puerto Rico	0.428	0.45	0.331	0.321	0.359	0.311	0.335	0.35	0.32	0.311	0.301	0.375	0.326	0.341	0.357	0.333	0.34
Saint Kitts and Nevis	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Saint Lucia	0.002	0.001	0.002	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.002	0.003	0.003	0.003
Saint Vincent/Grenadines	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002
Suriname	0.041	0.036	0.035	0.025	0.023	0.028	0.026	0.019	0.022	0.03	0.037	0.034	0.033	0.034	0.033	0.034	0.035

Trinidad and Tobago	0.178	0.171	0.157	0.157	0.251	0.274	0.205	0.191	0.198	0.213	0.226	0.253	0.248	0.271	0.313	0.325	0.364
Turks and Caicos Islands	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Uruguay	0.11	0.104	0.099	0.094	0.094	0.089	0.091	0.101	0.104	0.096	0.124	0.106	0.113	0.124	0.127	0.141	0.143
Venezuela	1.561	1.688	1.697	1.648	1.682	1.705	1.842	1.889	1.905	2.027	2.089	2.223	2.235	2.303	2.436	2.531	2.57
Virgin Islands, U.S.	0.25	0.224	0.163	0.114	0.134	0.15	0.1	0.117	0.082	0.125	0.116	0.12	0.114	0.129	0.135	0.165	0.167
Virgin Islands, British	0.000	0.001	0.001	0.001	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Central and South America	11.38	11.34	11.29	11.14	11.93	12.17	12.96	13.26	13.61	13.97	14.14	14.67	15.05	15.76	16.57	17.29	18.22
Austria	1.103	1.116	1.047	1.021	1.103	1.117	1.115	1.061	1.144	1.154	1.194	1.23	1.213	1.255	1.243	1.267	1.28
Belgium	2.171	2.086	1.966	1.87	1.929	2.005	2.041	2.052	2.051	2.094	2.156	2.258	2.245	2.241	2.304	2.339	2.514
Bosnia and Herzegovina	0	0	0	0	0	0	0	0	0	0	0	0	0.178	0.134	0.097	0.156	0.184
Croatia	0	0	0	0	0	0	0	0	0	0	0	0	0.32	0.317	0.35	0.369	0.396
Denmark	0.854	0.787	0.753	0.727	0.751	0.817	0.812	0.839	0.826	0.819	0.804	0.83	0.816	0.848	0.839	0.859	0.912
Faroe Islands	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.009	0.001	0.001	0.001	0.001
Finland	0.982	1.007	0.924	0.943	0.969	0.999	0.998	1.094	1.108	1.13	1.142	1.139	1.114	1.143	1.163	1.056	1.063
Former Yugoslavia	1.662	1.761	1.806	1.837	2.132	2.21	2.218	2.235	2.232	2.24	2.104	1.845	0	0	0	0	0
France	8.544	8.131	7.79	7.932	7.999	8.34	8.363	8.489	8.349	8.635	8.84	9.405	9.409	9.34	9.2	9.465	9.87
Germany	0	0	0	0	0	0	0	0	0	0	0	14.33	14.03	14.18	14.05	14.25	14.44
Germany, East	3.61	3.569	3.632	3.565	3.74	3.961	3.991	3.942	3.864	3.714	3.315	0	0	0	0	0	0
Germany, West	11.23	10.77	10.48	10.53	10.57	11.17	11.42	11.41	11.46	11.16	11.43	0	0	0	0	0	0
Gibraltar	0.007	0.008	0.007	0.006	0.005	0.012	0.019	0.019	0.025	0.021	0.022	0.023	0.04	0.041	0.042	0.042	0.043
Greece	0.756	0.749	0.734	0.762	0.792	0.822	0.85	0.902	0.972	0.991	1.047	1.07	1.039	1.091	1.109	1.12	1.177
Iceland	0.057	0.057	0.061	0.064	0.067	0.068	0.071	0.075	0.077	0.075	0.081	0.078	0.076	0.084	0.086	0.087	0.092
Ireland	0.323	0.312	0.303	0.297	0.293	0.307	0.332	0.323	0.331	0.345	0.371	0.386	0.397	0.404	0.42	0.449	0.458
Italy	6.178	6.118	5.963	5.879	6.053	6.228	6.34	6.664	6.775	7.028	7.017	7.143	7.18	7.004	6.927	7.506	7.631
Luxembourg	0.164	0.147	0.142	0.137	0.147	0.149	0.149	0.149	0.157	0.164	0.172	0.184	0.181	0.194	0.186	0.174	0.177
Macedonia (Former Yugoslav Repub	0	0	0	0	0	0	0	0	0	0	0	0	0.141	0.155	0.139	0.086	0.087
Malta	0.019	0.021	0.022	0.016	0.022	0.018	0.021	0.021	0.024	0.025	0.025	0.025	0.024	0.025	0.025	0.026	0.026
Netherlands	3.18	2.975	2.884	2.78	2.821	3.059	3.155	3.236	3.235	3.248	3.363	3.548	3.512	3.574	3.557	3.66	3.763
Norway	1.338	1.344	1.288	1.357	1.435	1.52	1.519	1.593	1.551	1.563	1.583	1.588	1.646	1.649	1.659	1.721	1.74
Portugal	0.44	0.387	0.503	0.506	0.501	0.57	0.573	0.636	0.666	0.702	0.739	0.74	0.753	0.767	0.807	0.844	0.861
Serbia and Montenegro	0	0	0	0	0	0	0	0	0	0	0	0	0.7	0.545	0.576	0.46	0.535
Slovenia	0	0	0	0	0	0	0	0	0	0	0	0	0.215	0.23	0.25	0.256	0.274
Spain	3.302	3.381	3.485	3.498	3.539	3.485	3.564	3.622	3.916	4.088	3.934	4.143	4.111	4.049	4.242	4.546	4.498
Sweden	2.07	2.01	1.893	1.95	2.004	2.144	2.14	2.234	2.217	2.177	2.153	2.152	2.153	2.155	2.135	2.312	2.271
Switzerland	1.082	0.979	0.961	1.027	1.036	1.068	1.1	1.099	1.117	1.131	1.168	1.205	1.206	1.189	1.195	1.166	1.214
Turkey	0.988	0.991	1.144	1.19	1.263	1.336	1.489	1.669	1.835	1.783	1.965	2.078	2.098	2.328	2.227	2.474	2.666
United Kingdom	8.819	8.435	8.198	8.367	8.535	8.77	8.949	9.086	9.128	9.384	9.484	9.61	9.348	9.604	9.543	9.435	10.05
Western Europe	58.87	57.14	55.99	56.26	57.7	60.17	61.23	62.45	63.06	63.67	64.11	65.01	64.15	64.55	64.37	66.13	68.23
Albania	0.153	0.153	0.152	0.157	0.159	0.158	0.155	0.157	0.16	0.147	0.111	0.089	0.08	0.072	0.07	0.077	0.088
Armenia	0	0	0	0	0	0	0	0	0	0	0	0	0.17	0.12	0.105	0.121	0.161
Azerbaijan	0	0	0	0	0	0	0	0	0	0	0	0	0.917	0.794	0.718	0.691	0.71
Belarus	0	0	0	0	0	0	0	0	0	0	0	0	1.5	1.277	1.089	1.011	1.03
Bulgaria	1.471	1.456	1.507	1.527	1.529	1.58	1.557	1.556	1.549	1.455	1.268	1.005	1.002	0.952	0.947	0.977	1.026
Czech Republic	0	0	0	0	0	0	0	0	0	0	0	0	0	2.161	2.316	2.314	2.341
Estonia	0	0	0	0	0	0	0	0	0	0	0	0	0.256	0.187	0.183	0.182	0.179
Former Czechoslovakia	4.025	3.992	3.999	4.059	4.133	4.22	4.285	4.395	4.3	4.204	3.923	3.566	3.216	0	0	0	0
Former U.S.S.R.	45.13	46.13	48.03	49.12	51.32	53.41	54.92	56.16	57.96	57.45	58.12	54.93	0	0	0	0	0
Georgia	0	0	0	0	0	0	0	0	0	0	0	0	0.308	0.195	0.129	0.167	0.157
Hungary	1.34	1.134	1.149	1.335	1.366	1.473	1.441	1.426	1.431	1.411	1.246	1.157	1.07	1.087	1.076	1.107	1.139

Kazakhstan	0	0	0	0	0	0	0	0	0	0	0	0	0	3.358	2.756	2.04	2.054	2.067
Kyrgyzstan	0	0	0	0	0	0	0	0	0	0	0	0	0	0.305	0.255	0.224	0.211	0.207
Latvia	0	0	0	0	0	0	0	0	0	0	0	0	0	0.251	0.181	0.169	0.184	0.184
Lithuania	0	0	0	0	0	0	0	0	0	0	0	0	0	0.426	0.365	0.354	0.348	0.354
Moldova	0	0	0	0	0	0	0	0	0	0	0	0	0	0.271	0.181	0.153	0.13	0.122
Poland	5.12	4.634	4.627	4.637	4.834	5.005	5.063	5.243	5.168	4.96	3.912	3.852	3.838	3.975	3.784	3.799	3.772	
Romania	2.816	2.829	2.967	3.028	2.965	2.981	3.066	3.143	3.112	3.246	2.885	2.144	1.967	1.948	1.859	2.073	2.102	
Russia	0	0	0	0	0	0	0	0	0	0	0	0	0	33.75	31.09	28.22	26.84	25.98
Slovakia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.731	0.75	0.765	0.657
Tajikistan	0	0	0	0	0	0	0	0	0	0	0	0	0	0.279	0.246	0.229	0.207	0.177
Turkmenistan	0	0	0	0	0	0	0	0	0	0	0	0	0	0.271	0.252	0.248	0.268	0.257
Ukraine	0	0	0	0	0	0	0	0	0	0	0	0	0	8.499	8.228	7.017	6.493	6.248
Uzbekistan	0	0	0	0	0	0	0	0	0	0	0	0	0	1.614	1.99	1.734	1.793	1.857
Eastern Europe & Former U.S.S.R.	60.05	60.33	62.43	63.86	66.3	68.82	70.49	72.08	73.69	72.87	71.47	66.75	63.35	59.04	53.41	51.81	50.81	
Bahrain	0.134	0.162	0.169	0.178	0.172	0.205	0.221	0.265	0.232	0.242	0.266	0.299	0.254	0.306	0.317	0.297	0.31	
Cyprus	0.042	0.036	0.039	0.043	0.044	0.047	0.048	0.054	0.054	0.065	0.069	0.068	0.081	0.082	0.093	0.092	0.097	
Iran	1.583	1.488	1.707	2.092	2.225	2.396	2.428	2.532	2.703	2.97	3.104	3.236	3.35	3.467	3.656	3.813	4.025	
Iraq	0.524	0.483	0.462	0.551	0.538	0.567	0.621	0.637	0.767	0.823	0.915	0.6	0.839	0.965	1.076	1.128	1.185	
Israel	0.35	0.356	0.373	0.368	0.38	0.355	0.369	0.389	0.423	0.44	0.448	0.477	0.537	0.601	0.617	0.608	0.637	
Jordan	0.077	0.092	0.105	0.112	0.116	0.12	0.127	0.137	0.132	0.135	0.145	0.139	0.162	0.161	0.184	0.191	0.195	
Kuwait	0.481	0.352	0.35	0.392	0.407	0.403	0.451	0.538	0.619	0.696	0.446	0.114	0.262	0.432	0.497	0.518	0.538	
Lebanon	0.106	0.099	0.097	0.1	0.095	0.111	0.107	0.113	0.101	0.08	0.074	0.119	0.12	0.152	0.172	0.185	0.186	
Oman	0.048	0.114	0.14	0.162	0.1	0.119	0.134	0.138	0.13	0.168	0.183	0.21	0.204	0.227	0.237	0.224	0.23	
Qatar	0.214	0.202	0.237	0.223	0.268	0.243	0.264	0.272	0.267	0.288	0.356	0.42	0.493	0.568	0.57	0.574	0.585	
Saudi Arabia	1.855	1.916	1.728	1.895	2.083	2.71	2.941	2.996	3.114	3.072	3.148	3.277	3.388	3.519	3.637	3.854	4.032	
Syria	0.275	0.29	0.295	0.327	0.355	0.371	0.37	0.427	0.475	0.504	0.6	0.569	0.598	0.65	0.688	0.654	0.663	
United Arab Emirates	0.267	0.436	0.414	0.511	0.582	0.797	0.904	1.069	1.172	1.265	1.228	1.494	1.548	1.484	1.49	1.605	1.793	
Yemen	0.096	0.098	0.115	0.104	0.132	0.147	0.141	0.14	0.135	0.154	0.16	0.173	0.173	0.142	0.137	0.149	0.154	
Middle East	6.053	6.123	6.231	7.058	7.497	8.59	9.124	9.706	10.32	10.9	11.14	11.19	12.01	12.76	13.37	13.89	14.63	
Algeria	0.746	0.639	0.892	0.996	1.075	0.978	0.986	1.054	1.121	1.09	1.136	1.261	1.224	1.159	1.216	1.33	1.364	
Angola	0.064	0.064	0.068	0.073	0.067	0.081	0.081	0.082	0.085	0.083	0.086	0.089	0.091	0.089	0.087	0.092	0.091	
Benin	0.007	0.008	0.006	0.008	0.008	0.009	0.009	0.007	0.008	0.009	0.009	0.009	0.009	0.009	0.01	0.009	0.011	
Botswana	0.015	0.015	0.015	0.015	0.016	0.021	0.022	0.023	0.025	0.028	0.034	0.035	0.037	0.038	0.04	0.044	0.048	
Burkina Faso	0.006	0.006	0.006	0.006	0.006	0.006	0.007	0.007	0.007	0.007	0.007	0.008	0.008	0.009	0.01	0.01	0.011	
Burundi	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.005	0.005	0.006	0.006	0.006	0.007	0.007	0.007	0.007	
Cameroon	0.047	0.052	0.06	0.06	0.061	0.064	0.07	0.066	0.066	0.077	0.078	0.078	0.079	0.07	0.076	0.084	0.083	
Cape Verde	0.005	0.005	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	
Central African Republic	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005	0.005	
Chad	0.004	0.004	0.004	0.004	0.002	0.002	0.004	0.003	0.002	0.002	0.005	0.005	0.005	0.002	0.002	0.002	0.003	
Comoros	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	
Congo (Brazzaville)	0.012	0.014	0.012	0.012	0.013	0.018	0.017	0.018	0.016	0.018	0.019	0.018	0.018	0.019	0.02	0.021	0.02	
Congo (Kinshasa)	0.09	0.092	0.093	0.096	0.095	0.096	0.102	0.098	0.109	0.122	0.104	0.109	0.118	0.105	0.105	0.098	0.109	
Cote d'Ivoire(IvoryCoast)	0.074	0.081	0.076	0.074	0.065	0.077	0.078	0.086	0.091	0.1	0.093	0.096	0.096	0.106	0.125	0.121	0.129	
Djibouti	0.022	0.018	0.018	0.013	0.011	0.011	0.01	0.01	0.01	0.023	0.023	0.024	0.024	0.024	0.024	0.024	0.024	
Egypt	0.707	0.831	0.927	1.05	1.15	1.212	1.241	1.294	1.301	1.346	1.435	1.432	1.428	1.512	1.555	1.582	1.644	
Equatorial Guinea	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	
Eritrea	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.046	0.02	0.021	
Ethiopia	0.031	0.031	0.035	0.04	0.04	0.047	0.046	0.051	0.049	0.053	0.054	0.047	0.063	0.06	0.043	0.046	0.045	
Gabon	0.032	0.034	0.03	0.041	0.037	0.032	0.029	0.033	0.035	0.044	0.043	0.044	0.046	0.043	0.049	0.052	0.054	

Gambia, The	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Ghana	0.083	0.079	0.079	0.052	0.05	0.056	0.076	0.083	0.092	0.101	0.1	0.104	0.107	0.108	0.113	0.115	0.119
Guinea	0.014	0.013	0.014	0.014	0.014	0.012	0.016	0.017	0.017	0.017	0.022	0.017	0.018	0.018	0.019	0.019	0.019
Guinea-Bissau	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.003	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.004	0.004
Kenya	0.1	0.102	0.102	0.103	0.101	0.106	0.113	0.104	0.116	0.124	0.126	0.116	0.125	0.131	0.135	0.139	0.143
Lesotho	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.002	0.004	0.004	0.005	0.005	0.006	0.006	0.006
Liberia	0.032	0.029	0.03	0.029	0.026	0.026	0.021	0.017	0.021	0.017	0.011	0.006	0.006	0.007	0.007	0.007	0.007
Libya	0.267	0.357	0.354	0.381	0.384	0.421	0.441	0.451	0.464	0.48	0.509	0.532	0.489	0.513	0.53	0.542	0.569
Madagascar	0.019	0.016	0.015	0.019	0.019	0.021	0.015	0.021	0.023	0.017	0.017	0.017	0.019	0.019	0.021	0.022	0.021
Malawi	0.012	0.012	0.012	0.011	0.011	0.011	0.012	0.012	0.012	0.014	0.016	0.018	0.019	0.018	0.019	0.02	0.02
Mali	0.007	0.009	0.007	0.007	0.008	0.008	0.007	0.008	0.005	0.008	0.008	0.009	0.009	0.009	0.01	0.01	0.01
Mauritania	0.009	0.009	0.009	0.009	0.013	0.013	0.013	0.01	0.013	0.015	0.014	0.014	0.046	0.047	0.047	0.048	0.048
Mauritius	0.014	0.012	0.012	0.013	0.013	0.014	0.018	0.015	0.021	0.025	0.028	0.028	0.033	0.033	0.033	0.036	0.037
Morocco	0.226	0.215	0.218	0.224	0.21	0.224	0.251	0.252	0.266	0.297	0.309	0.324	0.333	0.357	0.41	0.37	0.379
Mozambique	0.176	0.067	0.062	0.087	0.033	0.034	0.032	0.03	0.027	0.022	0.02	0.021	0.02	0.024	0.023	0.023	0.023
Namibia	0	0	0	0	0	0	0	0	0	0	0.038	0.025	0.02	0.029	0.026	0.027	0.028
Niger	0.01	0.01	0.011	0.011	0.012	0.012	0.01	0.011	0.015	0.015	0.016	0.016	0.016	0.016	0.017	0.017	0.017
Nigeria	0.422	0.488	0.516	0.517	0.555	0.598	0.585	0.617	0.663	0.715	0.695	0.77	0.785	0.798	0.674	0.831	0.856
Reunion	0.012	0.013	0.014	0.015	0.016	0.017	0.017	0.018	0.02	0.022	0.023	0.025	0.026	0.032	0.033	0.032	0.032
Rwanda	0.004	0.007	0.007	0.007	0.011	0.011	0.011	0.011	0.009	0.012	0.012	0.012	0.013	0.011	0.012	0.012	0.012
Saint Helena	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sao Tome and Principe	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Senegal	0.037	0.036	0.037	0.035	0.042	0.041	0.04	0.041	0.035	0.036	0.036	0.033	0.04	0.042	0.051	0.055	0.055
Seychelles	0.003	0.003	0.002	0.004	0.004	0.004	0.004	0.005	0.006	0.007	0.006	0.007	0.007	0.007	0.007	0.007	0.007
Sierra Leone	0.011	0.011	0.011	0.011	0.011	0.012	0.013	0.013	0.015	0.015	0.015	0.016	0.011	0.011	0.01	0.012	0.013
Somalia	0.017	0.019	0.019	0.018	0.019	0.019	0.02	0.015	0.015	0.015	0.014	0.008	0.008	0.008	0.008	0.008	0.008
South Africa	3.373	3.733	3.925	3.998	4.348	4.453	4.442	3.532	3.659	3.404	3.357	3.52	3.451	3.486	3.713	4.178	4.26
Sudan	0.052	0.056	0.061	0.059	0.054	0.061	0.069	0.067	0.072	0.069	0.063	0.087	0.08	0.077	0.068	0.066	0.069
Swaziland	0.01	0.01	0.009	0.007	0.009	0.011	0.01	0.011	0.011	0.012	0.015	0.015	0.016	0.016	0.016	0.017	0.017
Tanzania	0.034	0.039	0.038	0.035	0.037	0.038	0.038	0.045	0.048	0.05	0.055	0.05	0.054	0.056	0.048	0.048	0.051
Togo	0.01	0.01	0.01	0.011	0.011	0.011	0.011	0.01	0.008	0.014	0.009	0.016	0.013	0.011	0.012	0.012	0.012
Tunisia	0.128	0.153	0.134	0.153	0.167	0.171	0.18	0.168	0.179	0.203	0.202	0.207	0.191	0.223	0.255	0.218	0.244
Uganda	0.014	0.01	0.011	0.011	0.012	0.013	0.013	0.012	0.017	0.017	0.019	0.02	0.02	0.021	0.021	0.021	0.021
Western Sahara	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Zambia	0.114	0.113	0.115	0.111	0.11	0.108	0.108	0.11	0.115	0.092	0.103	0.102	0.103	0.099	0.099	0.094	0.098
Zimbabwe	0.175	0.177	0.17	0.183	0.176	0.172	0.201	0.203	0.208	0.215	0.227	0.23	0.24	0.221	0.237	0.153	0.165
Africa	7.26	7.717	8.262	8.643	9.142	9.375	9.507	8.762	9.121	9.076	9.239	9.653	9.591	9.729	10.12	10.73	11.05
Afghanistan	0.027	0.03	0.032	0.039	0.039	0.039	0.04	0.063	0.112	0.11	0.109	0.049	0.032	0.031	0.031	0.026	0.027
American Samoa	0.006	0.007	0.01	0.006	0.007	0.007	0.007	0.007	0.007	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008
Australia	2.753	2.788	2.889	2.826	2.949	3.118	3.138	3.273	3.385	3.545	3.701	3.686	3.845	3.922	3.95	4.125	4.081
Bangladesh	0.13	0.142	0.152	0.143	0.146	0.177	0.192	0.207	0.229	0.246	0.253	0.257	0.287	0.296	0.327	0.356	0.367
Bhutan	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.003	0.003	0.004	0.004	0.004
Brunei	0.076	0.079	0.086	0.068	0.06	0.071	0.048	0.082	0.071	0.083	0.07	0.039	0.055	0.052	0.05	0.062	0.061
Burma	0.069	0.071	0.078	0.082	0.086	0.088	0.097	0.089	0.082	0.089	0.084	0.084	0.088	0.093	0.105	0.114	0.114
Cambodia	0.001	0.001	0.001	0.006	0.006	0.006	0.006	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.008	0.008	0.008
China	17.22	16.92	18.03	19.51	21.18	22.15	23.24	24.74	26.45	26.94	26.99	28.24	29.3	31.34	33.97	36.35	37.04
Cook Islands	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Fiji	0.019	0.013	0.015	0.015	0.014	0.014	0.015	0.015	0.015	0.018	0.02	0.018	0.016	0.016	0.016	0.017	0.017
French Polynesia	0.003	0.005	0.006	0.008	0.013	0.011	0.014	0.014	0.014	0.014	0.014	0.014	0.013	0.013	0.011	0.011	0.012

