

Reference Case Projections:

- **World Energy Consumption**
- **Gross Domestic Product**
- **Carbon Dioxide Emissions**
- **World Population**

Table A1. World Total Primary Energy Consumption by Region, Reference Case, 1990-2030
(Quadrillion Btu)

Region/Country	History			Projections					Average Annual Percent Change, 2005-2030
	1990	2004	2005	2010	2015	2020	2025	2030	
OECD									
OECD North America	100.7	120.6	121.3	126.4	132.3	137.8	143.4	148.9	0.8
United States ^a	84.7	100.1	100.1	103.3	107.3	110.8	114.5	118.0	0.7
Canada	11.0	14.0	14.3	15.7	16.7	17.6	18.4	19.3	1.2
Mexico	5.0	6.5	6.9	7.4	8.4	9.4	10.4	11.6	2.1
OECD Europe	70.0	81.0	81.4	83.9	86.8	88.5	90.4	92.0	0.5
OECD Asia	26.8	37.8	38.2	39.3	41.4	42.7	43.7	44.9	0.7
Japan	18.5	22.7	22.6	22.4	22.9	23.1	23.3	23.4	0.1
South Korea	3.8	9.0	9.3	10.3	11.6	12.4	13.0	13.7	1.6
Australia/New Zealand	4.5	6.1	6.3	6.6	6.9	7.2	7.5	7.8	0.8
Total OECD	197.5	239.4	240.9	249.7	260.5	269.0	277.6	285.9	0.7
Non-OECD									
Non-OECD Europe and Eurasia . . .	67.3	49.5	50.7	55.1	59.5	63.3	66.0	69.1	1.2
Russia	39.4	29.9	30.3	32.7	34.9	36.7	38.0	39.6	1.1
Other	28.0	19.6	20.4	22.4	24.5	26.5	28.0	29.4	1.5
Non-OECD Asia	47.4	101.0	109.9	137.1	164.2	189.4	215.3	240.8	3.2
China	27.0	59.9	67.1	87.3	104.0	120.6	138.0	155.2	3.4
India	7.9	15.5	16.2	19.4	23.2	26.6	29.9	33.2	2.9
Other Non-OECD Asia	12.5	25.6	26.6	30.5	37.0	42.2	47.3	52.4	2.7
Middle East	11.2	20.9	22.9	26.4	29.5	32.6	34.7	36.8	1.9
Africa	9.5	14.0	14.4	16.5	18.9	20.9	22.5	23.9	2.0
Central and South America	14.5	22.5	23.4	27.7	30.5	33.2	35.7	38.3	2.0
Brazil	5.7	9.0	9.3	11.1	12.6	14.1	15.5	17.0	2.4
Other Central and South America . .	8.8	13.5	14.1	16.6	17.9	19.1	20.3	21.3	1.7
Total Non-OECD	149.9	207.9	221.3	262.8	302.5	339.4	374.2	408.8	2.5
Total World	347.4	447.3	462.2	512.5	563.0	608.4	651.8	694.7	1.6

^aIncludes the 50 States and the District of Columbia.

Notes: Energy totals include net imports of coal coke and electricity generated from biomass in the United States. Totals may not equal sum of components due to independent rounding. The electricity portion of the national fuel consumption values consists of generation for domestic use plus an adjustment for electricity trade based on a fuel's share of total generation in the exporting country.

Sources: **History:** Energy Information Administration (EIA), *International Energy Annual 2005* (June-October 2007), web site www.eia.doe.gov/iea. **Projections:** EIA, *Annual Energy Outlook 2008*, DOE/EIA-0383(2008) (Washington, DC, June 2008), AEO2008 National Energy Modeling System, run AEO2008.D030208F, web site www.eia.doe.gov/oiaf/aeo; and World Energy Projection System (2008).

Table A2. World Total Energy Consumption by Region and Fuel, Reference Case, 1990-2030
(Quadrillion Btu)