Guam	0.053	0.074	0.058	0.055	0.019	0.009	0.016	0.011	0.011	0.011	0.026	0.029	0.031	0.047	0.061	0.053	0.05
Hawaiian Trade Zone	0.09	0.11	0.1	0.09	0.11	0.11	0.07	0	0	0	0	0	0	0	0	0	0
Hong Kong	0.27	0.282	0.309	0.34	0.348	0.363	0.383	0.429	0.484	0.502	0.483	0.458	0.504	0.546	0.586	0.637	0.609
India	4.157	4.527	4.671	5.02	5.504	5.888	6.329	6.36	6.895	7.236	7.737	8.012	8.654	9.042	9.623	11.11	11.55
Indonesia	1.105	1.254	1.288	1.381	1.466	1.62	1.642	1.82	1.857	2.068	2.177	2.287	2.492	2.796	2.974	3.313	3.513
Japan	15.22	15.08	14.5	14.23	15.38	15.52	15.55	15.98	16.93	17.53	18.11	18.82	19.08	19.26	20.12	20.76	21.37
Kiribati	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Korea, North	1.52	1.53	1.578	1.691	1.811	1.829	1.861	1.906	1.984	2.04	2.096	2.128	2.02	2.076	2.07	2.099	2.147
Korea, South	1.737	1.819	1.818	1.964	2.154	2.258	2.497	2.74	3.055	3.293	3.679	4.189	4.652	5.385	5.901	6.532	7.158
Laos	0.008	0.006	0.006	0.006	0.005	0.004	0.005	0.005	0.004	0.006	0.007	0.006	0.007	0.007	0.007	0.007	0.007
Macau	0.007	0.007	0.007	0.01	0.011	0.009	0.013	0.014	0.014	0.015	0.016	0.016	0.017	0.018	0.019	0.022	0.024
Malaysia	0.419	0.439	0.455	0.513	0.613	0.697	0.745	0.752	0.799	0.864	0.978	1.087	1.135	1.29	1.43	1.483	1.664
Maldives	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.005	0.004
Mongolia	0.088	0.082	0.095	0.095	0.099	0.112	0.12	0.128	0.138	0.126	0.126	0.127	0.105	0.103	0.107	0.111	0.116
Nauru	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Nepal	0.009	0.008	0.01	0.011	0.013	0.011	0.014	0.017	0.017	0.017	0.017	0.021	0.024	0.025	0.027	0.028	0.028
New Caledonia	0.028	0.027	0.021	0.018	0.022	0.023	0.022	0.022	0.024	0.026	0.025	0.025	0.026	0.028	0.027	0.027	0.028
New Zealand	0.513	0.491	0.523	0.542	0.556	0.566	0.632	0.649	0.677	0.708	0.732	0.731	0.745	0.77	0.8	0.875	0.881
Niue	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pakistan	0.631	0.685	0.781	0.795	0.833	0.886	0.929	1.003	1.077	1.13	1.18	1.248	1.288	1.408	1.498	1.578	1.678
Papua New Guinea	0.029	0.029	0.029	0.03	0.033	0.035	0.036	0.039	0.037	0.038	0.038	0.038	0.04	0.041	0.039	0.041	0.044
Philippines	0.575	0.565	0.577	0.565	0.549	0.536	0.538	0.596	0.641	0.711	0.729	0.74	0.792	0.858	0.897	0.949	0.977
Samoa	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Singapore	0.441	0.462	0.49	0.487	0.513	0.498	0.57	0.632	0.676	0.731	0.8	0.855	0.964	1.079	1.19	1.183	1.216
Solomon Islands	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Sri Lanka	0.088	0.089	0.092	0.09	0.106	0.096	0.098	0.103	0.099	0.095	0.105	0.105	0.107	0.127	0.136	0.147	0.153
Taiwan	1.117	1.07	1.071	1.215	1.413	1.468	1.566	1.676	1.812	1.931	2.039	2.098	2.207	2.437	2.616	2.867	3.112
Thailand	0.514	0.553	0.539	0.576	0.639	0.712	0.724	0.793	0.917	1.082	1.254	1.372	1.47	1.681	1.823	2.245	2.333
Tonga	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002
U.S. Pacific Islands	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
Vanuatu	0.002	0.002	0.002	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001
Vietnam	0.193	0.206	0.209	0.215	0.194	0.205	0.232	0.26	0.25	0.227	0.28	0.27	0.289	0.397	0.445	0.482	0.489
Wake Island	0.019	0.019	0.019	0.019	0.019	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.019
Far East and Oceania	49.14	49.48	50.56	52.67	56.93	59.17	61.42	64.46	68.81	71.47	73.93	77.1	80.34	85.24	90.91	97.66	100.9
World Total	281.9	279.6	278.6	283.2	297.3	306.5	313.5	322.3	334.4	339.8	344	344.3	346	350.9	354.4	365.1	375.1

OECD

United Nations

Source: EIA, International Energy Database, December 1997.

Office of Energy Markets and End Use

1995	Energy Consumption Quad Btu	Carbon Emissions Million Metric Tons of Carbon	GDP 1987 US \$ (Millions)	E/GDP	C/GDP	E/GDP U.S.=	C/GDP U.S.=1
United States	90.37	1415.10	5450200	0.00001658	0.00026	1.00	1.00
Australia	4.13	79.57	261363	0.00001578	0.000304	0.95	1.17
Canada	11.79	136.70	477338	0.00002469	0.000286	1.49	1.10
Hungary	1.11	17.75	22235	0.00004977	0.000798	3.00	3.07
Czech Republic	2.31	47.04	32671	0.00007084	0.00144	4.27	5.54
Poland	3.80	85.44	65974	0.00005758	0.001295	3.47	4.99
Russia	26.84	416.78	246882	0.00010871	0.001688	6.56	6.50
United States	90.37	1415.10	5450200.00	0.00	0.00	1.00	1.00
China	36.35	792.32	538181	0.00006753	0.001472	4.07	5.67
India	11.11	223.57	382260	0.00002906	0.000585	1.75	2.25
Mexico	5.46	82.91	154601	0.00003529	0.000536	2.13	2.07
Korea (S)	6.53	102.30	253664	0.00002575	0.000403	1.55	1.55
Indonesia	3.31	57.25	129609	0.00002556	0.000442	1.54	1.70
Malaysia	1.48	23.30	62769	0.00002362	0.000371	1.42	1.43
Japan	20.76	280.79	3028685	6.853E-06	0.000093	0.41	0.36
EU	60.68	884.66	5694025.00	0.00001066	0.000155	0.64	0.60

Source: EIA, International Energy Database, December 1997.
Office of Energy Markets and End Use

World Carbon Dioxide Emissions, 1996

Source EIA, IEO 98

	Emissions (MMmtons)	Percent
United States	1463	24.45
Industrialized -US	1560	26.07
EE/FSU	842	14.07
China	805	13.45
Developing-China	1313	21.95
	5983	100.00

Table B2 World Gross Domestic Product at Market Exchange Rates, 1980-1996
(Millions of 1987 U.S. Dollars)

Country	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Bermuda	1218	1248	1180	1204	1210	1186	1248	1281	1317	1328	1320	1300	1319	1323	0	0	0
Canada	3E+05	3E+05	3E+05	3E+05	4E+05	4E+05	4E+05	4E+05	4E+05	4E+05	4E+05	4E+05	4E+05	4E+05	5E+05	5E+05	5E+05
Greenland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mexico	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05
Saint Pierre and Miquelon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
United States	4E+06	4E+06	4E+06	4E+06	4E+06	4E+06	4E+06	5E+06	5E+06	5E+06	5E+06	5E+06	5E+06	5E+06	5E+06	5E+06	6E+06
Antarctica	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Antigua and Barbuda	182	190.6	192.4	206	217.3	235	267	287.8	308	324	336	353	354	367	382	0	0
Argentina	1E+05	1E+05	1E+05	1E+05	1E+05	98934	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05
Aruba	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bahamas, The	2156	1957	2088	2163	2470	2589	2635	2714	2777	2841	2877	2788	2791	2847	2859	2916	0
Barbados	1367	1323	1257	1259	1301	1304	1440	1449	1549	1632	1543	1507	1424	1446	1500	1540	0
Belize	233	236	236	230	234	237	247	277	301	337	369	385	421	439	448	465	471
Bolivia	4691	4734	4528	4326	4369	4338	4200	4310	4474	4604	4842	5065	5207	5420	5650	5900	0
Brazil	2E+05	2E+05	2E+05	2E+05	2E+05	3E+05	3E+05	3E+05	3E+05	3E+05	3E+05	3E+05	3E+05	3E+05	3E+05	3E+05	0
Cayman Islands	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chile	17606	18446	16525	15913	17178	18382	19413	20682	22202	24394	25172	26991	29958	31822	33174	36009	38610
Colombia	29020	29638	29932	30411	31493	32527	34516	36372	37851	39159	40747	41533	43202	45463	48067	50581	51628
Costa Rica	4035	3944	3669	3771	4067	4101	4327	4533	4687	4956	5135	5250	5656	6003	6270	6423	6378
Cuba	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dominica	83.56	96.83	100.3	101.1	107.2	109.7	118.3	126.7	136.4	132.3	143.3	150.3	151.5	154.2	157	155	0
Dominican Republic	4241	4416	4496	4695	4708	4589	4726	5081	5116	5768	5494	5545	5975	6151	6415	6720	7213
Ecuador	9757	10157	10269	10055	10466	10910	11232	10527	11653	11671	12012	12612	13063	13342	13884	14249	14667
El Salvador	4674	4292	4055	4082	4173	4270	4317	4433	4516	4563	4699	4883	5128	5428	5753	6113	7265
Falkland Islands	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
French Guiana	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grenada	0	0	0	0	126.4	134.8	139.2	150.1	160.2	168.1	179.2	183.3	181.1	182.9	186	191	0
Guadeloupe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Guatemala	7231	7278	7021	6840	6874	6832	6841	7084	7360	7650	7887	8179	8572	8907	9265	9715	10021
Guyana	445	450	394	366	348	356	354	356	346	335	316	336	363	394	410	430	0
Haiti	2291	2229	2152	2169	2175	2180	2177	2161	2177	2201	2198	2131	1816	1769	1625	1696	1743
Honduras	3566	3659	3599	3574	3717	3885	3920	4153	4358	4522	4524	4663	4923	5230	5158	5380	5543
Jamaica	2749	2822	2861	2926	2901	2767	2813	3030	3117	3330	3512	3530	3580	3623	3658	3810	4031
Martinique	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Montserrat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Netherlands Antilles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nicaragua	3857	4063	4028	4217	4131	3959	3878	3851	3425	3380	3380	3356	3382	3358	3465	3609	3819
Panama	4397	4577	4829	4861	4840	5068	5234	5363	4527	4509	4718	5170	5611	5914	6082	6189	6345
Paraguay	3285	3568	3442	3340	3444	3581	3576	3733	3975	4207	4335	4439	4517	4685	4830	5057	5121
Peru	23063	24764	24656	21577	22822	23303	25460	27583	25317	22326	21565	22176	21653	23061	26066	27890	28605
Puerto Rico	19428	19637	18989	19148	20549	20990	22854	23878	25428	26765	27724	28304	28926	29563	30450	31972	0
Saint Kitts and Nevis	78.42	80.61	79.69	79.89	87.41	92.13	100.3	108.1	117.5	127.1	129.6	131.9	136.9	145.5	0	0	0
Saint Lucia	0	0	0	0	0	238	277	288	325	355	368	376	403	417	0	0	0
Saint Vincent/Grenadines	92.07	98.43	105.8	112.5	118.1	125.1	133.9	142.1	155.1	165.1	173.4	179.4	187.9	193	191	205	0
Suriname	1468	1568	1475	1415	1361	1346	1304	1106	1222	1382	1381	1424	1484	1442	0	0	0
Trinidad and Tobago	5646	5894	5550	5115	5422	5200	5030	4798	4611	4574	4646	4771	4690	4611	4771	4882	0

Turks and Caicos Islands	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Uruguay	7548	7680	6942	6251	6160	6256	6785	7330	7330	7431	7503	7680	8247	8075	8587	8418	8830
Venezuela	45604	45457	44512	42841	43450	43534	46368	48029	50828	46292	49475	54606	57579	57737	56087	57984	57053
Virgin Islands, U.S.	996.9	1026	977.5	1036	1073	1048	1068	1148	1166	1249	1285	1300	1340	1372	0	0	0
Virgin Islands, British	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Austria	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05
Belgium	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05
Bosnia and Herzegovina	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Croatia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Denmark	86433	85693	88339	90415	94485	98509	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05
Faroe Islands	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Finland	72025	73301	75585	77649	80008	82679	84592	88009	92386	97651	97635	90596	87313	85584	89050	92833	96242
Former Yugoslavia	64515	65303	65716	64966	66089	65667	68017	66683	65626	66126	63812	55646	0	0	0	0	0
France	8E+05	8E+05	8E+05	8E+05	8E+05	8E+05	9E+05	9E+05	9E+05	1E+06	1E+06	1E+06	1E+06	1E+06	1E+06	1E+06	1E+06
Germany	0	0	0	0	0	0	0	0	0	0	0	1E+06	1E+06	1E+06	1E+06	2E+06	2E+06
Germany, East	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Germany, West	1E+06	1E+06	1E+06	1E+06	1E+06	1E+06	1E+06	1E+06	1E+06	1E+06	1E+06	0	0	0	0	0	0
Gibraltar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Greece	42805	42804	42956	43198	44356	45742	46484	46311	48360	50077	49664	51191	51688	51433	52186	53230	54614
Iceland	4163	4341	4444	4359	4538	4688	4979	5405	5401	5416	5475	5545	5363	5409	5601	5667	5989
Ireland	26499	27379	28004	27937	29152	30052	29924	31318	32655	35074	38080	39177	41139	42778	45659	50428	54322
Italy	7E+05	7E+05	7E+05	7E+05	7E+05	7E+05	7E+05	8E+05	8E+05	8E+05	8E+05	8E+05	8E+05	8E+05	9E+05	9E+05	9E+05
Luxembourg	5598	5560	5620	5787	6146	6326	6627	6819	7212	7692	7935	8176	8328	8352	8602	8775	0
Macedonia (Former Yugoslav Repub	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Malta	1351	1396	1428	1419	1433	1470	1527	1590	1723	1864	1981	2106	2197	2295	2387	2603	0
Netherlands	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	3E+05	3E+05	3E+05	3E+05	3E+05
Norway	66252	66677	66935	70343	74539	78271	81423	83337	83193	84437	85886	87566	90518	93516	98322	1E+05	1E+05
Portugal	36549	36956	37789	37707	37012	38059	39634	41820	44194	46752	48739	49784	50328	49749	50147	51147	52670
Serbia and Montenegro	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Slovenia	0	0	0	0	0	0	0	0	0	0	0	0	0	6260	6594	6913	7127
Spain	2E+05	2E+05	3E+05	3E+05	3E+05	3E+05	3E+05	3E+05	3E+05	3E+05	3E+05	3E+05	3E+05	3E+05	3E+05	4E+05	4E+05
Sweden	1E+05	1E+05	1E+05	1E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05
Switzerland	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05
Turkey	59329	61868	65021	67374	71290	74888	81193	87173	89043	89331	97453	98418	1E+05	1E+05	1E+05	1E+05	1E+05
United Kingdom	6E+05	6E+05	6E+05	6E+05	6E+05	6E+05	7E+05	7E+05	7E+05	7E+05	7E+05	7E+05	7E+05	7E+05	8E+05	8E+05	8E+05
Albania	1860	1965	2024	2047	2022	2058	2174	2157	2126	2335	2102	1520	1372	0	0	0	0
Armenia	0	0	0	0	0	0	0	0	0	0	0	0	2612	2226	2348	2510	2643
Azerbaijan	0	0	0	0	0	0	0	0	0	0	0	0	4700	4089	3194	2644	2678
Belarus	0	0	0	0	0	0	0	0	0	0	0	0	23973	21652	18231	16408	16835
Bulgaria	20768	21807	22308	23797	24625	25658	26615	28429	31523	30728	27691	23952	22495	21442	21742	22307	20115
Czech Republic	0	0	0	0	0	0	0	0	0	0	0	0	0	30524	31170	32671	34098
Estonia	0	0	0	0	0	0	0	0	0	0	0	0	3899	3590	3479	3580	3723
Former Czechoslovakia	49586	49639	49987	51169	52224	53337	54299	54700	56111	56841	55150	46612	44165	0	0	0	0
Former U.S.S.R.	6E+05	6E+05	6E+05	6E+05	7E+05	7E+05	7E+05	7E+05	7E+05	8E+05	7E+05	6E+05	0	0	0	0	0
Georgia	0	0	0	0	0	0	0	0	0	0	0	0	4585	3135	2195	2247	2494
Hungary	21965	22948	23849	24167	24853	24729	24943	26110	26016	26034	25167	23297	22011	21289	21911	22235	22462
Kazakhstan	0	0	0	0	0	0	0	0	0	0	0	0	23247	20248	15085	13742	13893
Kyrgyzstan	0	0	0	0	0	0	0	0	0	0	0	0	3642	3059	2444	2293	2421
Latvia	0	0	0	0	0	0	0	0	0	0	0	0	5710	5166	5196	5114	5257

Lithuania	0	0	0	0	0	0	0	0	0	0	0	0	0	5275	4045	4086	4192	4343
Moldova	0	0	0	0	0	0	0	0	0	0	0	0	0	4647	4591	3159	3064	2837
Poland	59695	53739	51177	54019	57076	60389	62960	63905	66319	66750	59957	56058	56566	58610	61658	65974	69932	
Romania	34330	34363	35704	37847	40070	39894	41043	38068	37710	35500	33184	28788	24780	25085	26081	27881	28918	
Russia	0	0	0	0	0	0	0	0	0	0	0	0	0	3E+05	3E+05	3E+05	2E+05	2E+05
Slovakia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13229	13880	14824	15854
Tajikistan	0	0	0	0	0	0	0	0	0	0	0	0	0	2479	2050	1790	1568	1344
Turkmenistan	0	0	0	0	0	0	0	0	0	0	0	0	0	4327	3934	3278	3049	2932
Ukraine	0	0	0	0	0	0	0	0	0	0	0	0	0	83116	76382	58814	52606	47780
Uzbekistan	0	0	0	0	0	0	0	0	0	0	0	0	0	14823	14467	13961	13793	14014
Bahrain	3352	3178	2951	3140	3287	3170	3181	3170	3537	3598	3642	3820	4105	4336	4438	4536	4650	
Cyprus	2545	2611	2769	2924	3180	3335	3458	3702	4022	4345	4661	4695	5190	5277	5596	5875	0	
Iran	1E+05	1E+05	1E+05	1E+05	2E+05	2E+05	1E+05	1E+05	1E+05	1E+05	1E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05
Iraq	85840	51806	45253	64101	64120	54933	44358	43702	39332	42282	29301	14475	11580	0	0	0	0	
Israel	30245	31807	32377	33519	33820	34986	36660	39300	40091	40441	43105	46411	49782	51604	55003	58904	61497	
Jordan	4626	5367	5853	5329	5452	5783	6230	6390	6360	5499	5595	5694	6334	6699	7244	7747	8153	
Kuwait	25346	20151	17398	19351	20228	19588	20879	22369	20714	24484	19240	8157	15597	20936	22696	22929	23480	
Lebanon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Oman	3949	4610	5100	6023	7043	8009	8115	7811	8268	8557	9197	10072	10765	11518	12551	13128	13890	
Qatar	10971	10982	9068	7420	7364	0	0	0	5813	5980	6502	5847	6327	6422	6435	6532	6695	
Saudi Arabia	95824	95082	77867	76655	74366	71109	74871	73552	79030	79028	85866	95951	96933	96316	96809	97286	97278	
Syria	10163	11137	11419	11607	11094	11769	11286	11356	13007	11617	12598	13585	15018	15607	16581	17592	18559	
United Arab Emirates	31171	32476	29970	28169	29461	27540	22414	23800	23242	26369	31087	31136	31351	32160	31838	32794	33122	
Yemen	0	0	0	0	0	0	0	0	0	9446	9097	8742	9004	9471	0	0	0	
Algeria	50152	51660	54985	57947	61344	64912	64560	64476	63497	66935	66247	65522	66463	65637	67278	69633	73114	
Angola	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Benin	1240	1354	1391	1334	1442	1552	1591	1564	1623	1584	1638	1717	1788	1842	1918	2033	0	
Botswana	813	888	954	1104	1228	1318	1418	1543	1786	2017	2137	2327	2479	2474	2574	2655	2840	
Burkina Faso	1522	1583	1757	1775	1745	1892	2003	2023	2143	2211	2205	2343	2358	2367	0	0	0	
Burundi	803.8	901.6	892.1	925.2	928.3	1037	1069	1129	1184	1202	1245	1313	1348	1273	0	0	0	
Cameroon	8323	9918	9886	10461	10954	11733	12762	12108	11012	11138	10353	9846	9628	8718	8326	8451	8751	
Cape Verde	119.7	128.5	135.4	150	155.9	168.3	172.5	182.9	195	201	206	217	224	233	243	0	0	
Central African Republic	954	933	1003	935	1023	1063	1076	1046	1072	1100	1108	1091	1068	1042	1116	1163	1085	
Chad	573.8	580.2	611.3	711.1	732.8	884.2	842.2	819	951.9	1001	1008	1077	1080	1049	1091	0	0	
Comoros	153	160	170	178	185	190	193.2	196.4	201.7	198.4	200.1	203.7	208	210	212	0	0	
Congo (Brazzaville)	1504	1714	2162	2329	2491	2461	2293	2298	2339	2403	2425	2461	2541	2487	0	0	0	
Congo (Kinshasa)	6519	6664	6614	6719	7091	7124	7460	7660	7703	7550	7376	6845	6130	5301	5095	5065	5130	
Cote d'Ivoire(IvoryCoast)	9965	10340	10333	10027	9757	10196	10542	10374	10166	10065	9853	9774	9774	9667	9783	10028	10680	
Djibouti	346.2	366	388.5	412	412	410.5	382	379.6	382.4	372.6	370.4	375.2	384.2	375.2	0	0	0	
Egypt	24099	25054	27731	29866	31686	33778	34672	35545	37038	38147	39060	39894	40031	40238	41826	43733	45971	
Equatorial Guinea	0	0	0	0	0	117	114.5	119.6	123	122	126	125	142	152	0	0	0	
Eritrea	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ethiopia	4748	4846	4923	5173	5066	4727	5035	5507	5615	5705	5615	5584	5165	5598	5969	7325	8263	
Gabon	3785	3870	3819	3954	4242	4137	4100	3397	3854	4107	4254	4535	4428	4539	4630	4732	4909	
Gambia, The	184.9	203.8	229.7	217.6	225.1	234.4	239.4	242.3	257.2	272	273	296	279	299	330	0	0	
Ghana	4655	4518	4225	4037	4390	4614	4850	5075	5356	5619	5791	6092	6314	6617	6862	7191	7565	
Guinea	2048	2000	2035	1956	1906	1970	1983	2042	2159	2227	2321	2379	2457	2567	0	0	0	
Guinea-Bissau	116	138	144	140	145	154	157	168	182	192	200	209	217	225	0	0	0	
Kenya	6159	6410	6529	6625	6737	7028	7529	7972	8462	8860	9230	9365	9295	9394	9641	10066	10484	

Lesotho	322	325.5	337.8	308.5	336.7	348.7	350.1	370	421	473	492	501	516	548	616	0	0
Liberia	1117	1103	1081	1064	1047	1040	1023	1013	1013	1033	1054	1075	1097	1113	0	0	0
Libya	35724	29007	28050	27742	25546	23286	21260	20580	20724	20857	22671	23174	23221	22615	23045	23552	24141
Madagascar	2708	2442	2396	2417	2459	2487	2536	2566	2653	2761	2849	2659	2689	2739	2738	2787	2851
Malawi	1036	982	1006	1043	1102	1152	1145	1161	1197	1203	1275	1390	1288	1408	1245	1357	0
Mali	1899	1896	1970	1833	1649	1635	1942	1965	1960	2191	2200	2146	2313	2296	0	0	0
Mauritania	811	842	825	865	818	842	890	910	926	965	945	972	989	1042	0	0	0
Mauritius	1205	1269	1342	1346	1411	1513	1666	1831	1951	2034	2182	2270	2409	2545	2660	2777	2928
Morocco	15157	14738	16158	16065	16738	17785	19178	18746	20665	21137	21936	23221	22298	22056	24600	22664	25376
Mozambique	1565	1657	1521	1279	1215	1208	1180	1336	1464	1559	1575	1652	1639	1952	2063	0	0
Namibia	1675	1662	1647	1584	1598	1611	1673	1726	1849	1876	1883	2008	2139	2122	2237	2296	2330
Niger	2544	2570	2525	2530	2079	2149	2296	2233	2345	2261	2378	2438	2279	2312	0	0	0
Nigeria	30336	27550	27322	25525	24431	26704	27167	27111	29762	31745	33510	35206	37251	37823	38329	39349	40608
Reunion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rwanda	1775	1874	1914	2027	1972	2076	2186	2152	2283	2270	2151	2280	2354	2117	0	0	0
Saint Helena	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sao Tome and Principe	66.95	48.57	61.35	56.03	51.37	55.71	56.27	55.41	56.53	58.27	57.03	57.84	58.75	59.45	0	0	0
Senegal	3673	3612	4158	4246	4069	4230	4423	4599	4832	4815	5030	5091	5157	5051	0	0	0
Seychelles	220.5	206.5	201.8	199.1	214.6	236.6	238.3	249	259.8	287	308	316	338	358	0	0	0
Sierra Leone	513	554	575	543	567	536	525	553.7	565	581	609	592	511	481	480	467	0
Somalia	819	884	915	831	859	929	961	1010	1003	1002	986	0	0	0	0	0	0
South Africa	75633	79684	79137	77248	81222	80392	80437	82071	85502	87672	87252	86372	84162	85319	87303	90156	93055
Sudan	9163	9355	10540	10758	10219	9577	9955	10173	9735	10452	10293	10360	11531	12338	0	0	0
Swaziland	410	444	446	455	481	507	546	2431	2518	2609	2700	2725	2679	2754	2848	2920	0
Tanzania	3061	3031	3020	3008	3148	3187	3363	3524	3780	4094	4385	4635	4798	4643	4944	5117	5373
Togo	1234	1192	1148	1088	1154	1224	1243	1249	1327	1380	1382	1370	1241	1083	0	0	0
Tunisia	7482	7888	7854	8227	8696	9179	9054	9651	9673	9843	10591	10994	11870	12128	12536	12848	13715
Uganda	0	0	0	6322	6215	6027	6061	6299	6812	7264	7667	7969	8142	8737	9562	10629	11532
Western Sahara	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zambia	1976	2096	2040	1999	1982	2014	2015	2078	2193	2174	2185	2175	2162	2310	2110	2018	2148
Zimbabwe	4252	4843	4980	5059	4976	5382	5469	5380	5904	6278	6398	6552	6205	6492	6758	6623	6987
Afghanistan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
American Samoa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Australia	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	3E+05	3E+05	3E+05
Bangladesh	12519	13705	14220	14880	15587	16200	16907	17601	18100	18546	19779	20447	21299	22238	23263	24297	25589
Bhutan	152.8	168.2	177	191.9	205.5	212	233.1	278.3	287.2	294.9	311	327	339	360	384	413	439
Brunei	3360	2673	2773	2795	2835	2799	2754	2822	2917	2996	3026	3056	0	0	0	0	0
Burma	8788	9343	9865	10297	10789	11087	10994	10543	9333	9682	9942	9855	10784	11413	12190	13112	13855
Cambodia	0	0	0	0	0	0	0	2536	3013	3069	3065	3459	3462	3718	0	0	0
China	1E+05	1E+05	1E+05	2E+05	2E+05	2E+05	2E+05	3E+05	3E+05	3E+05	3E+05	3E+05	4E+05	4E+05	5E+05	5E+05	6E+05
Cook Islands	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fiji	1182	1256	1182	1131	1224	1183	1276	1187	1195	1359	1426	1440	1488	1516	0	0	0
French Polynesia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Guam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hawaiian Trade Zone	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hong Kong	28219	30861	31682	33683	36979	37050	41159	47139	51045	52493	54192	56410	59424	62694	66008	68984	72036
India	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	3E+05	3E+05	3E+05	3E+05	3E+05	3E+05	3E+05	4E+05	4E+05	0
Indonesia	53591	57569	57368	62464	66661	68426	72395	75932	80340	86282	92361	98553	1E+05	1E+05	1E+05	1E+05	1E+05
Japan	2E+06	2E+06	2E+06	2E+06	2E+06	2E+06	2E+06	2E+06	3E+06	3E+06	3E+06	3E+06	3E+06	3E+06	3E+06	3E+06	3E+06

Kiribati	25.94	25.03	26.73	26.45	27.85	26.06	26.8	26.03	28.86	27.98	26.73	27.38	27.65	28.07	0	0	0
Korea, North	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Korea, South	74472	79282	83755	93649	1E+05	1E+05	1E+05	1E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	2E+05	3E+05	3E+05
Laos	831.1	887.3	922.7	959.7	1002	1053	1104	1087	1065	1216	1303	1350	1444	1529	1654	1770	1889
Macau	0	0	0	0	1845	1869	1997	2245	2416	2555	2759	2845	2987	3321	0	0	0
Malaysia	23096	24678	26149	27822	29981	29645	29986	31602	34427	37597	41256	44827	48326	52417	57261	62769	0
Maldives	0	0	0	44.92	49.78	56.65	61.52	66.01	72.8	79.57	91.59	98.55	104.5	110.9	118	126	0
Mongolia	2253	2415	2616	2767	2925	3093	3287	3348	3633	3823	3735	3422	3128	3078	0	0	0
Nauru	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nepal	2192	2375	2464	2391	2622	2784	2909	2957	3185	3323	3478	3696	3844	3959	4247	4369	4664
New Caledonia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
New Zealand	30730	32205	32891	33640	35321	35631	36381	36903	36612	37182	38210	36515	37599	39600	42126	43938	44850
Niue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pakistan	21399	23099	24600	26262	27608	29695	31334	33353	35949	37671	39355	41502	44733	45621	47465	49589	52400
Papua New Guinea	2718	2723	2732	2814	2798	2920	3063	3143	3237	3177	3081	3395	3818	4487	0	0	0
Philippines	32839	33956	35178	35812	33185	30768	31821	33196	35441	37645	38653	38572	38682	39440	41144	43200	45258
Samoa	102	92	92	92	93	97	102	103	101	105	100	100	97	99	0	0	0
Singapore	13479	14770	15785	17073	18498	18158	18481	20232	22496	24571	26714	28500	30218	33219	36573	39775	42686
Solomon Islands	99	112	115	131	133	134	160	164	170	184	187	193	209	0	0	0	0
Sri Lanka	4916	5191	5581	5852	6134	6447	6720	6800	6984	7132	7582	7921	8245	8815	0	0	0
Taiwan	0	0	64087	69631	77701	82013	92322	1E+05	1E+05	1E+05	1E+05	1E+05	1E+05	2E+05	2E+05	2E+05	2E+05
Thailand	33530	35523	37381	39451	41718	43672	46109	50535	57250	64215	71759	77522	83381	89899	97579	1E+05	0
Tonga	0	36.21	40.15	40.6	41.58	43.91	45.33	46.09	44.47	44.79	44.66	47.49	47.96	49.79	53	0	0
U.S. Pacific Islands	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vanuatu	94.4	98.36	108.9	115	122.8	124.2	121.6	122	122.7	128.1	134.7	137	139	144	148	152	0
Vietnam	0	0	0	0	30830	32002	32771	34069	35824	38708	45008	46116	50104	54149	58914	64511	0
Wake Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

World Bank, IMF, WEFA.

Source: EIA, International Energy Database, December 1997.

Office of Energy Markets and End Use

Country	1980
Bermuda	1217.893376
Canada	332566.68003
Greenland	0
Mexico	129315
Saint Pierre and Miquelon	0
United States	3776300
Antarctica	0
Antigua and Barbuda	181.986620263
Argentina	110030
Aruba	0
Bahamas, The	2155.589888
Barbados	1367.06030582
Belize	233
Bolivia	4691
Brazil	248531
Cayman Islands	0
Chile	17606
Colombia	29020
Costa Rica	4035
Cuba	0
Dominica	83.5609125696
Dominican Republic	4240.71937251
Ecuador	9757.23981591
El Salvador	4674.37614709
Falkland Islands	0
French Guiana	0
Grenada	0
Guadeloupe	0
Guatemala	7230.7720192
Guyana	445
Haiti	2291
Honduras	3566.221312
Jamaica	2749
Martinique	0
Montserrat	0
Netherlands Antilles	0
Nicaragua	3857
Panama	4397
Paraguay	3284.86210529
Peru	23063
Puerto Rico	19428.093952
Saint Kitts and Nevis	78.4185240582
Saint Lucia	0
Saint Vincent/Grenadines	92.0670168742
Suriname	1468.22968293
Trinidad and Tobago	5646
Turks and Caicos Islands	0
Uruguay	7547.87732457
Venezuela	45604.2922549
Virgin Islands, U.S.	996.944128

Virgin Islands, British	0
Austria	106062.883772
Belgium	129792.847918
Bosnia and Herzegovina	0
Croatia	0
Denmark	86433.0954808
Faroe Islands	0
Finland	72024.9481165
Former Yugoslavia	64515.4273485
France	788342.839228
Germany	0
Germany, East	0
Germany, West	1012159.75477
Gibraltar	0
Greece	42805
Iceland	4162.91765378
Ireland	26498.8100723
Italy	669562.56547
Luxembourg	5598.36620989
Macedonia (Former Yugoslav Repu	0
Malta	1351.43911738
Netherlands	199037.40758
Norway	66252.0721421
Portugal	36549
Serbia and Montenegro	0
Slovenia	0
Spain	248805.461618
Sweden	140226.865729
Switzerland	151892.481204
Turkey	59329
United Kingdom	570395.748919
Albania	1859.7625
Armenia	0
Azerbaijan	0
Belarus	0
Bulgaria	20768
Czech Republic	0
Estonia	0
Former Czechoslovakia	49585.5660111
Former U.S.S.R.	562375
Georgia	0
Hungary	21965
Kazakhstan	0
Kyrgyzstan	0
Latvia	0
Lithuania	0
Moldova	0
Poland	59695
Romania	34330
Russia	0
Slovakia	0

Tajikistan	0
Turkmenistan	0
Ukraine	0
Uzbekistan	0
Bahrain	3352.39373181
Cyprus	2544.80914114
Iran	116597
Iraq	85840.2891438
Israel	30245.0751958
Jordan	4626.4
Kuwait	25346.0291355
Lebanon	0
Oman	3949.10566072
Qatar	10971
Saudi Arabia	95824
Syria	10163
United Arab Emirates	31171.3469749
Yemen	0
Algeria	50152
Angola	0
Benin	1239.66864452
Botswana	813
Burkina Faso	1522.20238513
Burundi	803.804678103
Cameroon	8323
Cape Verde	119.654777002
Central African Republic	954
Chad	573.817146732
Comoros	153
Congo (Brazzaville)	1504.37083179
Congo (Kinshasa)	6519.2726534
Cote d'Ivoire(IvoryCoast)	9965
Djibouti	346.208945482
Egypt	24099.0183595
Equatorial Guinea	0
Eritrea	0
Ethiopia	4748.13534735
Gabon	3785.48307543
Gambia, The	184.946714983
Ghana	4655
Guinea	2047.82
Guinea-Bissau	116
Kenya	6159
Lesotho	322.038631729
Liberia	1116.8
Libya	35723.6858641
Madagascar	2708
Malawi	1036
Mali	1899
Mauritania	811
Mauritius	1204.7281037