Region/Country	History			Projections					Average Annual Percent Change, 2005-2030
	1990	2004	2005	2010	2015	2020	2025	2030	
OECD									
OECD North America									
Liquids	40.5	48.9	49.1	49.4	51.4	52.3	53.4	55.2	0.5
Natural Gas	23.2	28.1	28.0	29.8	31.0	31.6	32.1	32.8	0.6
Coal	20.6	24.5	24.8	25.3	26.5	28.3	30.2	32.4	1.1
Nuclear.....	6.9	9.3	9.3	9.7	9.8	10.5	11.0	11.2	0.8
Other	9.5	9.8	10.2	12.2	13.6	15.2	16.7	17.3	2.1
Total.....	100.7	120.6	121.3	126.4	132.3	137.8	143.4	148.9	0.8
OECD Europe									
Liquids	28.4	32.0	32.1	31.9	32.8	33.0	33.1	33.2	0.1
Natural Gas	11.2	19.4	19.9	21.3	23.5	25.5	26.7	28.0	1.4
Coal	17.7	13.3	13.2	13.8	13.7	13.3	13.0	12.6	-0.2
Nuclear.....	7.9	9.9	9.8	9.6	9.5	8.7	9.0	9.3	-0.2
Other	4.8	6.3	6.5	7.2	7.3	7.9	8.6	9.0	1.3
Total.....	70.0	81.0	81.4	83.9	86.8	88.5	90.4	92.0	0.5
OECD Asia									
Liquids	14.7	17.3	17.5	17.2	17.9	18.3	18.5	18.8	0.3
Natural Gas	2.9	5.6	5.6	6.2	6.8	7.1	7.3	7.5	1.2
Coal	5.2	9.2	9.3	9.6	9.6	9.6	9.7	10.0	0.3
Nuclear.....	2.5	4.0	4.2	4.5	5.0	5.5	5.9	6.3	1.6
Other	1.6	1.8	1.6	1.9	2.0	2.1	2.2	2.4	1.7
Total.....	26.8	37.8	38.2	39.3	41.4	42.7	43.7	44.9	0.7
Total OECD									
Liquids	83.6	98.2	98.7	98.5	102.1	103.7	105.1	107.2	0.3
Natural Gas	37.2	53.1	53.4	57.3	61.2	64.1	66.1	68.3	1.0
Coal	43.5	47.0	47.3	48.7	49.9	51.2	52.9	55.0	0.6
Nuclear.....	17.3	23.1	23.2	23.8	24.3	24.8	26.0	26.8	0.6
Other	15.9	17.9	18.2	21.3	22.9	25.2	27.5	28.7	1.8
Total.....	197.5	239.4	240.9	249.7	260.5	269.0	277.6	285.9	0.7
Non-OECD									
Non-OECD Europe and Eurasia									
Liquids	19.6	9.8	10.0	11.3	12.1	12.9	13.6	14.2	1.4
Natural Gas	27.5	25.1	26.0	28.1	30.0	31.8	32.8	34.4	1.1
Coal	15.1	8.7	8.8	8.9	10.0	10.4	10.5	11.2	0.9
Nuclear.....	2.5	2.9	2.8	3.1	3.5	4.4	5.1	5.2	2.5
Other	2.8	3.0	3.1	3.7	3.8	3.8	4.0	4.1	1.1
Total.....	67.3	49.5	50.7	55.1	59.5	63.3	66.0	69.1	1.2
Non-OECD Asia									
Liquids	14.0	30.5	31.5	37.5	43.9	50.2	56.5	63.6	2.8
Natural Gas	3.0	8.9	9.8	13.3	17.7	22.3	25.8	28.9	4.4
Coal	27.0	54.9	60.9	76.4	90.7	102.6	115.4	128.2	3.0
Nuclear.....	0.4	1.1	1.1	1.6	3.1	4.7	6.0	6.8	7.5
Other	3.0	5.6	6.6	8.4	8.8	9.6	11.5	13.3	2.8
Total.....	47.4	101.0	109.9	137.1	164.2	189.4	215.3	240.8	3.2

See notes at end of table.

Table A2. World Total Energy Consumption by Region and Fuel, Reference Case, 1990-2030 (Continued)
(Quadrillion Btu)

Region/Country	History			Projections					Average Annual Percent Change, 2005-2030
	1990	2004	2005	2010	2015	2020	2025	2030	
Non-OECD (Continued)									
Middle East									
Liquids	7.2	11.3	12.0	14.0	15.3	16.9	18.2	19.5	2.0
Natural Gas	3.8	9.0	10.2	11.7	13.4	14.9	15.7	16.4	1.9
Coal	0.1	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.7
Nuclear.....	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	—
Other	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.4	2.4
Total.....	11.2	20.9	22.9	26.4	29.5	32.6	34.7	36.8	1.9
Africa									
Liquids	4.3	5.8	6.0	7.0	7.5	8.1	8.5	8.8	1.6
Natural Gas	1.5	2.8	3.2	3.8	4.9	6.0	6.7	7.5	3.5
Coal	3.0	4.3	4.2	4.4	5.1	5.3	5.6	5.6	1.1
Nuclear.....	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	2.2
Other	0.6	0.9	0.9	1.1	1.2	1.3	1.5	1.8	2.7
Total.....	9.5	14.0	14.4	16.5	18.9	20.9	22.5	23.9	2.0
Central and South America									
Liquids	7.8	11.0	11.2	12.9	13.5	14.3	15.1	16.0	1.4
Natural Gas	2.2	4.4	4.7	6.0	7.1	7.9	8.6	9.3	2.7
Coal	0.6	0.8	0.9	1.3	1.6	1.7	1.8	1.9	3.1
Nuclear.....	0.1	0.2	0.2	0.2	0.3	0.4	0.4	0.4	2.9
Other	3.9	6.1	6.4	7.1	7.9	9.0	9.9	10.8	2.1
Total.....	14.5	22.5	23.4	27.7	30.5	33.2	35.7	38.3	2.0
Total Non-OECD									
Liquids	52.9	68.4	70.8	82.6	92.3	102.4	111.9	122.1	2.2
Natural Gas	38.0	50.2	53.9	63.0	73.1	82.8	89.6	96.4	2.4
Coal	45.7	69.1	75.2	91.5	107.9	120.5	133.8	147.3	2.7
Nuclear.....	3.1	4.3	4.2	5.1	7.1	9.7	11.8	12.6	4.5
Other	10.3	15.9	17.2	20.7	22.1	24.0	27.2	30.3	2.3
Total.....	149.9	207.9	221.3	262.8	302.5	339.4	374.2	408.8	2.5
Total World									
Liquids	136.4	166.6	169.4	181.1	194.4	206.1	216.9	229.3	1.2
Natural Gas	75.2	103.3	107.4	120.3	134.4	146.9	155.8	164.7	1.7
Coal	89.2	116.1	122.5	140.2	157.8	171.7	186.7	202.2	2.0
Nuclear.....	20.4	27.4	27.5	28.8	31.4	34.5	37.7	39.4	1.5
Other	26.2	33.8	35.5	42.0	45.0	49.3	54.7	59.0	2.1
Total.....	347.4	447.3	462.2	512.5	563.0	608.4	651.8	694.7	1.6

Notes: Energy totals include net imports of coal coke and electricity generated from biomass in the United States. Totals may not equal sum of components due to independent rounding. The electricity portion of the national fuel consumption values consists of generation for domestic use plus an adjustment for electricity trade based on a fuel's share of total generation in the exporting country.

Sources: **History:** Energy Information Administration (EIA), *International Energy Annual 2005* (June-October 2007), web site www.eia.doe.gov/iea. **Projections:** EIA, *Annual Energy Outlook 2008*, DOE/EIA-0383(2008) (Washington, DC, June 2008), AEO2008 National Energy Modeling System, run AEO2008.D030208F, web site www.eia.doe.gov/oiaf/aeo; and World Energy Projection System (2008).

Table A3. World Gross Domestic Product (GDP) by Region Expressed in Purchasing Power Parity, Reference Case, 1990-2030
(Billion 2000 Dollars)

Region/Country	History			Projections					Average Annual Percent Change, 2005-2030
	1990	2004	2005	2010	2015	2020	2025	2030	
OECD									
OECD North America	8,477	12,696	13,083	14,913	17,088	19,366	21,886	24,772	2.6
United States ^a	7,113	10,676	11,004	12,453	14,199	15,984	17,951	20,219	2.5
Canada	684	1,004	1,034	1,187	1,339	1,498	1,668	1,858	2.4
Mexico	680	1,016	1,045	1,273	1,550	1,884	2,266	2,695	3.9
OECD Europe	8,067	11,197	11,445	13,150	14,710	16,395	18,184	20,076	2.3
OECD Asia	3,621	4,775	4,887	5,565	6,168	6,674	7,166	7,694	1.8
Japan	2,862	3,377	3,440	3,788	4,045	4,212	4,338	4,467	1.1
South Korea	331	715	745	963	1,175	1,360	1,550	1,749	3.5
Australia/New Zealand	429	683	702	814	948	1,102	1,278	1,477	3.0
Total OECD	20,165	28,667	29,415	33,627	37,965	42,436	47,236	52,542	2.3
Non-OECD									
Non-OECD Europe and Eurasia	3,601	3,340	3,563	4,985	6,268	7,488	8,840	10,362	4.4
Russia	2,241	1,907	2,029	2,754	3,433	4,020	4,671	5,404	4.0
Other	1,360	1,433	1,534	2,231	2,835	3,468	4,169	4,957	4.8
Non-OECD Asia	5,792	15,102	16,436	24,780	33,468	43,245	54,322	66,955	5.8
China	1,805	6,961	7,685	12,502	17,183	22,532	28,811	35,973	6.4
India	1,697	3,714	4,056	6,092	8,476	11,036	13,647	16,524	5.8
Other Non-OECD Asia	2,291	4,428	4,695	6,186	7,809	9,677	11,863	14,458	4.6
Middle East	820	1,466	1,550	1,961	2,414	2,926	3,504	4,174	4.0
Africa	1,450	2,182	2,295	3,014	3,798	4,672	5,690	6,891	4.5
Central and South America	2,162	3,372	3,535	4,515	5,464	6,533	7,784	9,259	3.9
Brazil	1,022	1,581	1,627	2,012	2,393	2,823	3,320	3,896	3.6
Other Central and South America	1,140	1,791	1,908	2,503	3,071	3,710	4,464	5,362	4.2
Total Non-OECD	13,824	25,462	27,378	39,255	51,413	64,864	80,141	97,640	5.2
Total World	33,989	54,129	56,793	72,882	89,378	107,299	127,377	150,182	4.0

^aIncludes the 50 States and the District of Columbia.

Notes: Totals may not equal sum of components due to independent rounding. GDP growth rates for China and India were adjusted, based on the analyst's judgment.

Sources: **History:** Global Insight, Inc., *World Overview* (Lexington, MA, various issues). **Projections:** Global Insight, Inc., *World Overview*, Fourth Quarter 2007 (Lexington, MA, January 2008); and EIA, *Annual Energy Outlook 2008*, DOE/EIA-0383(2008) (Washington, DC, June 2008), AEO2008 National Energy Modeling System, run AEO2008.D030208F, web site www.eia.doe.gov/oiaf/aeo.

Table A4. World Gross Domestic Product (GDP) by Region Expressed in Market Exchange Rates, Reference Case, 1990-2030
(Billion 2000 Dollars)

Region/Country	History			Projections					Average Annual Percent Change, 2005-2030
	1990	2004	2005	2010	2015	2020	2025	2030	
OECD									
OECD North America	8,070	12,091	12,460	14,170	16,205	18,320	20,655	23,334	2.5
United States ^a	7,113	10,676	11,004	12,453	14,199	15,984	17,951	20,219	2.5
Canada	543	797	822	943	1,064	1,190	1,325	1,476	2.4
Mexico	414	618	635	774	942	1,146	1,378	1,639	3.9
OECD Europe	6,878	9,436	9,620	10,943	12,135	13,412	14,754	16,160	2.1
OECD Asia	4,743	6,002	6,133	6,906	7,559	8,072	8,547	9,052	1.6
Japan	4,144	4,887	4,978	5,481	5,854	6,095	6,278	6,465	1.1
South Korea	284	614	639	826	1,008	1,167	1,330	1,500	3.5
Australia/New Zealand	316	502	515	598	697	810	939	1,086	3.0
Total OECD	19,690	27,529	28,214	32,019	35,898	39,804	43,955	48,546	2.2
Non-OECD									
Non-OECD Europe and Eurasia ..	700	656	699	971	1,217	1,452	1,713	2,006	4.3
Russia	386	329	350	474	591	693	805	931	4.0
Other	314	327	349	497	625	760	908	1,075	4.6
Non-OECD Asia	1,478	3,784	4,100	6,088	8,134	10,432	13,045	16,022	5.6
China	445	1,715	1,893	3,080	4,233	5,551	7,098	8,863	6.4
India	274	599	655	983	1,368	1,781	2,203	2,667	5.8
Other Non-OECD Asia	760	1,469	1,552	2,025	2,533	3,099	3,744	4,492	4.3
Middle East	397	723	769	988	1,223	1,485	1,783	2,121	4.1
Africa	488	707	745	981	1,234	1,513	1,839	2,222	4.5
Central and South America	1,112	1,675	1,760	2,257	2,742	3,286	3,924	4,681	4.0
Brazil	500	717	738	913	1,085	1,280	1,506	1,767	3.6
Other Central and South America ..	612	958	1,022	1,345	1,657	2,005	2,419	2,914	4.3
Total Non-OECD	4,176	7,544	8,072	11,286	14,550	18,168	22,303	27,053	5.0
Total World	23,866	35,073	36,286	43,305	50,448	57,972	66,258	75,598	3.0

^aIncludes the 50 States and the District of Columbia.