Morocco	15156.7090274
Mozambique	1565
Namibia	1675
Niger	2544
Nigeria	30335.9641739
Reunion	0
Rwanda	1775
Saint Helena	0
Sao Tome and Principe	66.951113563
Senegal	3673.11707844
Seychelles	220.523815142
Sierra Leone	513
Somalia	819
South Africa	75633
Sudan	9163.21125422
Swaziland	410
Tanzania	3061
Togo	1233.93146499
Tunisia	7482
Uganda	0
Western Sahara	0
Zambia	1975.89805401
Zimbabwe	4252
Afghanistan	0
American Samoa	0
Australia	167058.804411
Bangladesh	12518.5698083
Bhutan	152.800835698
Brunei	3359.83433205
Burma	8788.38244322
Cambodia	0
China	131344
Cook Islands	0
Fiji	1182
French Polynesia	0
Guam	0
Hawaiian Trade Zone	0
Hong Kong	28218.5617217
India	180239
Indonesia	53590.8436251
Japan	1876875
Kiribati	25.9369146187
Korea, North	0
Korea, South	74472
Laos	831.1
Macau	0
Malaysia	23096
Maldives	0
Mongolia	2253.06926189
Nauru	0
Nepal	2192

New Caledonia	0
New Zealand	30730.3951668
Niue	0
Pakistan	21399
Papua New Guinea	2718.08709133
Philippines	32839
Samoa	102
Singapore	13478.8821956
Solomon Islands	99
Sri Lanka	4916
Taiwan	0
Thailand	33530
Tonga	0
U.S. Pacific Islands	0
Vanuatu	94.3986520786
Vietnam	0
Wake Island	0

	1950	1990	
Belgium	20801	28334	
Denmark	6001	14975	
Germany	see WRI ¹³⁸³⁸³	227920	¹⁹⁹⁰ 265572
Greece	1127	20820	
Spain	9019	63211	
France	55237	92818	
Ireland	2656	8798	
Italy	11314	111895	
Lux	2025	2528	
Neth	13997	37093	
Aust	5705	16179	
Port	1534	14172	
Fin	1787	13923	
Swed	7823 ~~10449~~	12170	
UK	136583	147964	
USSR	185316	¹⁹⁹¹ 976328	

1995	1996
0	0
477338	484359
0	0
154601	162435
0	0
5450200	5600800
0	0
0	0
129107	134604
0	0
2916	0
1540	0
465	471
5900	0
332616	0
0	0
36009	38610
50581	51628
6423	6378
0	0
155	0
6720	7213
14249	14667
6113	7265
0	0
0	0
191	0
0	0
9715	10021
430	0
1696	1743
5380	5543
3810	4031
0	0
0	0
0	0
3609	3819
6189	6345
5057	5121
27890	28605
31972	0
0	0
0	0
205	0
0	0
4882	0
0	0
8418	8830

57984	57053
0	0
0	0
144703	147346
166940	169444
0	0
0	0
117631	120499
0	0
92833	96242
0	0
1041766	1056967
1500645	1520634
0	0
0	0
0	0
53230	54614
5667	5989
50428	54322
884548	890676
8775	0
0	0
2603	0
265482	274856
102173	107560
51147	52670
0	0
6913.31157	7127
357489	365124
171862	173753
186758	186404
113518	121464
786546	803346
0	0
2510	2643
2644	2678
16408	16835
22307	20115
32671	34098
3580	3723
0	0
0	0
2247	2494
22235	22462
13742	13893
2293	2421
5114	5257
4192	4343
3064	2837
65974	69932
27881	28918

246882	235126
14824	15854
1568	1344
3049	2932
52606	47780
13793	14014
4536	4650
5875	0
188123	195836
0	0
58904	61497
7747	8153
22929	23480
0	0
13128	13890
6532	6695
97286	97278
17592	18559
32794	33122
0	0
69633	73114
0	0
2033	0
2655	2840
0	0
0	0
8451	8751
0	0
1163	1085
0	0
0	0
0	0
5065	5130
10028	10680
0	0
43733	45971
0	0
0	0
7325	8263
4732	4909
0	0
7191	7565
0	0
0	0
10066	10484
0	0
0	0
23552	24141
2787	2851
1357	0
0	0

0	0
2777	2928
22664	25376
0	0
2296	2330
0	0
39349	40608
0	0
0	0
0	0
0	0
0	0
0	0
467	0
0	0
90156	93055
0	0
2920	0
5117	5373
0	0
12848	13715
10629	11532
0	0
2018	2148
6623	6987
0	0
0	0
261363	271692
24297	25589
413	439
0	0
13112	13855
0	0
538181	590385
0	0
0	0
0	0
0	0
0	0
68984	72036
382260	0
129609	139741
3028685	3136421
0	0
0	0
253664	271740
1770	1889
0	0
62769	0
126	0
0	0

0	0
4369	4664
0	0
43938	44850
0	0
49589	52400
0	0
43200	45258
0	0
39775	42686
0	0
0	0
172517	181816
106250	0
0	0
0	0
152	0
64511	0
0	0

Moldova?

✓ ARMENIA	1992	1007
✓ AZERBAIJ	1992	14581
✓ BELARUS	1992	25781
✓ ESTONIA	1992	5781
✓ KAZAKHS	1992	79223
✓ KYRGYZS	1992	3019
✓ LATVIA	1992	3449
✓ LITHUANI	1992	5903
✓ GEORGIA	1992	4099
✓ RUSSIAN	1992	526079
✓ TAJIKIST	1992	5299
✓ TURKME	1992	11198
✓ UKRAINE	1992	167683
✓ UZBEKIS	1992	27479
TOTAL		880581
ARMENIA	1993	885
AZERBAIJ	1993	13681
BELARUS	1993	21692
ESTONIA	1993	5042
KAZAKHS	1993	72230
KYRGYZS	1993	2465
LATVIA	1993	3384
LITHUANI	1993	4871
GEORGIA	1993	2230
RUSSIAN	1993	512445
TAJIKIST	1993	3691
TURKME	1993	10233
UKRAINE	1993	140998
UZBEKIS	1993	28669
TOTAL		822516
ARMENIA	1994	937
AZERBAIJ	1994	12721
BELARUS	1994	18277

1996
0 Bermuda
484359 Canada
0 Greenlan
162435 Mexico
0 Saint Pier
5600800 United St
0 Antarctica
0 Antigua a
134604 Argentina
0 Aruba
0 Bahamas,
0 Barbados
471 Belize
0 Bolivia
0 Brazil
0 Cayman I
38610 Chile
51628 Colombia
6378 Costa Ric
0 Cuba
0 Dominica
7213 Dominica
14667 Ecuador
7265 El Salvad
0 Falkland I
0 French G
0 Grenada
0 Guadelou
10021 Guatemal
0 Guyana
1743 Haiti
5543 Honduras
4031 Jamaica
0 Martiniqu
0 Montserra
0 Netherlan
3819 Nicaragua
6345 Panama
5121 Paraguay
28605 Peru
0 Puerto Ri
0 Saint Kitts
0 Saint Luci
0 Saint Vinc
0 Suriname
0 Trinidad a
0 Turks and
8830 Uruguay

57053 Venezuel
 0 Virgin Isla
 0 Virgin Isla
147346 Austria
169444 Belgium
 0 Bosnia an
 0 Croatia
120499 Denmark
 0 Faroe Isla
96242 Finland
 0 Former Y
1056967 France
1520634 Germany
 0 Germany,
 0 Germany,
 0 Gibraltar
54614 Greece
5989 Iceland
54322 Ireland
890676 Italy
 0 Luxembo
 0 Macedoni
 0 Malta
274856 Netherlan
107560 Norway
52670 Portugal
 0 Serbia an
7127 Slovenia
365124 Spain
173753 Sweden
186404 Switzerlan
121464 Turkey
803346 United Kin
 0 Albania
2643 Armenia
2678 Azerbaija
16835 Belarus
20115 Bulgaria
34098 Czech Re
3723 Estonia
 0 Former C
 0 Former U.
2494 Georgia
22462 Hungary
13893 Kazakhst
2421 Kyrgyzsta
5257 Latvia
4343 Lithuania
2837 Moldova
69932 Poland
28918 Romania

235126 Russia
15854 Slovakia
1344 Tajikistan
2932 Turkmeni
47780 Ukraine
14014 Uzbekista
4650 Bahrain
0 Cyprus
195836 Iran
0 Iraq
61497 Israel
8153 Jordan
23480 Kuwait
0 Lebanon
13890 Oman
6695 Qatar
97278 Saudi Ara
18559 Syria
33122 United Ar
0 Yemen
73114 Algeria
0 Angola
0 Benin
2840 Botswana
0 Burkina F
0 Burundi
8751 Cameroo
0 Cape Ver
1085 Central Af
0 Chad
0 Comoros
0 Congo (Br
5130 Congo (Ki
10680 Cote d'Ivo
0 Djibouti
45971 Egypt
0 Equatorial
0 Eritrea
8263 Ethiopia
4909 Gabon
0 Gambia,
7565 Ghana
0 Guinea
0 Guinea-Bi
10484 Kenya
0 Lesotho
0 Liberia
24141 Libya
2851 Madagasc
0 Malawi
0 Mali

0 Mauritani
2928 Mauritius
25376 Morocco
0 Mozambiq
2330 Namibia
0 Niger
40608 Nigeria
0 Reunion
0 Rwanda
0 Saint Hele
0 Sao Tome
0 Senegal
0 Seychelle
0 Sierra Leo
0 Somalia
93055 South Afri
0 Sudan
0 Swaziland
5373 Tanzania
0 Togo
13715 Tunisia
11532 Uganda
0 Western
2148 Zambia
6987 Zimbabwe
0 Afghanist
0 American
271692 Australia
25589 Banglade
439 Bhutan
0 Brunei
13855 Burma
0 Cambodia
590385 China
0 Cook Isla
0 Fiji
0 French Po
0 Guam
0 Hawaiian
72036 Hong Kon
0 India
139741 Indonesia
3136421 Japan
0 Kiribati
0 Korea, No
271740 Korea, So
1889 Laos
0 Macau
0 Malaysia
0 Maldives
0 Mongolia

0 Nauru
4664 Nepal
0 New Cale
44850 New Zeal
0 Niue
52400 Pakistan
0 Papua Ne
45258 Philippine
0 Samoa
42686 Singapore
0 Solomon I
0 Sri Lanka
181816 Taiwan
0 Thailand
0 Tonga
0 U.S. Pacif
0 Vanuatu
0 Vietnam
0 Wake Isla

Table 7.8 Coal Prices, 1949-1996
(Dollars per Short Ton)

	Bituminous Coal 1 and Lignite		Anthracite		All Coal	
	F.O.B. 2 Mines		At Plants and Mines 3		CIF 4 Electric Utility Power	
	Nominal	Real 5	Nominal	Real 5	Nominal	Real 5
1949	4.88	(6)	8.90	(6)	NA	NA
1950	4.84	(6)	9.34	(6)	NA	NA
1951	4.92	(6)	9.94	(6)	NA	NA
1952	4.90	(6)	9.58	(6)	6.61	(6)
1953	4.92	(6)	9.87	(6)	6.61	(6)
1954	4.52	(6)	8.76	(6)	6.31	(6)
1955	4.50	(6)	8.00	(6)	6.07	(6)
1956	4.82	(6)	8.33	(6)	6.32	(6)
1957	5.08	(6)	9.11	(6)	6.64	(6)
→ 1958	4.86	(6)	9.14	(6)	6.58	(6)
1959	4.77	20.83	8.55	37.34	6.37	27.82
1960	4.69	20.13	8.01	34.38	6.26	26.87
1961	4.58	19.41	8.26	35.00	6.20	26.27
1962	4.48	18.74	7.99	33.43	6.02	25.19
1963	4.39	18.14	8.64	35.70	5.86	24.21
1964	4.45	18.16	8.93	36.45	5.74	23.43
1965	4.44	17.76	8.51	34.04	5.71	22.84
1966	4.54	17.67	8.08	31.44	5.76	22.41
1967	4.62	17.43	8.15	30.75	5.85	22.08
1968	4.67	16.86	8.78	31.70	5.93	21.41
1969	4.99	17.21	9.91	34.17	6.13	21.14
1970	6.26	20.46	11.03	36.05	7.13	23.30
1971	7.07	21.96	12.08	37.52	8.00	24.84
1972	7.66	22.87	12.40	37.01	8.44	25.19
1973	8.53	24.10	13.65	38.56	9.01	25.45
1974	15.75	40.91	22.19	57.64	15.46	40.16
1975	19.23	45.57	32.26	76.45	17.63	41.78
1976	19.43	43.57	33.92	76.05	18.38	41.21
1977	19.82	41.81	34.86	73.54	20.37	42.97
1978	21.78	42.71	35.25	69.12	23.75	46.57
1979	23.65	42.77	41.06	74.25	26.15	47.29

1980	24.52	40.60	42.51	70.38	28.76	47.62
1981	26.29	39.89	44.28	67.19	32.32	49.04
1982	27.14	38.72	49.85	71.11	34.91	49.80
1983	25.85	35.36	52.29	71.53	34.99	47.87
1984	25.51	33.61	48.22	63.53	35.12	46.27
1985	25.10	32.02	45.80	58.42	34.53	44.04
1986	23.70	29.40	44.12	54.74	33.30	41.32
1987	23.00	27.68	43.65	52.53	31.83	38.30
1988	22.00	25.55	44.16	51.29	30.64	35.59
1989	21.76	24.26	42.93	47.86	30.15	33.61
1990	21.71	23.19	39.40	42.09	30.45	32.53
1991	21.45	22.05	36.34	37.35	30.02	30.85
1992	20.98	20.98	34.24	34.24	29.36	29.36
1993	19.79	19.29	R32.94	R32.11	28.58	27.86
1994	19.35	R18.45	36.07	R34.39	28.03	R26.72
1995	R18.74	R17.42	R39.78	R36.97	R27.01	R25.10
1996E	18.24	16.63	40.51	36.93	26.45	24.11

1 Includes subbituminous coal.

2 Free on board. See Glossary.

3 For 1949-1978, prices are f.o.b. preparation plants. For 1979 forward, prices are f.o.b. mines.

4 Cost, Insurance, and Freight. See Glossary.

5 In chained (1992) dollars, calculated by using gross domestic product implicit price deflators. See Appendix D.

6 For 1949-1958, the gross domestic product implicit price deflators, which are used to convert nominal dollar to real (inflation-adjusted) values, were not available in time to use in this report.

R=Revised data. E=Estimate. NA=Not available.

Sources: Bituminous Coal and Lignite, F.O.B. Mines: • 1949-1975DBureau of Mines, Minerals Yearbook, "Coal-Bituminous and Lignite" chapter. • 1976DEnergy Information Administration (EIA), Energy Data Report, Coal-Bituminous and Lignite in 1976. • 1977 and 1978DEIA, Energy Data Report, Bituminous Coal and Lignite Production and Mine Operations-1977; 1978. • 1979-1992DEIA, Coal Production, (annual). • 1993DEIA, Coal Industry Annual 1993 (December 1994). • 1994DEIA, Coal Industry Annual 1994 (December 1995). • 1995DEIA estimates. Anthracite: • 1949-1976DBureau of Mines, Minerals Yearbook, "Coal-Pennsylvania Anthracite" chapter • 1977 and 1978DEIA, Energy Data Report, Coal-Pennsylvania Anthracite 1977; 1978. • 1979DEIA, Energy Data Report, Coal Production-1979. • 1980-1993DEIA, Coal Production, (annual). • 1994DEIA, Coal Industry Annual 1994 (December 1995). • 1995DEIA estimates. All Coal, CIF Electric Utility Power Plants: • 1949-1972DNational Coal Association, Steam Electric Plant Factors. • 1973-1982DFederal Power Commission, Fc FPC-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants." • 1983 forwardDFederal Energy Regulatory Commission, Form FERC-423, "Monthly Report of Cost and Quality of Fuel for Electric Utilities."

Chart
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U.S. Energy Prices

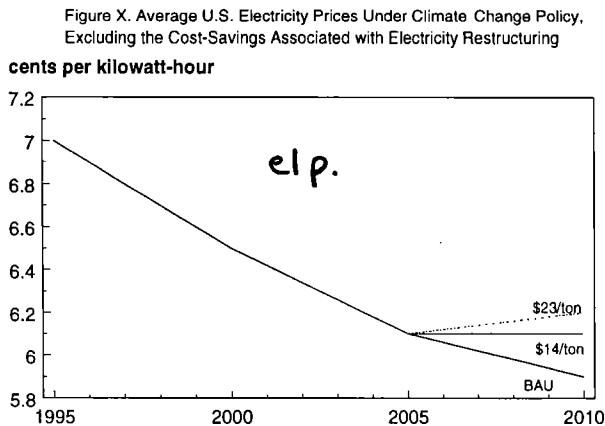
Permit prices in the range of \$14/ton to \$23/ton translate into energy price increases at the household level between 3 and 5%. As table X illustrates, the price increases for electricity and an array of fuels would be modest, and in several cases, the prices faced by consumers, even under the \$23/ton permit price, would be lower in real terms than prices experienced today. By 2010, these increases in energy prices would raise the average household's energy bill by between \$70 and \$110 per year.

The Administration's proposal on electricity restructuring is estimated to result in price declines of 10% on average. This fall in the electricity price would reduce average household expenditures by about \$90 per year, roughly equaling the increase in energy costs associated with climate policy.

Table X. U.S. Energy Prices Under Climate Change Policy

Energy Source	1996 Price	2010 BAU Price	2010, \$14/ton	2010, \$23/ton
Electricity	6.9¢/kWhr	5.9¢/KWhr	6.1¢/KWhr	6.2¢/KWhr
Gasoline	\$1.225/gallon	\$1.259/gallon	\$1.293/gallon	\$1.314/gallon
Fuel Oil	\$1.087/gallon	\$1.092/gallon	\$1.140/gallon	\$1.170/gallon
Natural Gas	\$4.25/mcf	\$3.80/mcf	\$4.00/mcf	\$4.13/mcf

All data are in 1996\$. 1996 and 2010 BAU prices are from the Annual Energy Outlook 1998.



Excluding the benefits of the Administration's electricity restructuring proposal, electricity prices under this climate change policy are projected be about 10% lower in 2010 than they are today, in real terms. Electricity prices would be expected to increase by 3 to 4% from what they otherwise would be in 2010 because of this climate change policy.

Figure X. Average U.S. Gasoline Prices Under Climate Change Policy

1996 dollars per gallon

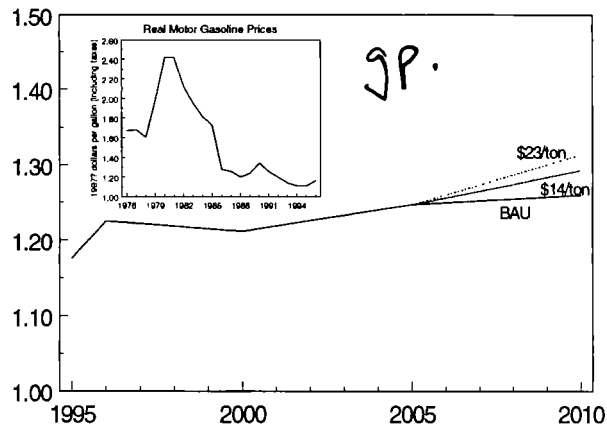


Figure X. Average U.S. Fuel Oil Prices Under Climate Change Policy

1996 dollars per gallon

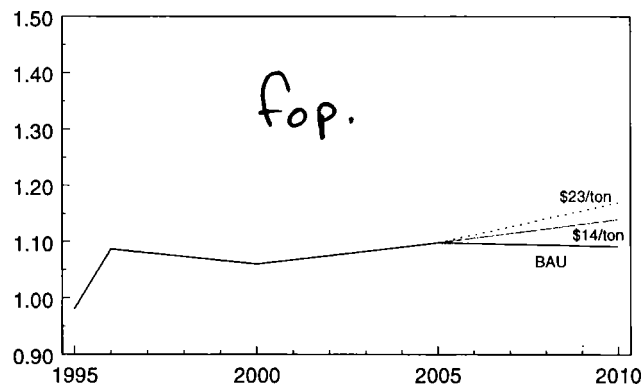
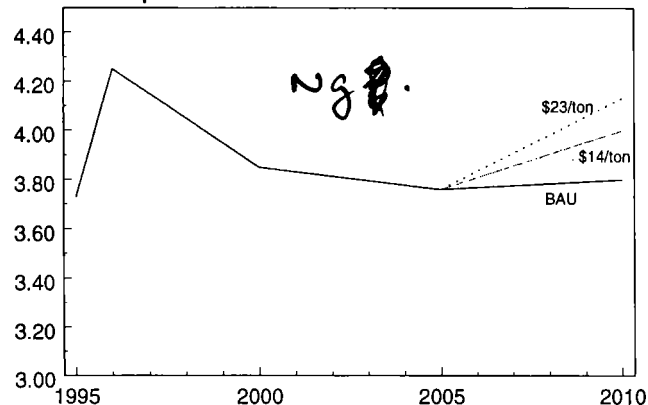


Figure X. Average U.S. Natural Gas Prices Under Climate Change Policy

1996 dollars per thousand cubic feet

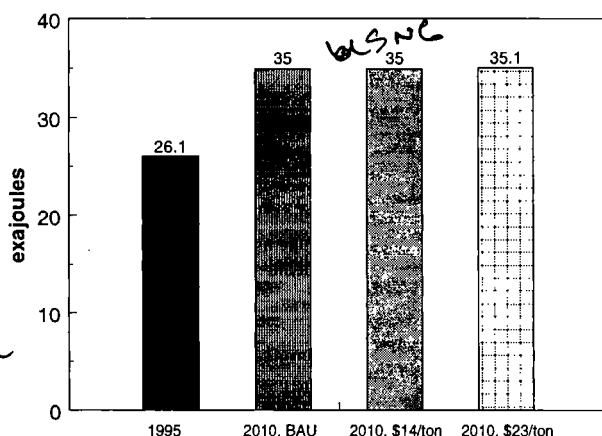


Climate change policy resulting in permit prices of \$14/ton to \$23/ton would be expected to increase gasoline prices by 3 to 4%. This increase, which would occur over the next decade, is smaller than the increase in gasoline prices over 1995-1996. Further, this change in gasoline price is small compared to historical changes in gas prices (see inserted figure). Over the past two decades, the average annual absolute change in the price of gasoline was 7.5%, about double the projected increase in gasoline prices under the climate change policy.

This climate change policy could push fuel oil prices by 5 - 8 ¢/gallon above their projected price in 2010. However, as in the case of gasoline, this increase is smaller, for example, than the jump in fuel oil prices experienced over 1995-1996.

While climate change policy based on effective international trading and meaningful developing country participation would likely result in modest increases in the price of natural gas, 2010 gas prices would still be below current prices. Further, the price increases under both climate change scenarios would be smaller than the price increase over 1995-1996.

Figure X. U.S Natural Gas Consumption Under Climate Change Policy



tradeable permit system would stimulate the transition from coal to natural gas in power plants and industrial boilers. Relative to the 2010 business as usual path, natural gas's share of total energy consumption increases under both permit prices.

The consumption of nuclear energy is projected to decline over time under business as usual because of the scheduled retirements of some nuclear power plants. However, as a source of carbon-free energy, climate change policy would appear to provide an economic incentive to extend the lives of some nuclear plants, resulting in small increases in nuclear power consumption in 2010.

U.S. hydropower is projected to increase over the 1995-2010 period according to SGM, and a climate change policy would likely maintain or slightly increase hydropower consumption relative to business as usual. Like nuclear power, hydropower could provide a carbon-free source of electricity that would be more economically attractive under climate change policy.

Figure X. U.S Non-Hydropower Renewables Consumption Under Climate Change Policy

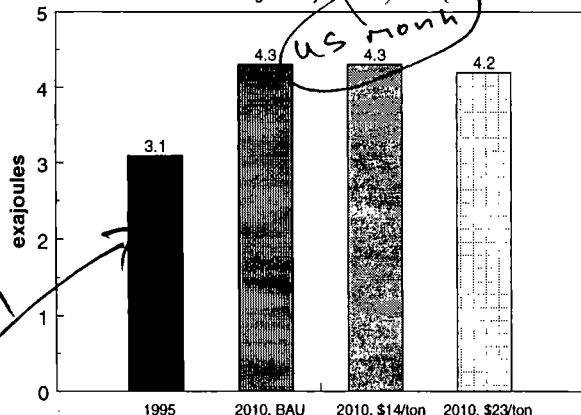
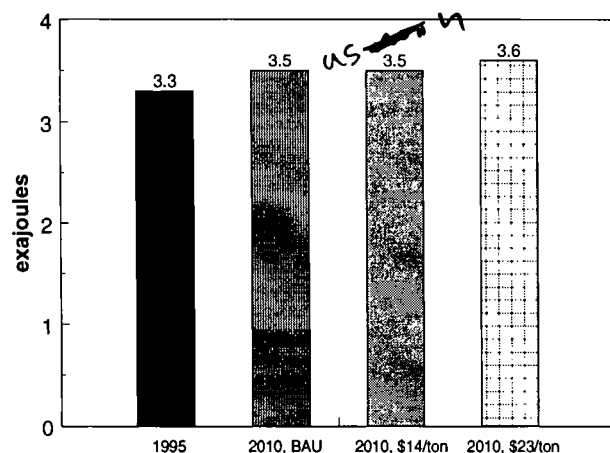
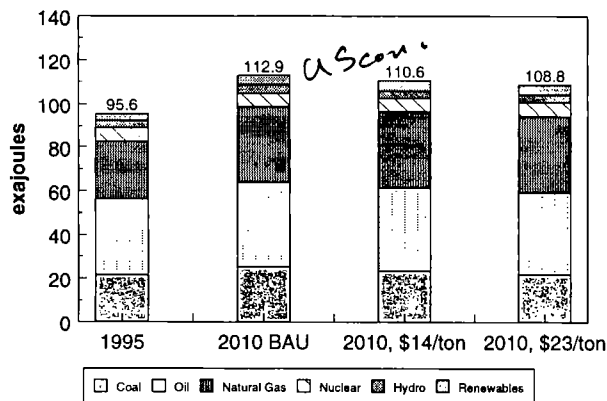


Figure X. U.S Hydropower Consumption Under Climate Change Policy



While non-hydropower renewables are projected to grow about 25% over 1995-2010 in SGM, climate change policy does not appear to further accelerate the adoption of solar, wind, geothermal, and other renewable sources of energy.

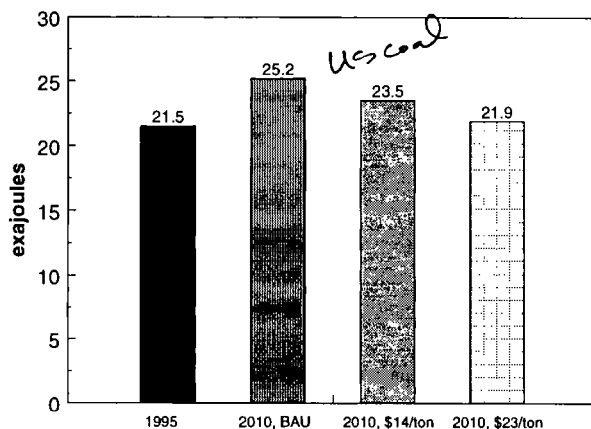
Figure X. Total U.S. Energy Consumption Under Climate Change Policy



2010, which, given the negligible change in GDP discussed above, indicates that the greenhouse gas permit approach would likely stimulate more aggressive improvements in energy efficiency.

The combustion of coal emits more carbon dioxide per BTU than any other fossil fuel. Given

Figure X. U.S. Coal Consumption Under Climate Change Policy

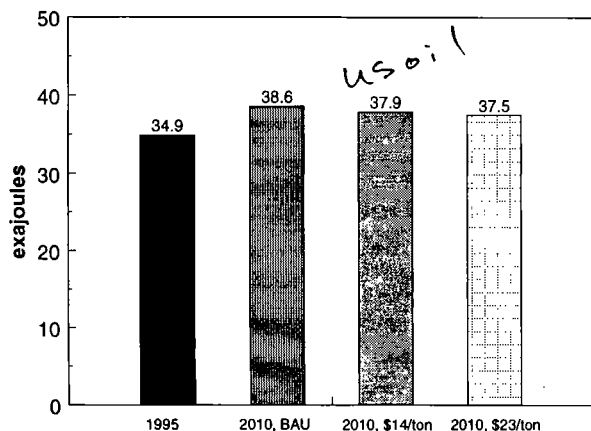


U.S. Energy Consumption

Climate change policy would affect the magnitude and composition of U.S. energy consumption. The Second Generation Model projects that climate policy that results in permit prices of \$14/ton to \$23/ton would result in lower total energy consumption, although consumption would still grow by more than 10% over the 192010 period. Under this climate policy, energy consumption would be 2-4% lower than it otherwise would be in

this characteristic, a tradeable greenhouse gas permit system would stimulate the transition from coal to carbon-lean and carbon-free fuels. However, permit prices of \$14/ton to \$23/ton would result in only modest reductions in coal consumption in 2010 relative to its business as usual. Indeed, coal consumption would still increase relative to its present level. It should also be noted, that even under business as usual, coal's share of total energy consumption falls over 1995-2010.

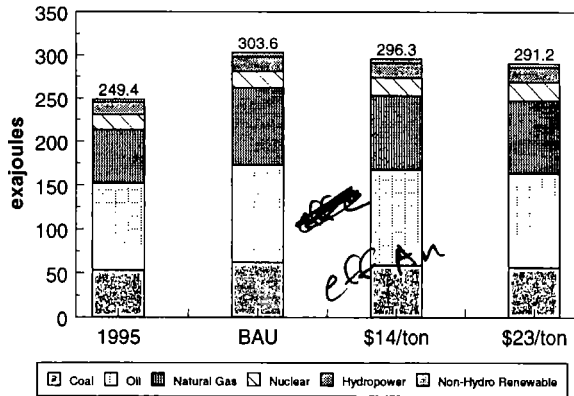
Figure X. U.S. Oil Consumption Under Climate Change Policy



Climate change policy based on effective international trading and meaningful developing country participation would cause a small decline in oil consumption relative to its business as usual level, but would still result in consumption at least 7% above the present level. This decline in oil consumption could imply a decrease in oil imports relative to what they would have been otherwise.

In contrast to oil and coal, natural gas consumption does not appear to decline in the SGM analysis of these permit prices. Since natural gas is carbon-lean (only 60% the carbon emissions of coal per BTU), the

Figure X. Total Annex I Energy Consumption Under Climate Change Policy



International Energy Consumption

Changes in energy consumption among the different regions and for the different scenarios are summarized in Figures aa to bb.

Figure X. Total Non-Annex I Energy Consumption Under Climate Change Policy

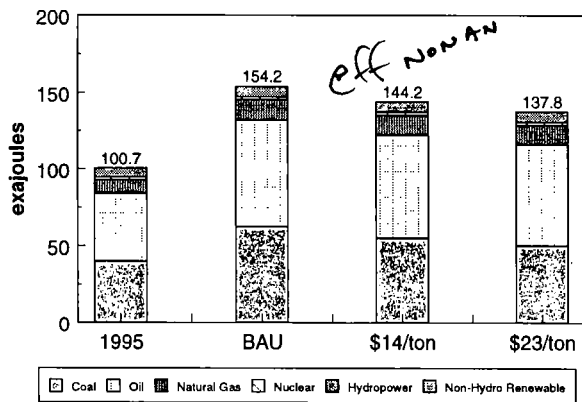


Figure X. Total Worldwide Energy Consumption Under Climate Change Policy

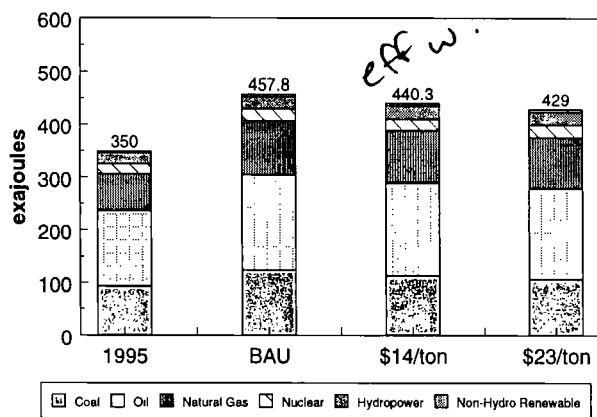
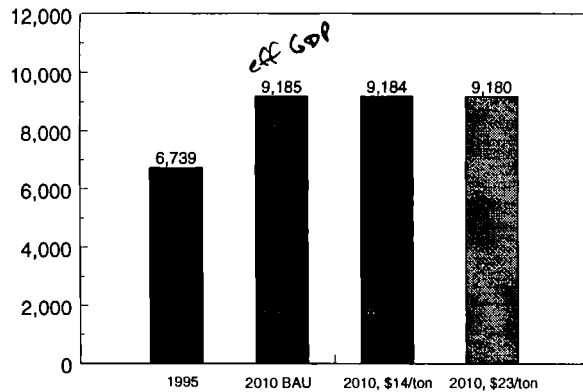


Figure X. Effects of Climate Policy on U.S. GDP

billions of 1992\$

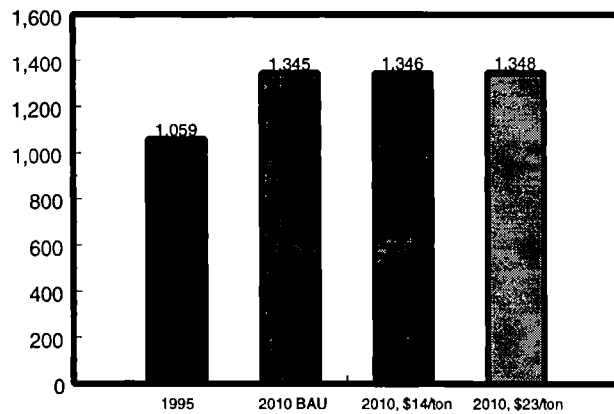


U.S. GDP, Investment, and Consumption

The Second Generation Model projects economic growth for the United States in its business as usual scenario through 2010. Implementing climate policy through effective international trading in conjunction with meaningful developing country participation would have a negligible effect on economic output. In the \$23/ton permit price scenario, GDP would be only \$5 billion less in 2010 than it is projected to be otherwise.⁵

Figure X. Effects of Climate Policy on U.S. Investment

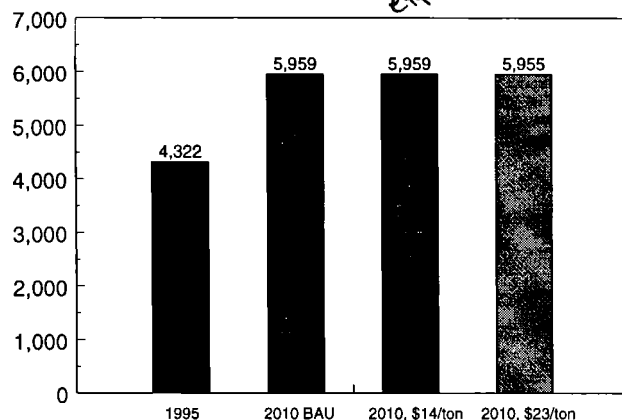
billions of 1992\$



Under climate policy that yields permit prices of \$14/ton to \$23/ton, investment would rise by a small amount under both scenarios. This increase in investment reflects the adoption of energy efficient and carbon-lean technologies stimulated by the trading price of the greenhouse gas permits.

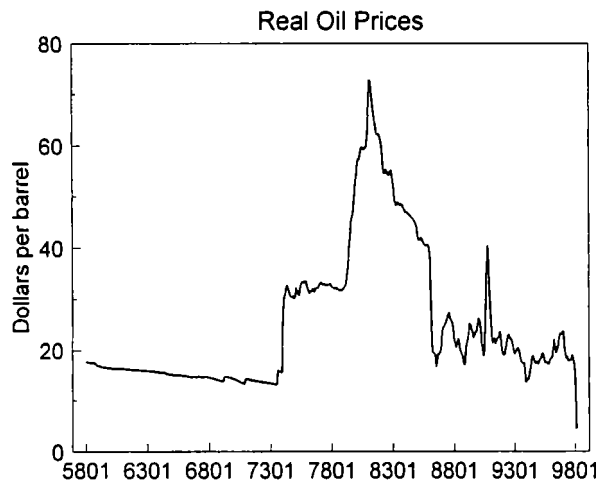
Figure X. Effects of Climate Policy on U.S. Consumption

billions of 1992\$

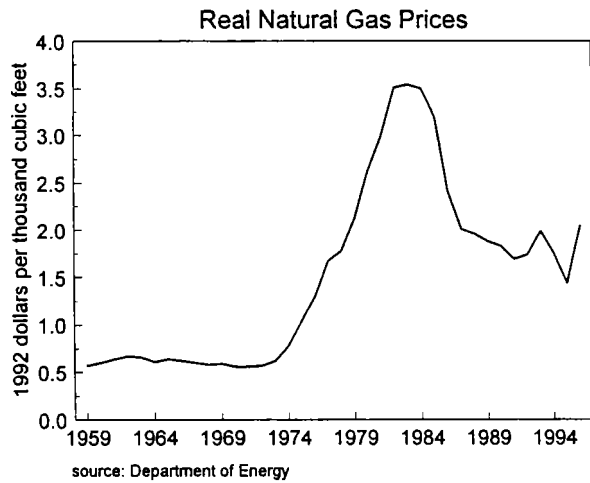
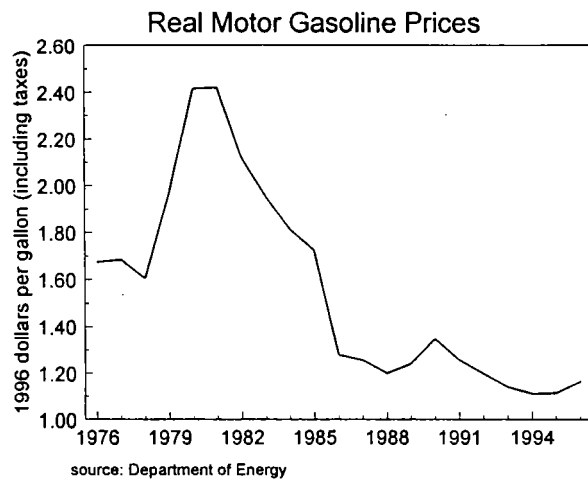
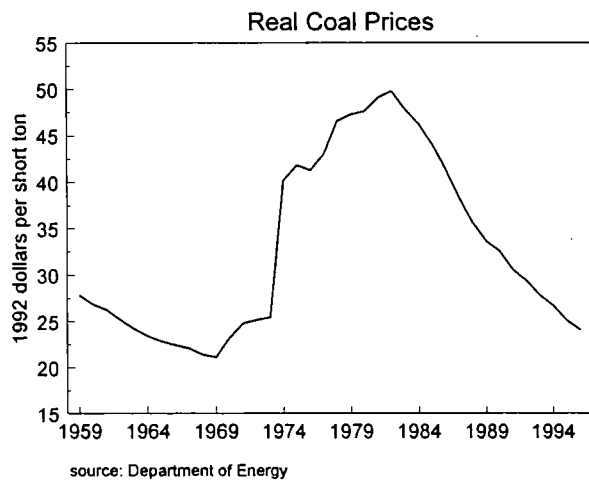
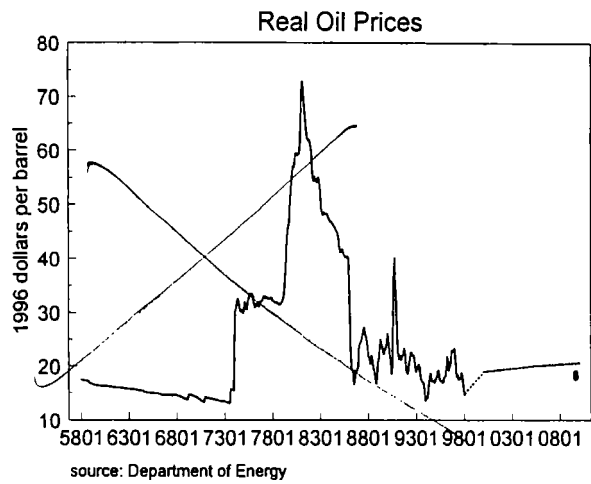


The slight increase in investment under this climate change policy represents a shift away from consumption; however, this shift would be small. Under the \$14/ton permit price scenario, the change in consumption would be insignificant. Under the \$23/ton scenario, the shift would amount to a decline of \$4 billion in 2010.