Note: Totals may not equal sum of components due to independent rounding. GDP growth rates for China and India were adjusted, based on the analyst's judgment.

Sources: **History:** Global Insight, Inc., *World Overview* (Lexington, MA, various issues). **Projections:** Global Insight, Inc., *World Overview*, Fourth Quarter 2007 (Lexington, MA, January 2008); and EIA, *Annual Energy Outlook 2008*, DOE/EIA-0383(2008) (Washington, DC, June 2008), Table A19.

Table A5. World Liquids Consumption by Region, Reference Case, 1990-2030
(Million Barrels Oil Equivalent per Day)

Region/Country	History			Projections					Average Annual Percent Change, 2005-2030
	1990	2004	2005	2010	2015	2020	2025	2030	
OECD									
OECD North America	20.5	25.0	25.2	25.3	26.2	26.7	27.2	28.0	0.4
United States ^a	17.0	20.7	20.8	20.7	21.4	21.6	21.8	22.3	0.3
Canada	1.7	2.3	2.3	2.4	2.5	2.5	2.6	2.6	0.6
Mexico	1.8	2.0	2.1	2.2	2.4	2.6	2.8	3.1	1.6
OECD Europe	13.7	15.5	15.5	15.4	15.9	16.0	16.0	16.0	0.1
OECD Asia	7.2	8.5	8.6	8.4	8.8	9.0	9.1	9.2	0.3
Japan	5.3	5.3	5.4	5.0	5.0	5.0	5.0	4.9	-0.4
South Korea	1.0	2.2	2.2	2.4	2.6	2.7	2.9	3.0	1.3
Australia/New Zealand	0.8	1.0	1.1	1.1	1.2	1.2	1.3	1.3	0.9
Total OECD	41.4	49.0	49.3	49.1	50.9	51.6	52.2	53.3	0.3
Non-OECD									
Non-OECD Europe and Eurasia ..	9.4	4.8	4.8	5.5	5.9	6.3	6.6	6.9	1.4
Russia	5.4	2.8	2.8	3.0	3.2	3.3	3.4	3.5	0.9
Other	3.9	2.0	2.1	2.5	2.7	2.9	3.2	3.4	2.0
Non-OECD Asia	6.6	14.8	15.3	18.1	21.2	24.3	27.4	30.8	2.9
China	2.3	6.4	6.7	8.8	10.0	11.7	13.6	15.7	3.4
India	1.2	2.4	2.4	2.7	3.3	3.8	4.3	4.9	2.8
Other Non-OECD Asia	3.1	6.0	6.1	6.6	7.9	8.7	9.5	10.3	2.1
Middle East	3.5	5.5	5.9	6.8	7.5	8.2	8.9	9.5	2.0
Africa	2.1	2.8	2.9	3.4	3.7	4.0	4.1	4.3	1.6
Central and South America	3.8	5.4	5.5	6.3	6.6	7.0	7.3	7.8	1.4
Brazil	1.5	2.1	2.2	2.5	2.6	2.8	3.0	3.3	1.7
Other Central and South America ..	2.3	3.2	3.3	3.8	3.9	4.1	4.3	4.5	1.3
Total Non-OECD	25.3	33.3	34.3	40.1	44.8	49.7	54.3	59.3	2.2
Total World	66.6	82.3	83.6	89.2	95.7	101.3	106.5	112.5	1.2

^aIncludes the 50 States and the District of Columbia.

Note: Totals may not equal sum of components due to independent rounding.

Sources: **History:** Energy Information Administration (EIA), *International Energy Annual 2005* (June-October 2007), web site www.eia.doe.gov/iea. **Projections:** EIA, *Annual Energy Outlook 2008*, DOE/EIA-0383(2008) (Washington, DC, June 2008), AEO2008 National Energy Modeling System, run AEO2008.D030208F, web site www.eia.doe.gov/oiaf/aeo; and World Energy Projection System (2008).

Table A6. World Natural Gas Consumption by Region, Reference Case, 1990-2030
(Trillion Cubic Feet)

Region/Country	History			Projections					Average Annual Percent Change, 2005-2030
	1990	2004	2005	2010	2015	2020	2025	2030	
OECD									
OECD North America	22.5	27.4	27.4	28.9	30.0	30.6	31.1	31.7	0.6
United States ^a	19.2	22.4	22.2	23.2	23.7	23.3	23.0	22.7	0.1
Canada	2.4	3.3	3.4	3.7	4.0	4.3	4.6	5.0	1.5
Mexico	0.9	1.7	1.7	2.0	2.4	2.9	3.4	4.0	3.4
OECD Europe	11.6	18.9	19.3	20.7	22.8	24.7	26.0	27.2	1.4
OECD Asia	2.8	5.2	5.2	5.8	6.4	6.6	6.9	7.0	1.2
Japan	1.9	3.1	3.1	3.3	3.5	3.6	3.7	3.7	0.7
South Korea	0.1	1.0	1.1	1.3	1.6	1.7	1.8	1.8	2.2
Australia/New Zealand	0.8	1.1	1.1	1.2	1.2	1.3	1.4	1.5	1.3
Total OECD	36.8	51.6	51.9	55.4	59.2	61.9	63.9	65.9	1.0
Non-OECD									
Non-OECD Europe and Eurasia ..	26.7	24.4	25.3	27.3	29.2	30.9	31.9	33.4	1.1
Russia	17.3	16.0	16.2	17.3	18.4	19.1	19.7	20.5	1.0
Other	9.5	8.4	9.1	10.0	10.8	11.7	12.2	12.9	1.4
Non-OECD Asia	2.9	8.5	9.3	12.6	16.8	21.2	24.4	27.4	4.4
China	0.5	1.4	1.7	2.7	3.9	5.0	5.7	6.4	5.5
India	0.4	1.1	1.3	1.8	2.4	2.9	3.5	3.9	4.6
Other Non-OECD Asia	2.0	6.1	6.4	8.1	10.5	13.3	15.2	17.1	4.0
Middle East	3.6	8.6	9.8	11.2	12.8	14.2	14.9	15.7	1.9
Africa	1.4	2.6	3.0	3.6	4.5	5.6	6.3	7.0	3.5
Central and South America	2.0	4.1	4.4	5.6	6.7	7.4	8.1	8.7	2.8
Brazil	0.1	0.6	0.7	1.0	1.2	1.4	1.6	1.8	4.2
Other Central and South America ..	1.9	3.5	3.7	4.6	5.4	6.0	6.5	6.9	2.4
Total Non-OECD	36.5	48.2	51.8	60.3	70.0	79.1	85.6	92.1	2.3
Total World	73.4	99.8	103.7	115.7	129.2	141.1	149.5	158.0	1.7

^aIncludes the 50 States and the District of Columbia.

Note: Totals may not equal sum of components due to independent rounding.

Sources: **History:** Energy Information Administration (EIA), *International Energy Annual 2005* (June-October 2007), web site www.eia.doe.gov/iea. **Projections:** EIA, *Annual Energy Outlook 2008*, DOE/EIA-0383(2008) (Washington, DC, June 2008), AEO2008 National Energy Modeling System, run AEO2008.D030208F, web site www.eia.doe.gov/oiaf/aeo; and World Energy Projection System (2008).

Table A7. World Coal Consumption by Region, Reference Case, 1990-2030
(Quadrillion Btu)

Region/Country	History			Projections					Average Annual Percent Change, 2005-2030
	1990	2004	2005	2010	2015	2020	2025	2030	
OECD									
OECD North America	20.6	24.5	24.8	25.3	26.5	28.3	30.2	32.4	1.1
United States ^a	19.2	22.6	22.8	23.0	24.2	25.9	27.7	29.9	1.1
Canada	1.2	1.6	1.7	1.8	1.9	1.9	2.0	2.0	0.7
Mexico	0.2	0.3	0.4	0.4	0.5	0.5	0.5	0.5	1.3
OECD Europe	17.7	13.3	13.2	13.8	13.7	13.3	13.0	12.6	-0.2
OECD Asia	5.2	9.2	9.3	9.6	9.6	9.6	9.7	10.0	0.3
Japan	2.7	4.8	4.6	4.5	4.4	4.3	4.2	4.2	-0.4
South Korea	1.0	2.1	2.1	2.4	2.6	2.6	2.6	2.8	1.1
Australia/New Zealand	1.5	2.4	2.6	2.6	2.7	2.8	2.9	3.0	0.6
Total OECD	43.5	47.0	47.3	48.7	49.9	51.2	52.9	55.0	0.6
Non-OECD									
Non-OECD Europe and Eurasia ..	15.1	8.7	8.8	8.9	10.0	10.4	10.5	11.2	0.9
Russia	7.2	4.6	4.8	4.8	5.0	5.3	5.2	5.7	0.7
Other	7.9	4.1	4.0	4.1	5.0	5.0	5.3	5.5	1.2
Non-OECD Asia	27.0	54.9	60.9	76.4	90.7	102.6	115.4	128.2	3.0
China	20.3	41.4	46.9	60.3	72.1	82.5	93.2	103.4	3.2
India	4.2	8.4	8.6	9.9	11.6	12.9	14.1	15.5	2.4
Other Non-OECD Asia	2.6	5.1	5.3	6.1	7.0	7.2	8.2	9.3	2.3
Middle East	0.1	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.7
Africa	3.0	4.3	4.2	4.4	5.1	5.3	5.6	5.6	1.1
Central and South America	0.6	0.8	0.9	1.3	1.6	1.7	1.8	1.9	3.1
Brazil	0.3	0.5	0.4	0.8	1.0	1.1	1.1	1.2	4.1
Other Central and South America ..	0.2	0.4	0.4	0.5	0.7	0.7	0.7	0.7	1.8
Total Non-OECD	45.7	69.1	75.2	91.5	107.9	120.5	133.8	147.3	2.7
Total World	89.2	116.1	122.5	140.2	157.8	171.7	186.7	202.2	2.0

^aIncludes the 50 States and the District of Columbia.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: **History:** Energy Information Administration (EIA), *International Energy Annual 2005* (June-October 2007), web site www.eia.doe.gov/iea. **Projections:** EIA, *Annual Energy Outlook 2008*, DOE/EIA-0383(2008) (Washington, DC, June 2008), AEO2008 National Energy Modeling System, run AEO2008.D030208F, web site www.eia.doe.gov/oiaf/aeo; and World Energy Projection System (2008).