⁵ Note that the SGM GDP estimate does not reflect the effects of reducing non-carbon dioxide greenhouse gas emissions.

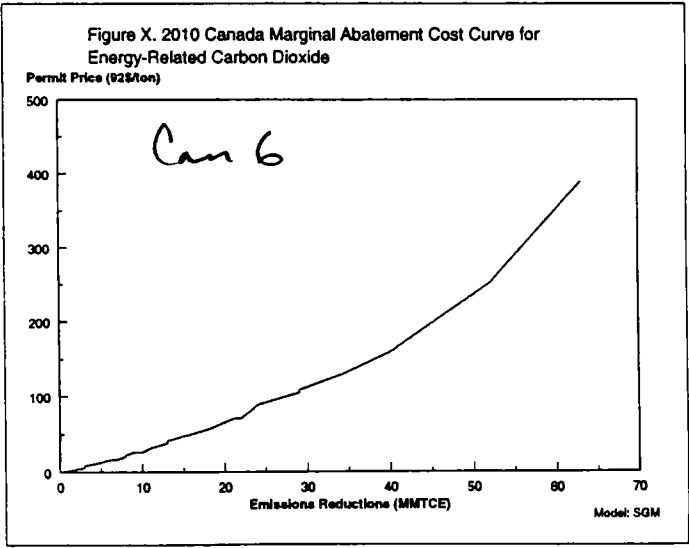
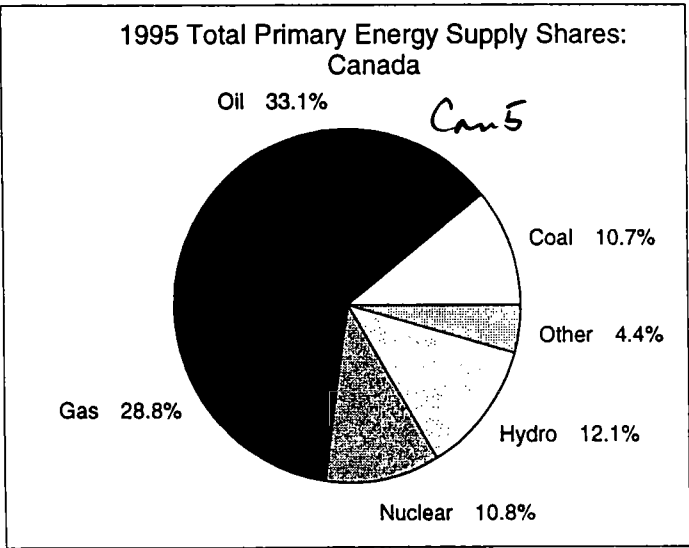
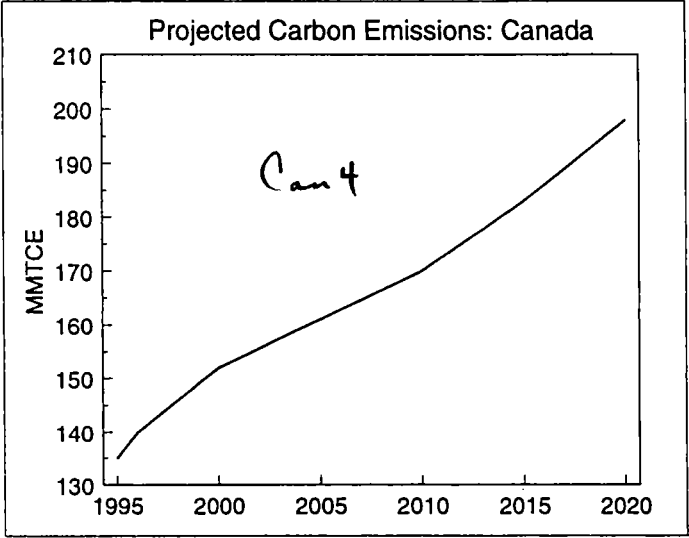
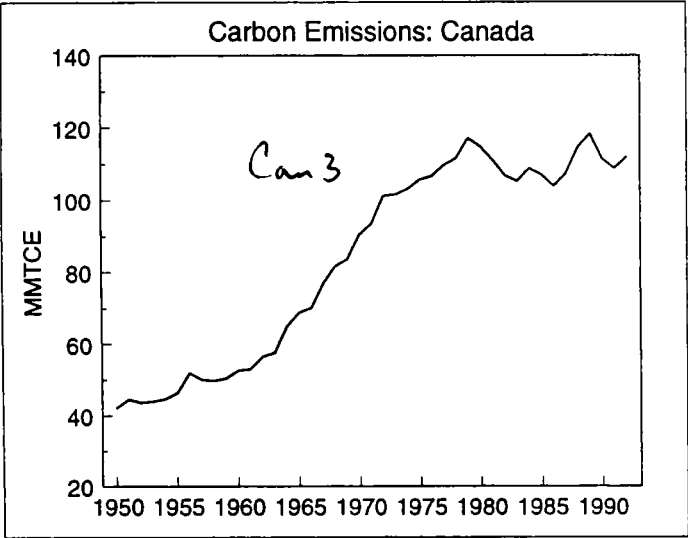
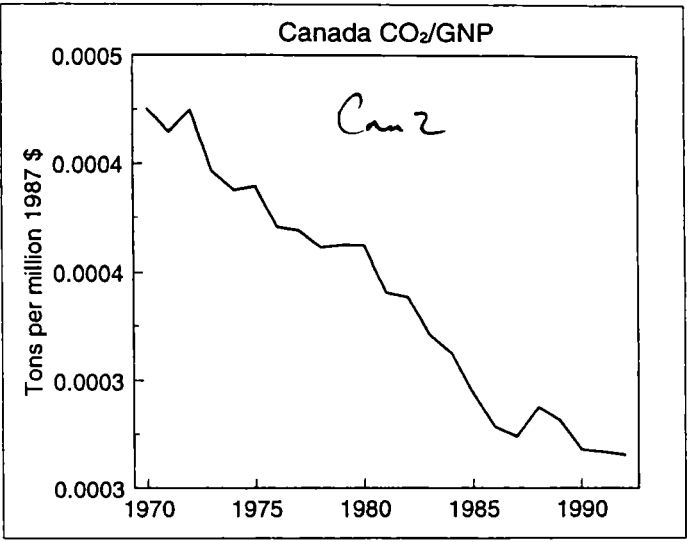
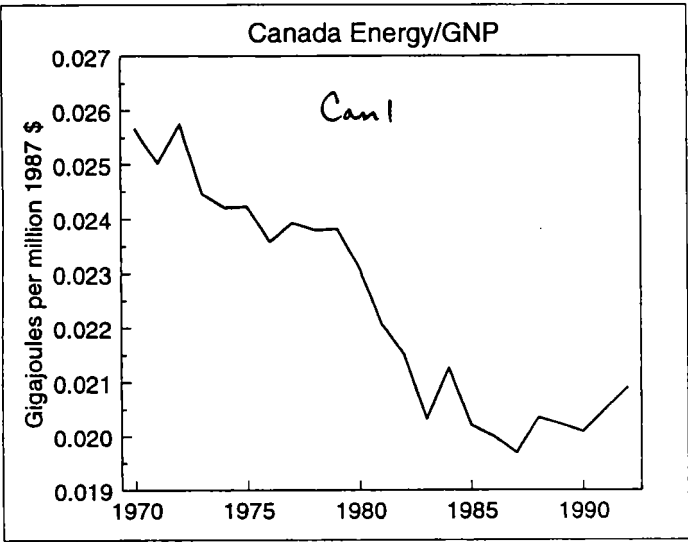


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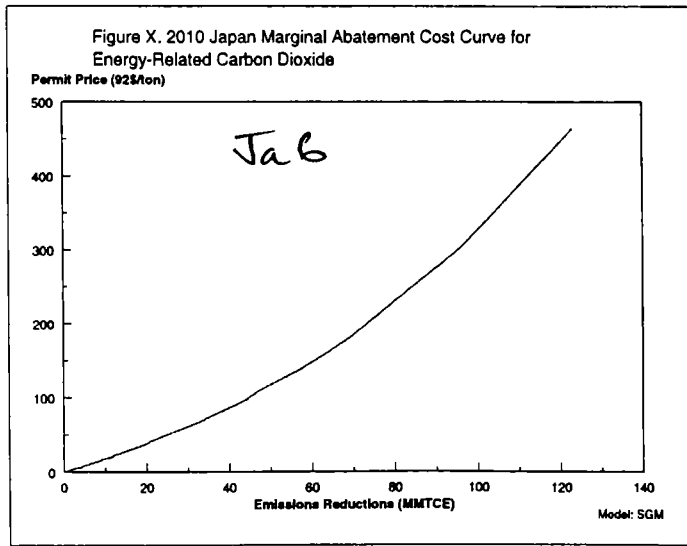
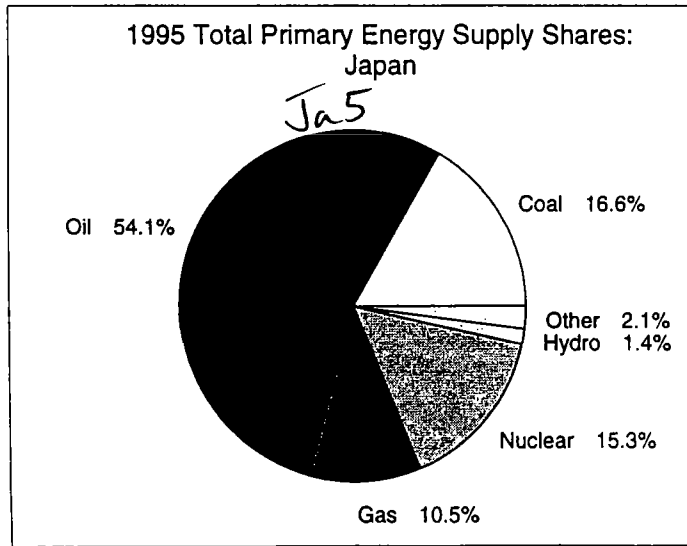
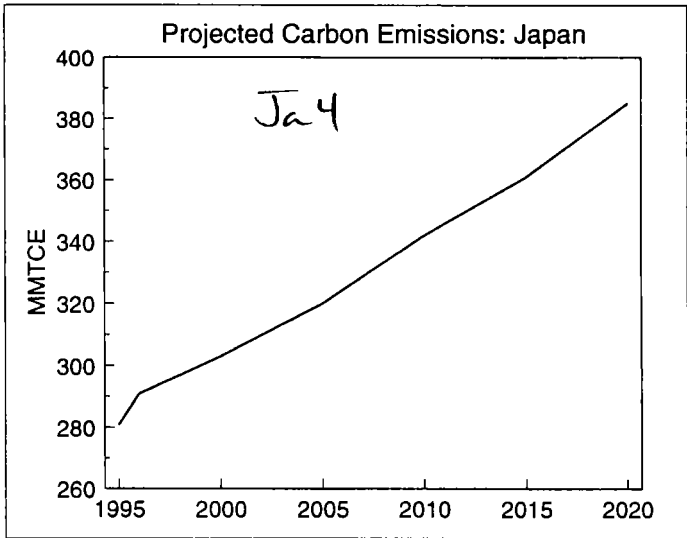
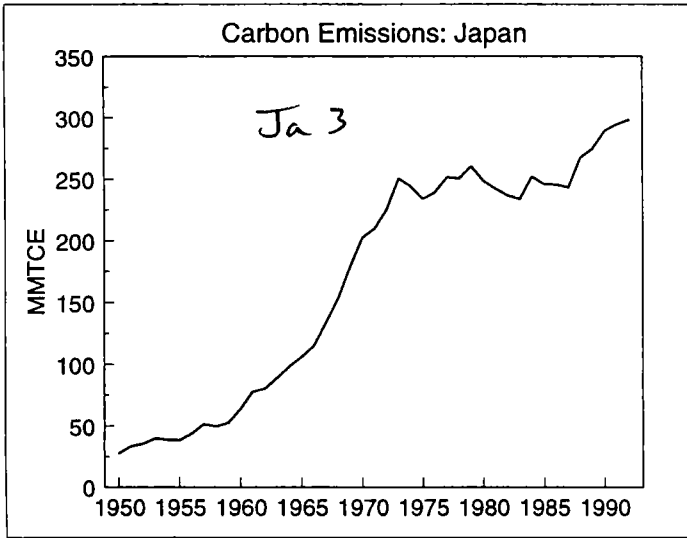
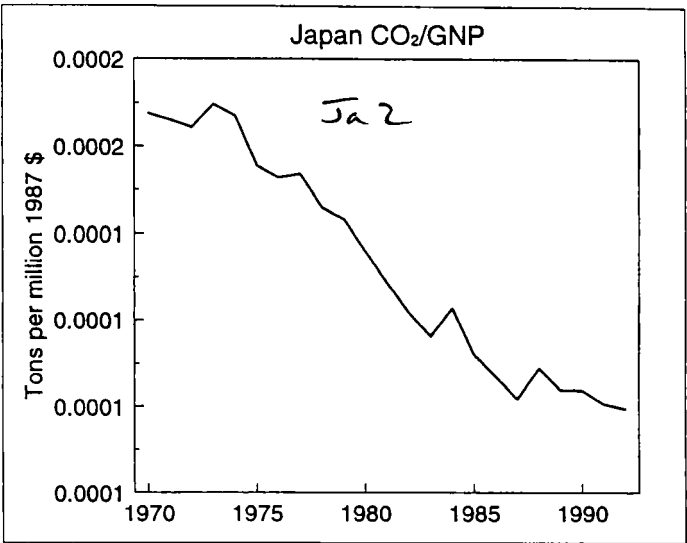
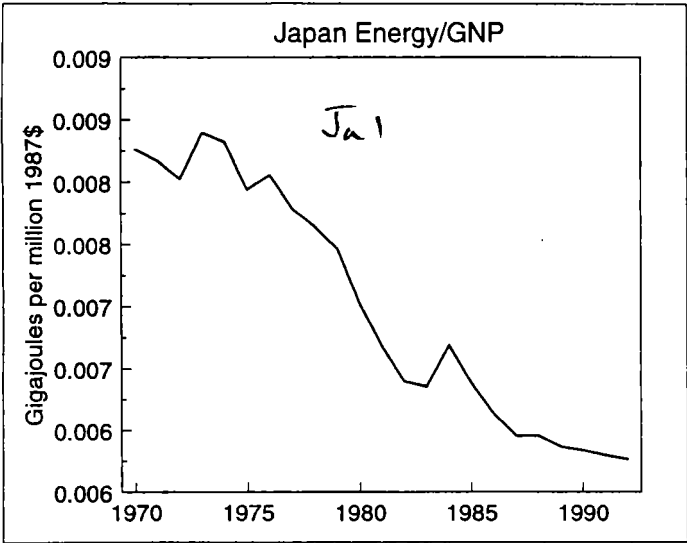


Predicted changes in real energy prices from the Administration's climate change policies are smaller than the variations observed historically.