Table A8. World Nuclear Energy Consumption by Region, Reference Case, 1990-2030
(Billion Kilowatthours)

Region/Country	History			Projections					Average Annual Percent Change, 2005-2030
	1990	2004	2005	2010	2015	2020	2025	2030	
OECD									
OECD North America	649	883	880	917	931	998	1,048	1,063	0.8
United States ^a	577	789	782	797	807	868	911	917	0.6
Canada	69	86	87	110	113	120	127	135	1.7
Mexico	3	9	10	11	11	11	11	11	0.1
OECD Europe	743	941	929	916	904	831	856	881	-0.2
OECD Asia	242	392	418	444	498	550	588	629	1.6
Japan	192	268	278	301	321	338	361	384	1.3
South Korea	50	124	139	143	177	212	227	245	2.3
Australia/New Zealand	0	0	0	0	0	0	0	0	—
Total OECD	1,635	2,216	2,227	2,277	2,333	2,380	2,492	2,572	0.6
Non-OECD									
Non-OECD Europe and Eurasia . . .	219	263	264	289	327	409	472	485	2.5
Russia	115	137	140	155	190	237	293	306	3.2
Other	104	125	124	134	136	172	180	180	1.5
Non-OECD Asia	38	103	106	150	293	446	573	643	7.5
China	0	48	50	65	164	267	351	410	8.8
India	6	15	16	37	66	104	134	149	9.4
Other Non-OECD Asia	32	40	40	47	64	75	88	84	3.0
Middle East	0	0	0	0	6	6	6	6	—
Africa	8	14	12	14	15	15	21	21	2.2
Central and South America	9	19	16	23	28	34	34	34	3.0
Brazil	2	12	10	15	18	22	22	22	3.3
Other Central and South America . .	7	7	6	8	10	12	11	11	2.4
Total Non-OECD	274	399	399	476	669	910	1,106	1,189	4.5
Total World	1,909	2,615	2,626	2,753	3,002	3,290	3,598	3,761	1.4

^aIncludes the 50 States and the District of Columbia.

Note: Totals may not equal sum of components due to independent rounding.

Sources: **History:** Energy Information Administration (EIA), *International Energy Annual 2005* (June-October 2007), web site www.eia.doe.gov/iea. **Projections:** EIA, *Annual Energy Outlook 2008*, DOE/EIA-0383(2008) (Washington, DC, June 2008), AEO2008 National Energy Modeling System, run AEO2008.D030208F, web site www.eia.doe.gov/oiaf/aec; and World Energy Projection System (2008).

Table A9. World Consumption of Hydroelectricity and Other Renewable Energy by Region, Reference Case, 1990-2030
(Quadrillion Btu)

Region/Country	History			Projections					Average Annual Percent Change, 2005-2030
	1990	2004	2005	2010	2015	2020	2025	2030	
OECD									
OECD North America	9.5	9.8	10.2	12.2	13.6	15.2	16.7	17.3	2.1
United States ^a	6.1	6.0	6.0	7.6	8.5	9.7	10.9	11.2	2.5
Canada	3.1	3.5	3.7	4.1	4.6	4.9	5.2	5.5	1.6
Mexico	0.3	0.4	0.4	0.5	0.6	0.6	0.6	0.6	1.5
OECD Europe	4.8	6.3	6.5	7.2	7.3	7.9	8.6	9.0	1.3
OECD Asia	1.6	1.8	1.6	1.9	2.0	2.1	2.2	2.4	1.7
Japan	1.1	1.2	1.0	1.2	1.3	1.4	1.4	1.5	1.5
South Korea	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.3	7.7
Australia/New Zealand	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.8
Total OECD	15.9	17.9	18.2	21.3	22.9	25.2	27.5	28.7	1.8
Non-OECD									
Non-OECD Europe and Eurasia . . .	2.8	3.0	3.1	3.7	3.8	3.8	4.0	4.1	1.1
Russia	1.8	1.8	1.8	2.3	2.3	2.3	2.3	2.3	1.1
Other	1.0	1.3	1.3	1.4	1.5	1.5	1.7	1.7	1.1
Non-OECD Asia	3.0	5.6	6.6	8.4	8.8	9.6	11.5	13.3	2.8
China	1.3	3.3	4.0	5.1	5.3	5.5	6.8	8.1	2.8
India	0.7	0.9	1.1	1.5	1.5	1.6	1.8	1.9	2.4
Other Non-OECD Asia	0.9	1.4	1.6	1.8	2.0	2.5	2.9	3.3	3.1
Middle East	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.4	2.4
Africa	0.6	0.9	0.9	1.1	1.2	1.3	1.5	1.8	2.7
Central and South America	3.9	6.1	6.4	7.1	7.9	9.0	9.9	10.8	2.1
Brazil	2.2	3.4	3.5	4.0	4.8	5.5	6.3	7.0	2.8
Other Central and South America . .	1.7	2.8	2.9	3.1	3.2	3.4	3.6	3.8	1.1
Total Non-OECD	10.3	15.9	17.2	20.7	22.1	24.0	27.2	30.3	2.3
Total World	26.2	33.8	35.5	42.0	45.0	49.3	54.7	59.0	2.1

^aIncludes the 50 States and the District of Columbia.

Notes: Totals may not equal sum of components due to independent rounding. U.S. totals include net electricity imports, methanol, and liquid hydrogen.

Sources: **History:** Energy Information Administration (EIA), *International Energy Annual 2005* (June-October 2007), web site www.eia.doe.gov/iea. **Projections:** EIA, *Annual Energy Outlook 2008*, DOE/EIA-0383(2008) (Washington, DC, June 2008), AEO2008 National Energy Modeling System, run AEO2008.D030208F, web site www.eia.doe.gov/oiaf/aeo; and World Energy Projection System (2008).