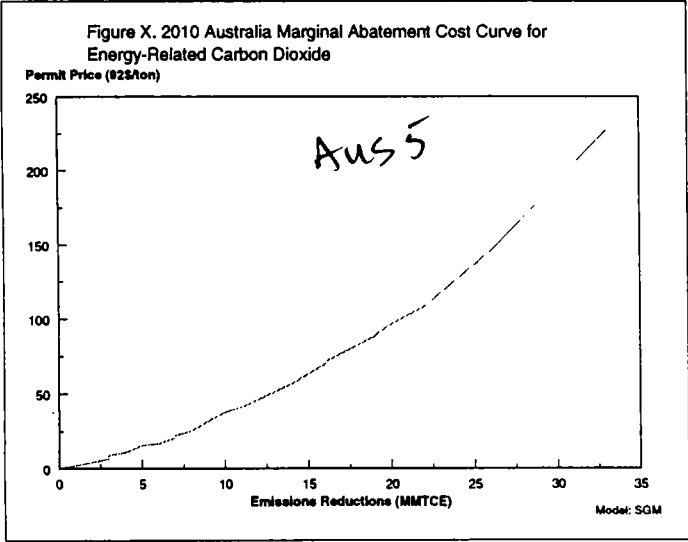
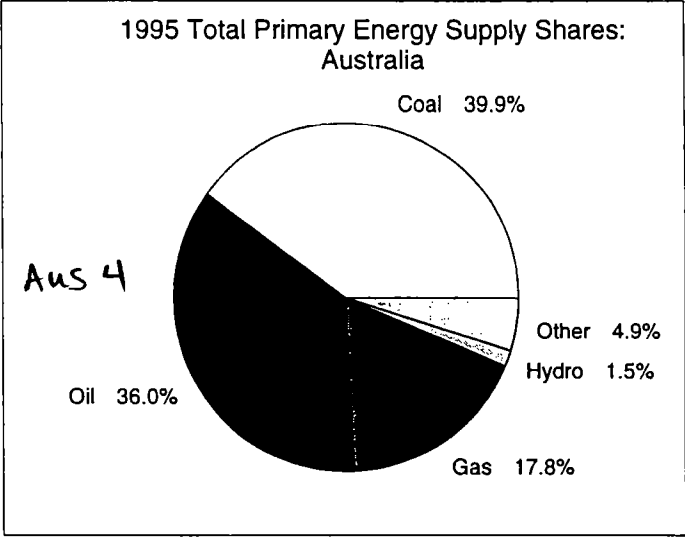
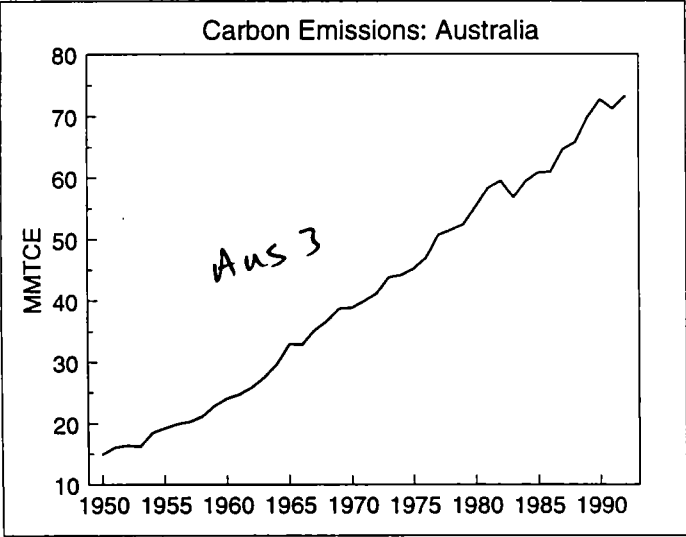
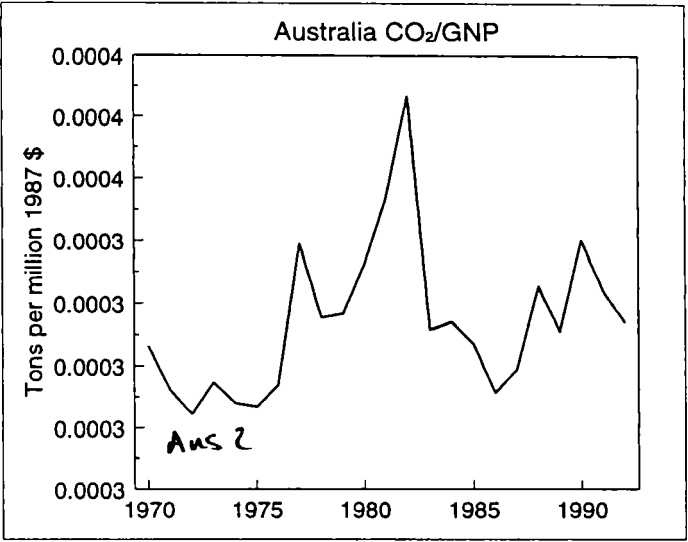
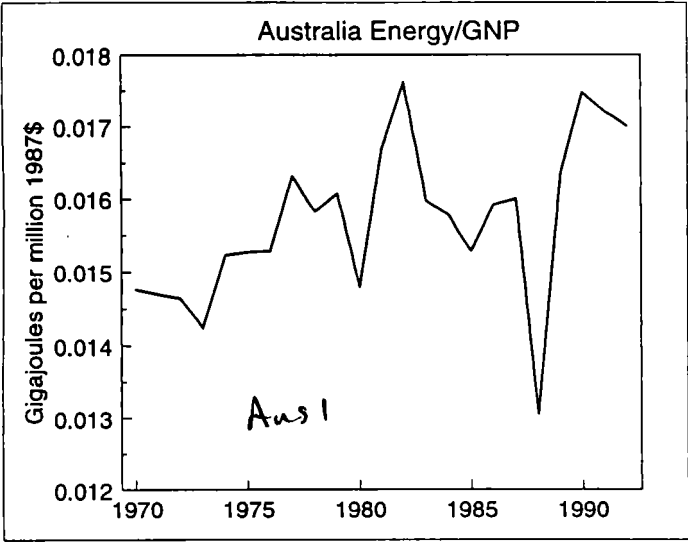
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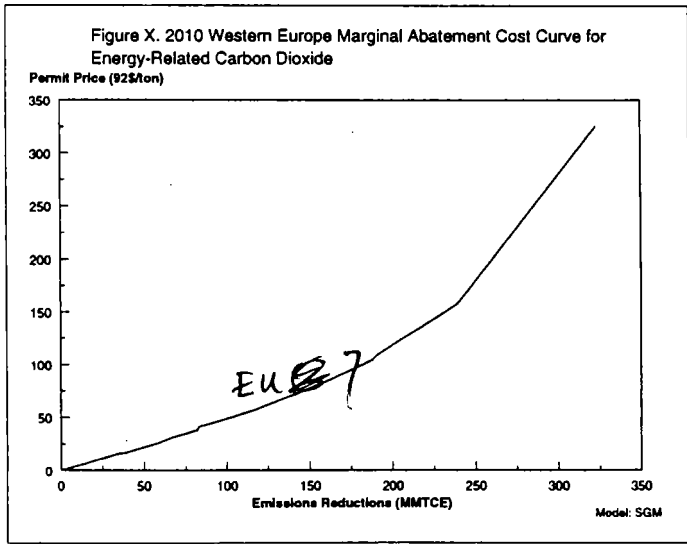
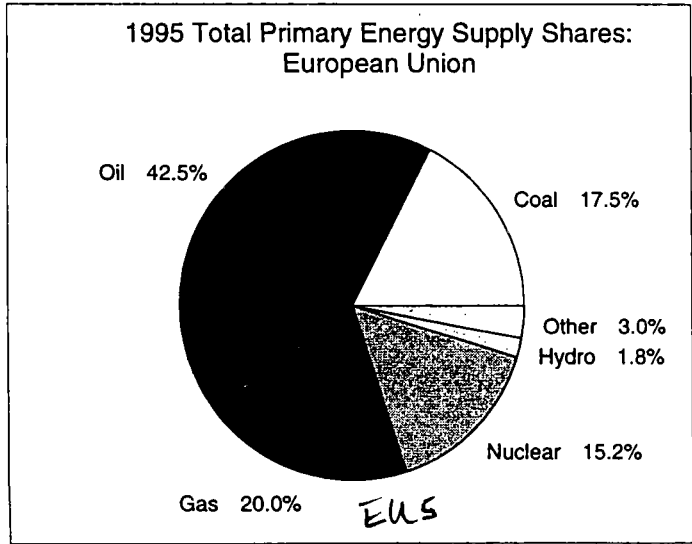
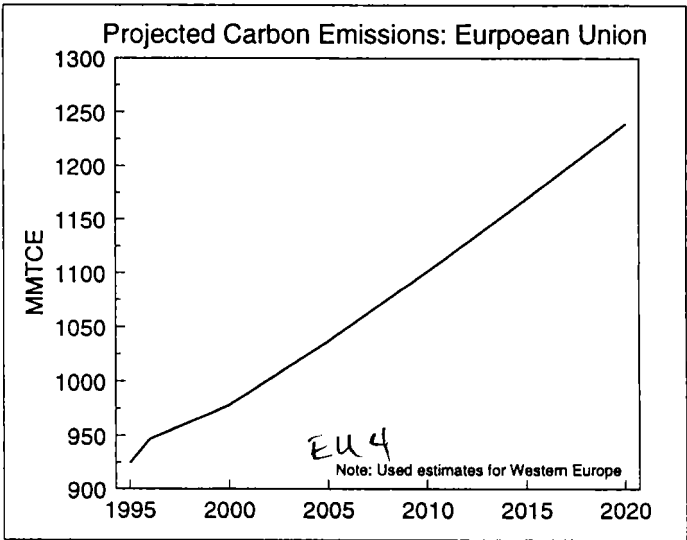
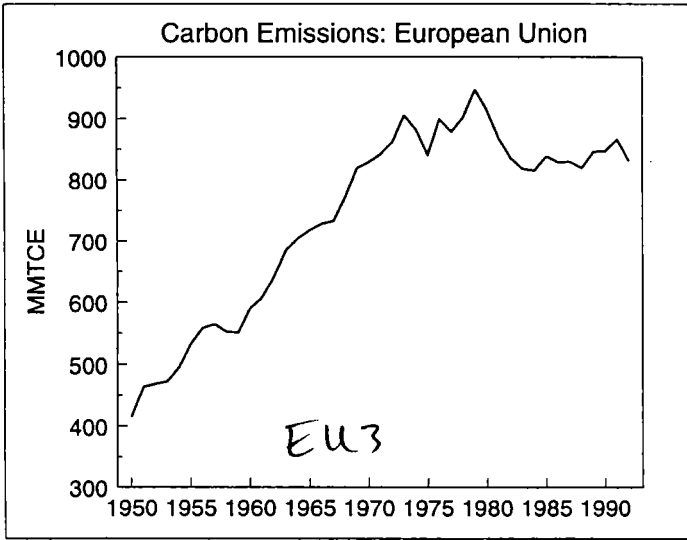
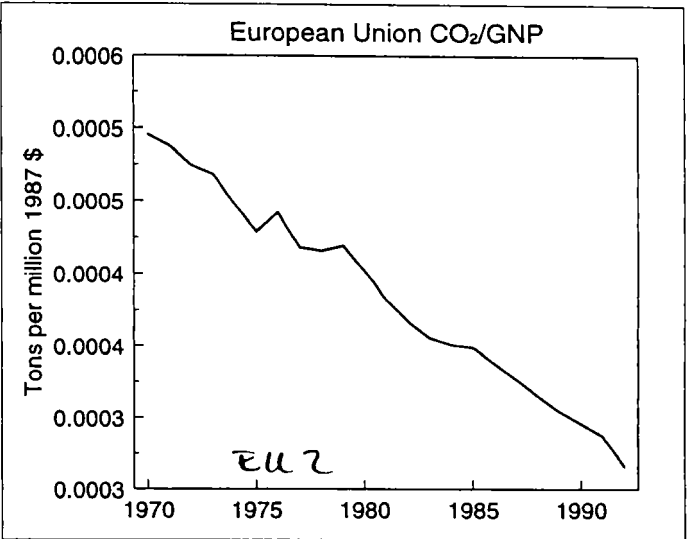
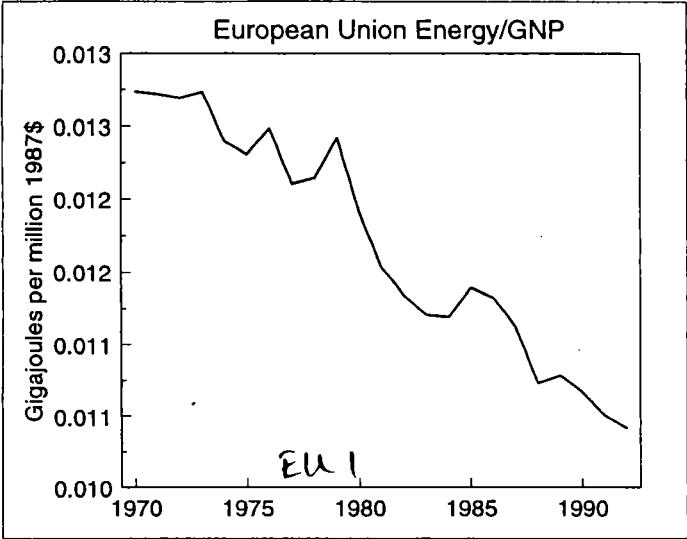
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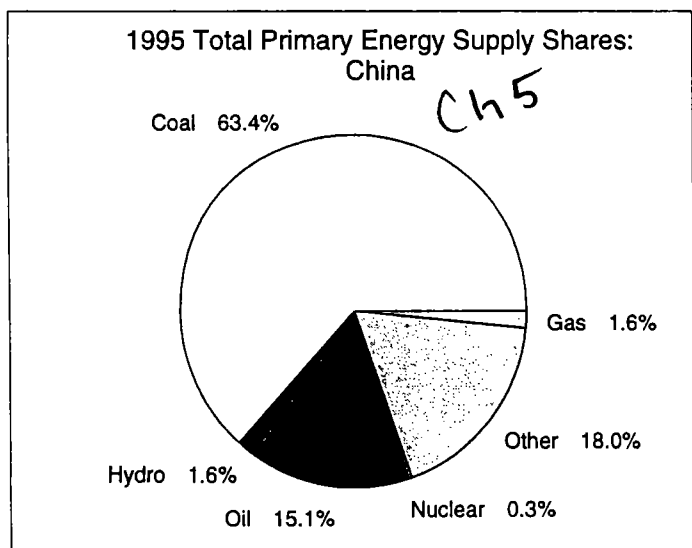
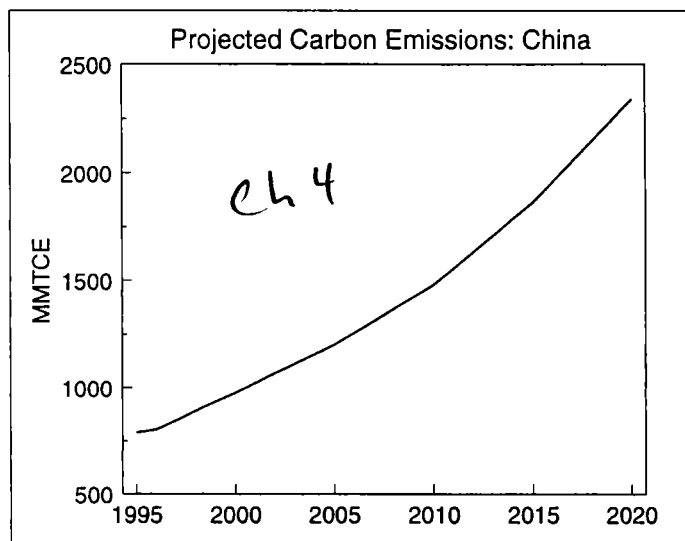
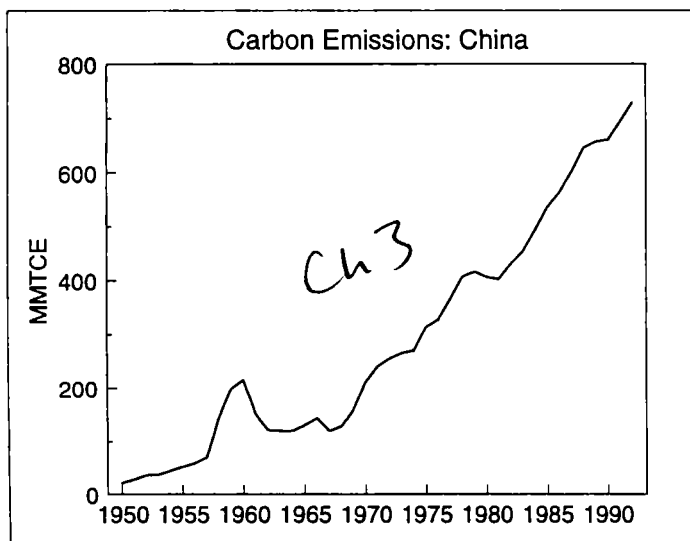
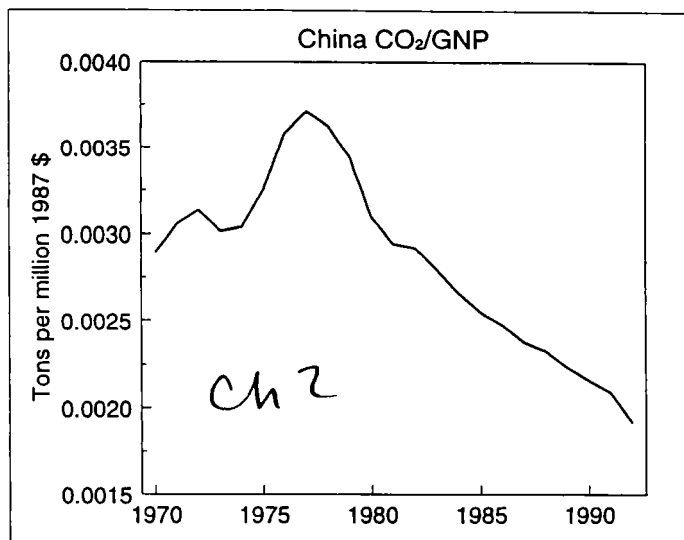
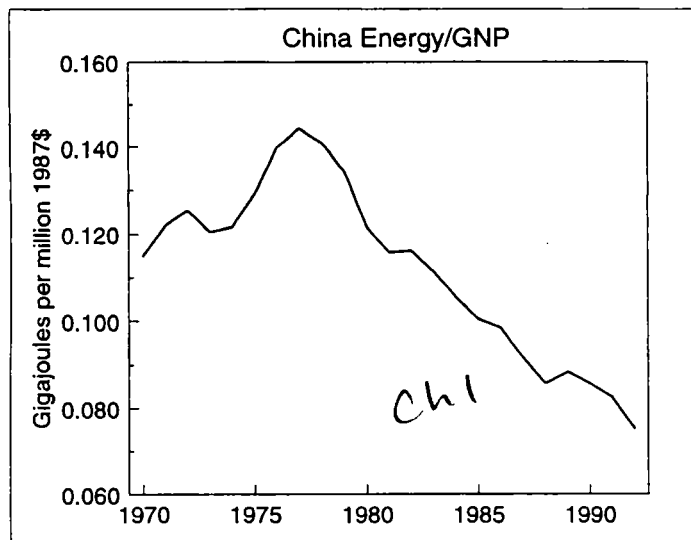
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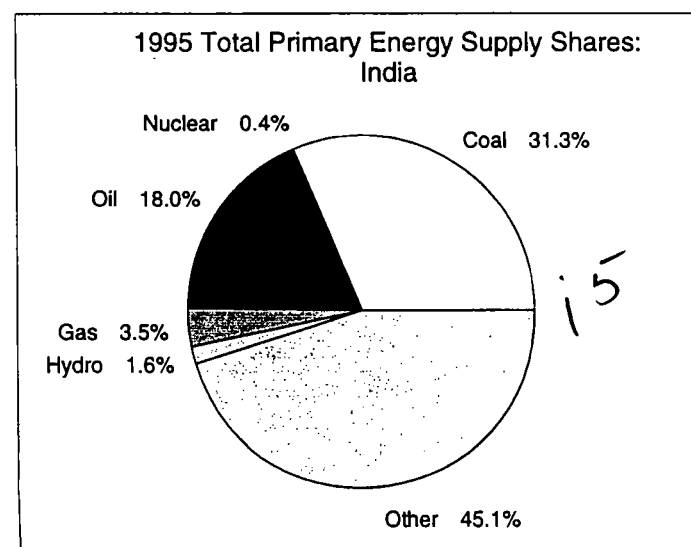
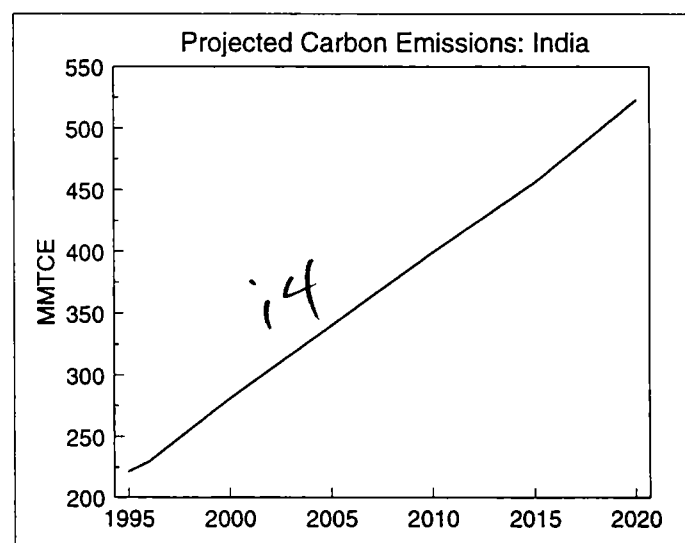
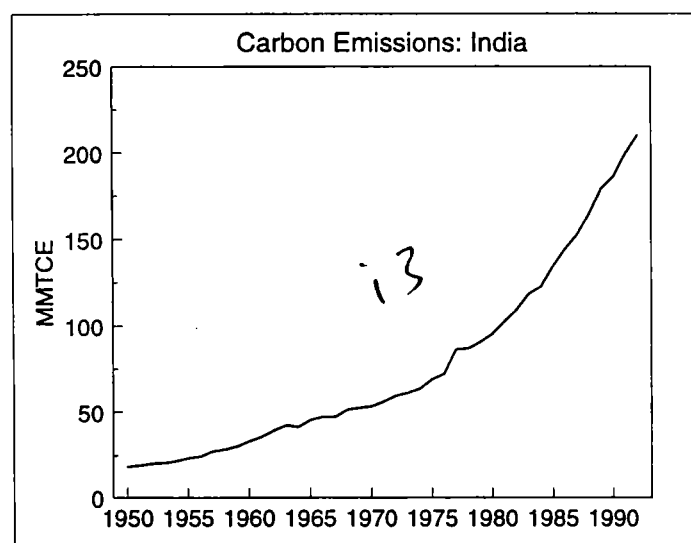
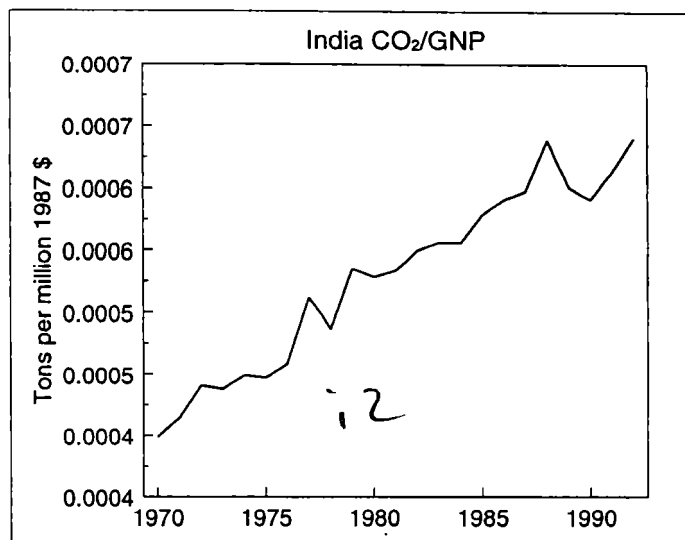
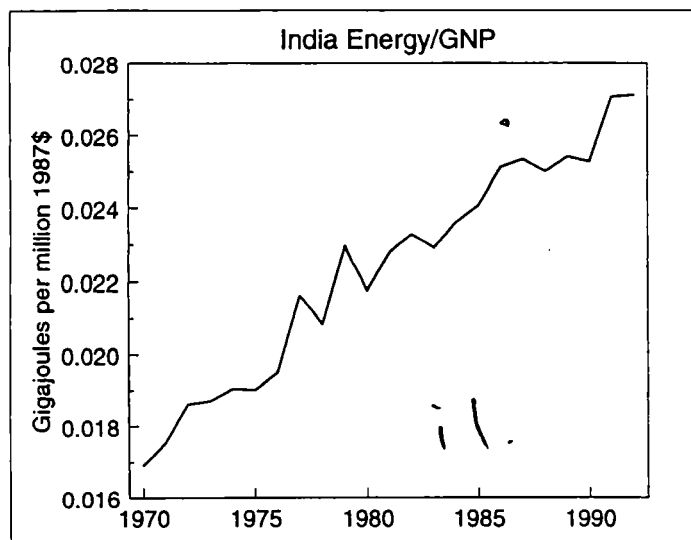
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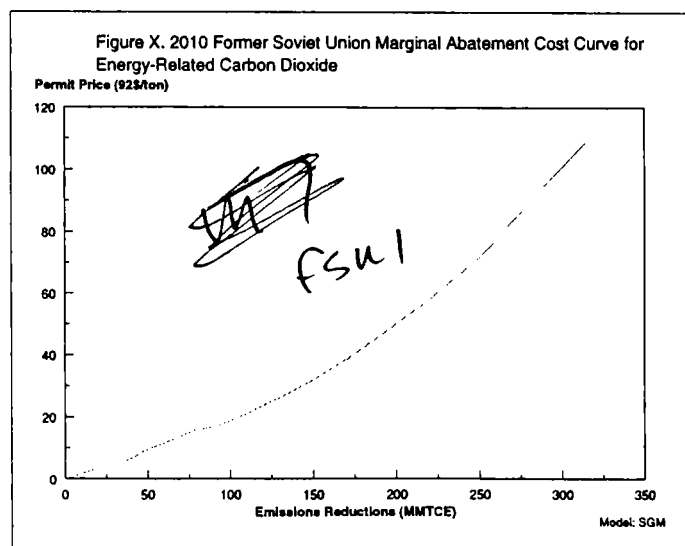
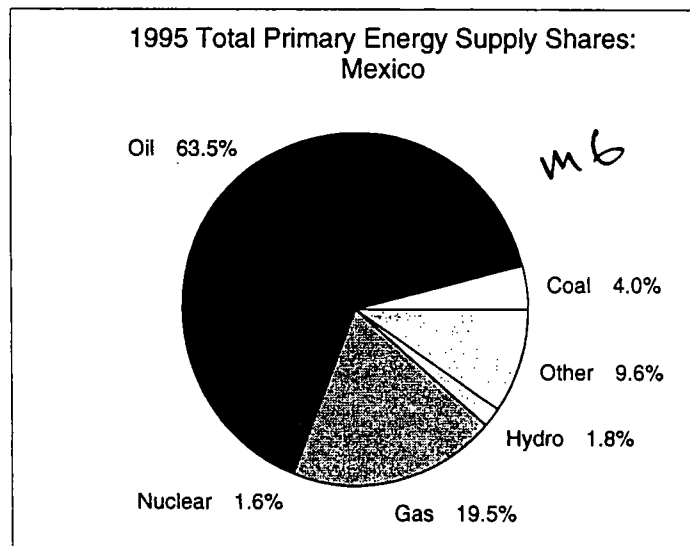
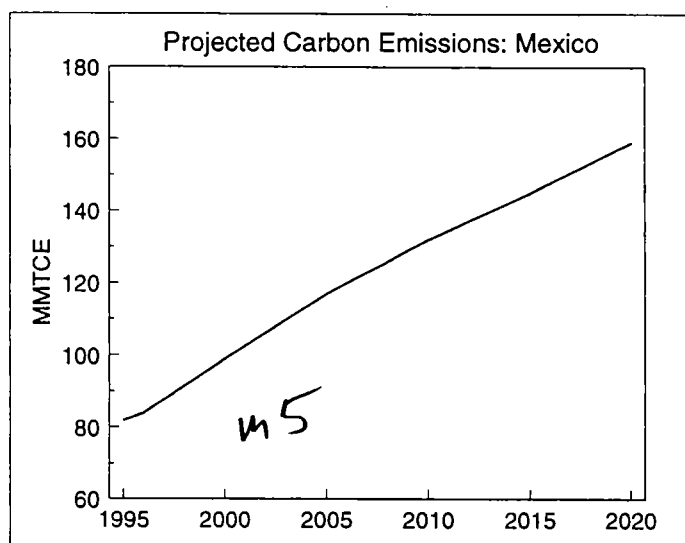
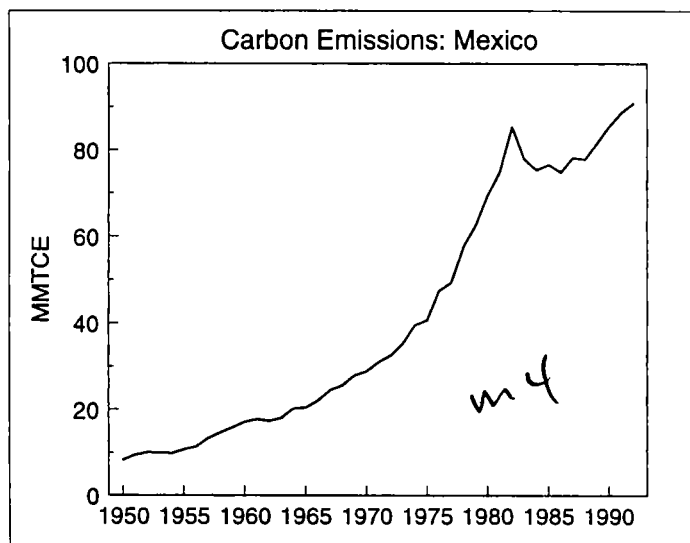
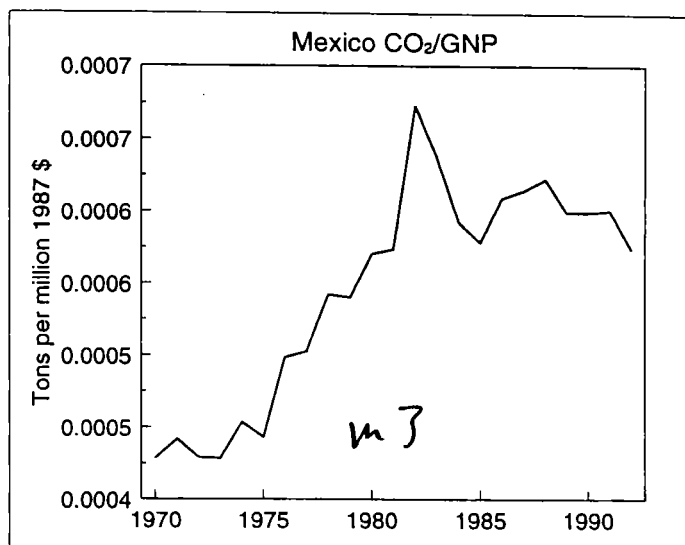
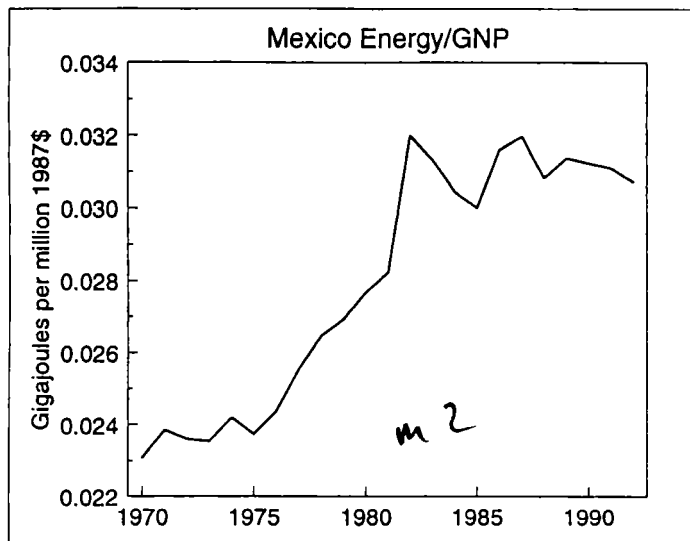
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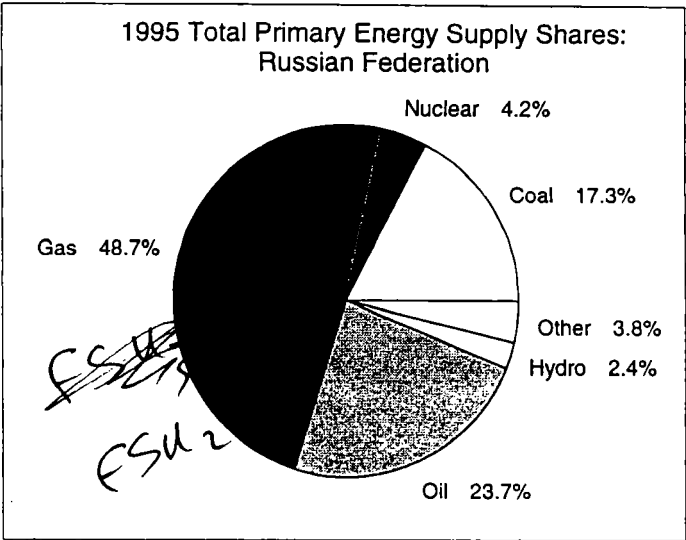
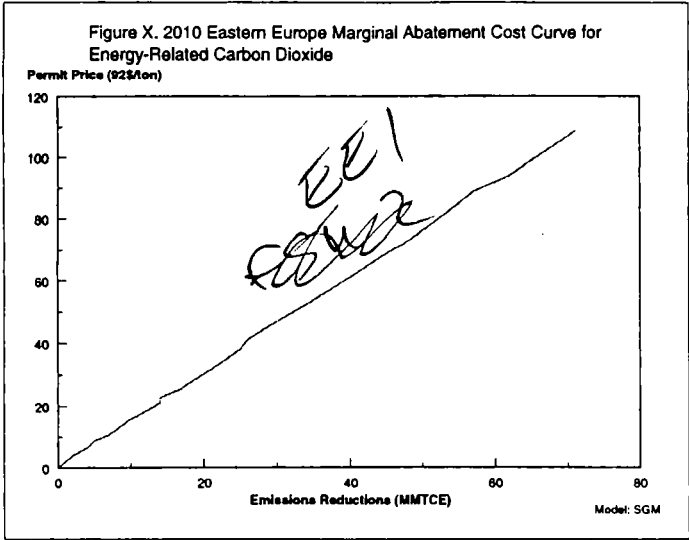


Country Data



Country Data





Date	Regular Unleaded Motor Gasoline Price to End Users Including Tax (c/g)
1949	0.00
1950	0.00
1951	0.00
1952	0.00
1953	0.00
1954	0.00
1955	0.00
1956	0.00
1957	0.00
1958	0.00
1959	0.00
1960	0.00
1961	0.00
1962	0.00
1963	0.00
1964	0.00
1965	0.00
1966	0.00
1967	0.00
1968	0.00
1969	0.00
1970	0.00
1971	0.00
1972	0.00
1973	0.00
1974	0.00
1975	0.00
1976	61.40
1977	65.60
1978	67.00
1979	90.30
1980	124.50
1981	137.80
1982	129.60
1983	124.10
1984	121.20
1985	120.20

1986	92.70
1987	94.80
1988	94.60
1989	102.10
1990	116.40
1991	114.00
1992	112.70
1993	110.80
1994	111.20
1995	114.70
1996	123.10
1997	0.00

The Selection you made contains no data. The most likely cause of this problem is that you are trying to display data that does not exist. Please go back and modify your selections.

1 year increase

Preliminary Draft 1, Do Not Cite, 4/28/98

Table X. U.S. Energy Prices Under Climate Change Policy

Energy Source	1996 Price	2010 BAU Price	2010, \$14/ton	2010, \$23/ton
Electricity	6.9¢/Kwhr	5.9¢/Kwhr	6.1¢/Kwhr	6.2¢/Kwhr
Gasoline	\$1.225/gallon	\$1.259/gallon	\$1.293/gallon	\$1.314/gallon
Fuel Oil	\$1.087/gallon	\$1.092/gallon	\$1.140/gallon	\$1.170/gallon
Natural Gas	\$4.25/mcf	\$3.80/mcf	\$4.00/mcf	\$4.13/mcf

source:

Note that for electricity + natural gas, prices under this climate policy scenario would be lower in 2010 than they were in 1996 (last year of available data).

energy

% Δ from BAU
\$14 \$23

% Δ from 1996
\$14 \$23

Date	Natural Gas Wellhead Real Price (\$/Mcf)
1949	0.00
1950	0.00
1951	0.00
1952	0.00
1953	0.00
1954	0.00
1955	0.00
1956	0.00
1957	0.00
1958	0.00
1959	0.57
1960	0.60
1961	0.64
1962	0.67
1963	0.66
1964	0.61
1965	0.64
1966	0.62
1967	0.60
1968	0.58
1969	0.59
1970	0.56
1971	0.56
1972	0.57
1973	0.62
1974	0.78
1975	1.04
1976	1.30
1977	1.67
1978	1.78
1979	2.13
1980	2.63
1981	3.00
1982	3.51
1983	3.54
1984	3.50
1985	3.20

1986	2.41
1987	2.01
1988	1.96
1989	1.88
1990	1.83
1991	1.69
1992	1.74
1993	1.99
1994	1.76
1995	1.44
1996	2.05
1997	0.00

The Selection you made contains no data. The most likely cause of this problem is that you are trying to display data that does not exist. Please go back and modify your selections.

Intl appendices

E/GDP , C/GDP are time by country line ✓
 emissions are time line ✓
 projected emissions line ✓
 MC curve Joe ✓
 Energy breakdown pie ✓

→ Canada ✓

Japan ✓

Australia ✓

→ FSU

E's'n Europe ✓

✓ EU (W's'n Europe) ✓

China ✓

India ✓

→ Mexico

Table with ^{Average} Annual $\uparrow$ effing E/GDP
 1970-1990

1990-1970 = 20

1970-1990	Canada	-1.21	~~improve~~
	Japan	-1.72	improvement
	Aust.	.84	
	FSU	-5.56	improve
	EU	-2.32	imp
	China	-1.46	impr
	India	2.04	~~impr~~
	Mexico	1.52	

uns

1990, 1992 or most recent
US index = 1.0
bar chart

1) energy/GDP 1970-1992 (or most recent)

~~a) US~~

b) US, EU, Japan, Australia, Canada, Russia/FSU (Russia), Poland, Czechoslovakia, Hungary

~~c) US, China, India, Mexico, Korea, Indonesia, Malaysia, Brazil, Chile~~

60th

2) CO₂ emissions/GDP 1970-1992

a) same as above

b) " "

c) ~~~~~

3) CO₂ emissions, 1950 - most recent

a) US (get 5-4 from 28 ERP - all GHG)

b) US, EU, Japan, Australia, Canada, Russia/USSR

c) US, China, India, Mexico, Korea, Indonesia, Malaysia, Brazil, Chile (maybe drop US)

Don

4) CO₂ projections

IEO98

line charts

a) ~~US, WEur, Jap, Aus, Canada, EEur, FSU~~

b) ~~US, China, India, Brazil, Korea~~

c) ~~Annex I, non-Annex I~~



9764,000,000
10³⁻⁶
10⁶ 10³

1411,400,000
1411,400,000 → AEdlin

Kenny McKenry
426-1144
EIA

1970-1990

Average Annual Change in E/GDP

Canada	-1.21 Imp
Japan	-1.72 Imp
Australia	0.84
Russian Federation	-0.56 Imp
EU	-2.32 Imp
China	-1.46 Imp
India	2.04
Mexico	1.52

	Population 2010 (mill)	Emissions	Percapita Emissio
United States	297.486	1803	6.06
Western Europe	465.519	1101	2.37
Austria	8.251		
Belgium	10.334		
Denmark	5.173		
Finland	5.314		
France	60.13		
Germany	80.466		
Greece	10.458		
Iceland	0.307		
Ireland	3.777		
Italy	55.985		
Luxembourg	0.439		
Netherlands	16.239		
Norway	4.556		
Portugal	9.791		
Spain	39.514		
Sweden	9.266		
Switzerland	7.717		
Turkey	77.883		
UK	59.919		
Canada	33.946	170	5.01
Japan	127.152	342	2.69
China	1388.474	1481	1.07
India	1189.082	399	0.34
Mexico	117.651	132	1.12
Brazil	199.327	139	0.70