Table A10. World Carbon Dioxide Emissions by Region, Reference Case, 1990-2030
(Million Metric Tons Carbon Dioxide)

Region/Country	History			Projections					Average Annual Percent Change, 2005-2030
	1990	2004	2005	2010	2015	2020	2025	2030	
OECD									
OECD North America	5,754	6,959	7,008	7,109	7,408	7,653	7,928	8,300	0.7
United States ^a	4,989	5,957	5,982	6,011	6,226	6,384	6,571	6,851	0.5
Canada	465	623	628	669	698	727	756	784	0.9
Mexico	300	379	398	430	484	542	601	665	2.1
OECD Europe	4,101	4,373	4,383	4,512	4,678	4,760	4,800	4,834	0.4
OECD Asia	1,541	2,148	2,174	2,208	2,287	2,322	2,357	2,403	0.4
Japan	1,009	1,242	1,230	1,196	1,201	1,195	1,184	1,170	-0.2
South Korea	241	488	500	559	612	632	656	693	1.3
Australia/New Zealand	291	418	444	454	474	495	517	540	0.8
Total OECD	11,396	13,480	13,565	13,829	14,373	14,736	15,085	15,538	0.5
Non-OECD									
Non-OECD Europe and Eurasia ..	4,198	2,797	2,865	3,066	3,330	3,508	3,625	3,811	1.1
Russia	2,376	1,669	1,696	1,789	1,902	1,984	2,020	2,117	0.9
Other	1,822	1,128	1,169	1,278	1,428	1,524	1,606	1,694	1.5
Non-OECD Asia	3,613	7,517	8,177	10,185	12,157	13,907	15,683	17,482	3.1
China	2,241	4,753	5,323	6,898	8,214	9,475	10,747	12,007	3.3
India	565	1,127	1,164	1,349	1,604	1,818	2,019	2,238	2.6
Other Non-OECD Asia	807	1,637	1,690	1,938	2,338	2,614	2,917	3,237	2.6
Middle East	700	1,290	1,400	1,622	1,802	1,988	2,120	2,250	1.9
Africa	649	943	966	1,090	1,244	1,366	1,450	1,515	1.8
Central and South America	669	1,042	1,078	1,308	1,429	1,531	1,628	1,729	1.9
Brazil	216	350	356	451	498	541	582	633	2.3
Other Central and South America ..	453	692	722	857	931	990	1,046	1,097	1.7
Total Non-OECD	9,830	13,589	14,486	17,271	19,962	22,299	24,506	26,787	2.5
Total World	21,226	27,070	28,051	31,100	34,335	37,035	39,591	42,325	1.7

^aIncludes the 50 States and the District of Columbia.

Note: The U.S. numbers include carbon dioxide emissions attributable to renewable energy sources.

Sources: **History:** Energy Information Administration (EIA), *International Energy Annual 2005* (June-October 2007), web site www.eia.doe.gov/iea. **Projections:** EIA, *Annual Energy Outlook 2008*, DOE/EIA-0383(2008) (Washington, DC, June 2008), AEO2008 National Energy Modeling System, run AEO2008.D030208F, web site www.eia.doe.gov/oiaf/aeo; and World Energy Projection System (2008).

Table A11. World Carbon Dioxide Emissions from Liquids Use by Region, Reference Case, 1990-2030
(Million Metric Tons Carbon Dioxide)

Region/Country	History			Projections					Average Annual Percent Change, 2005-2030
	1990	2004	2005	2010	2015	2020	2025	2030	
OECD									
OECD North America	2,633	3,142	3,169	3,134	3,254	3,302	3,361	3,492	0.4
United States ^a	2,178	2,597	2,615	2,555	2,636	2,650	2,676	2,767	0.2
Canada	224	291	290	304	311	319	326	333	0.6
Mexico	231	254	264	275	307	332	359	391	1.6
OECD Europe	1,867	2,097	2,103	2,093	2,151	2,165	2,171	2,174	0.1
OECD Asia	914	1,016	1,028	1,005	1,049	1,070	1,084	1,097	0.3
Japan	661	636	643	599	605	602	596	589	-0.4
South Korea	144	238	240	260	285	301	315	328	1.3
Australia/New Zealand	110	142	144	146	159	166	173	180	0.9
Total OECD	5,414	6,255	6,300	6,232	6,455	6,537	6,616	6,763	0.3
Non-OECD									
Non-OECD Europe and Eurasia	1,355	666	673	764	821	875	921	965	1.5
Russia	783	379	379	416	441	461	473	482	1.0
Other	572	287	294	348	379	414	448	483	2.0
Non-OECD Asia	950	1,979	2,037	2,425	2,839	3,248	3,655	4,110	2.8
China	325	843	880	1,156	1,312	1,544	1,785	2,062	3.5
India	160	302	303	342	415	481	541	608	2.8
Other Non-OECD Asia	464	833	854	928	1,112	1,223	1,329	1,440	2.1
Middle East	488	780	824	960	1,052	1,159	1,250	1,340	2.0
Africa	298	400	413	482	520	563	586	611	1.6
Central and South America	503	734	749	866	902	954	1,007	1,067	1.4
Brazil	180	274	279	320	340	366	391	422	1.7
Other Central and South America	323	460	470	546	562	588	616	645	1.3
Total Non-OECD	3,594	4,558	4,697	5,497	6,134	6,800	7,420	8,092	2.2
Total World	9,009	10,813	10,996	11,729	12,588	13,337	14,036	14,855	1.2

^aIncludes the 50 States and the District of Columbia.

Sources: **History:** Energy Information Administration (EIA), *International Energy Annual 2005* (June-October 2007), web site www.eia.doe.gov/iea. **Projections:** EIA, *Annual Energy Outlook 2008*, DOE/EIA-0383(2008) (Washington, DC, June 2008), AEO2008 National Energy Modeling System, run AEO2008.D030208F, web site www.eia.doe.gov/oiaf/aeo; and World Energy Projection System (2008).

Table A12. World Carbon Dioxide Emissions from Natural Gas Use by Region, Reference Case, 1990-2030
(Million Metric Tons Carbon Dioxide)

Region/Country	History			Projections					Average Annual Percent Change, 2005-2030
	1990	2004	2005	2010	2015	2020	2025	2030	
OECD									
OECD North America	1,207	1,471	1,476	1,567	1,629	1,660	1,690	1,726	0.6
United States ^a	1,026	1,194	1,193	1,256	1,279	1,262	1,245	1,231	0.1
Canada	127	181	185	198	217	234	251	270	1.5
Mexico	54	97	99	113	133	164	194	225	3.4
OECD Europe	590	1,027	1,048	1,124	1,239	1,344	1,411	1,479	1.4
OECD Asia	152	293	294	327	358	373	386	395	1.2
Japan	102	173	170	184	195	201	203	203	0.7
South Korea	6	60	63	78	94	98	104	108	2.2
Australia/New Zealand	44	60	61	65	69	73	79	84	1.3
Total OECD	1,949	2,791	2,819	3,018	3,226	3,378	3,487	3,600	1.0
Non-OECD									
Non-OECD Europe and Eurasia ..	1,450	1,328	1,375	1,484	1,586	1,677	1,733	1,814	1.1
Russia	928	868	875	936	998	1,037	1,066	1,111	1.0
Other	521	460	500	548	588	640	668	702	1.4
Non-OECD Asia	160	469	516	700	935	1,179	1,360	1,524	4.4
China	30	83	101	167	237	305	350	391	5.5
India	24	59	69	99	131	160	192	213	4.6
Other Non-OECD Asia	106	327	345	434	567	713	818	920	4.0
Middle East	199	476	541	619	707	785	827	867	1.9
Africa	80	149	167	203	257	315	356	395	3.5
Central and South America	116	231	249	318	376	416	455	489	2.7
Brazil	6	33	36	55	68	76	87	100	4.2
Other Central and South America ..	110	197	213	263	308	340	368	390	2.4
Total Non-OECD	2,005	2,651	2,847	3,325	3,861	4,372	4,731	5,090	2.4
Total World	3,954	5,443	5,666	6,342	7,088	7,750	8,218	8,689	1.7

^aIncludes the 50 States and the District of Columbia.

Sources: **History:** Energy Information Administration (EIA), *International Energy Annual 2005* (June-October 2007), web site www.eia.doe.gov/iea. **Projections:** EIA, *Annual Energy Outlook 2008*, DOE/EIA-0383(2008) (Washington, DC, June 2008), AEO2008 National Energy Modeling System, run AEO2008.D030208F, web site www.eia.doe.gov/oiaf/aeo; and World Energy Projection System (2008).

Table A13. World Carbon Dioxide Emissions from Coal Use by Region, Reference Case, 1990-2030
(Million Metric Tons Carbon Dioxide)

Region/Country	History			Projections					Average Annual Percent Change, 2005-2030
	1990	2004	2005	2010	2015	2020	2025	2030	
OECD									
OECD North America	1,913	2,333	2,351	2,396	2,513	2,679	2,865	3,071	1.1
United States ^a	1,784	2,155	2,162	2,188	2,299	2,459	2,638	2,841	1.1
Canada	114	151	153	166	170	174	179	181	0.7
Mexico	15	28	35	42	44	45	48	49	1.3
OECD Europe	1,644	1,250	1,232	1,296	1,287	1,251	1,218	1,181	-0.2
OECD Asia	475	840	853	876	880	879	887	911	0.3
Japan	246	433	417	412	401	392	385	378	-0.4
South Korea	91	190	196	221	233	232	237	257	1.1
Australia/New Zealand	138	217	239	243	246	255	265	276	0.6
Total OECD	4,032	4,423	4,435	4,568	4,680	4,809	4,970	5,163	0.6
Non-OECD									
Non-OECD Europe and Eurasia	1,393	804	817	818	924	956	971	1,032	0.9
Russia	665	422	442	437	462	487	481	523	0.7
Other	729	381	376	381	461	469	490	509	1.2
Non-OECD Asia	2,503	5,070	5,624	7,059	8,383	9,480	10,667	11,848	3.0
China	1,886	3,827	4,341	5,575	6,665	7,626	8,611	9,555	3.2
India	380	765	791	908	1,058	1,177	1,286	1,417	2.4
Other Non-OECD Asia	237	477	492	576	660	677	770	876	2.3
Middle East	13	35	35	43	43	44	43	43	0.8
Africa	271	394	386	405	466	487	508	510	1.1
Central and South America	50	78	81	124	151	161	166	173	3.1
Brazil	30	43	41	76	89	99	104	111	4.1
Other Central and South America	20	35	40	48	62	62	62	62	1.8
Total Non-OECD	4,231	6,380	6,943	8,449	9,967	11,127	12,355	13,605	2.7
Total World	8,263	10,803	11,378	13,017	14,647	15,937	17,324	18,768	2.0

^aIncludes the 50 States and the District of Columbia.

Sources: **History:** Energy Information Administration (EIA), *International Energy Annual 2005* (June-October 2007), web site www.eia.doe.gov/iea. **Projections:** EIA, *Annual Energy Outlook 2008*, DOE/EIA-0383(2008) (Washington, DC, June 2008), AEO2008 National Energy Modeling System, run AEO2008.D030208F, web site www.eia.doe.gov/oiaf/aeo; and World Energy Projection System (2008).

Table A14. World Population by Region, Reference Case, 1990-2030
(Millions)

Region/Country	History			Projections					Average Annual Percent Change, 2005-2030
	1990	2004	2005	2010	2015	2020	2025	2030	
OECD									
OECD North America	366	430	434	455	475	495	514	533	0.8
United States ^a	254	294	297	311	324	338	351	366	0.8
Canada	28	32	32	34	35	37	38	39	0.8
Mexico	84	103	104	110	116	121	125	128	0.8
OECD Europe	497	533	536	547	555	561	565	568	0.2
OECD Asia	187	200	200	202	203	202	200	197	-0.1
Japan	124	128	128	128	127	124	122	118	-0.3
South Korea	43	48	48	49	49	49	49	48	0.0
Australia/New Zealand	20	24	24	26	27	28	29	30	0.9
Total OECD	1,050	1,162	1,170	1,204	1,233	1,257	1,279	1,297	0.4
Non-OECD									
Non-OECD Europe and Eurasia ..	348	343	342	340	337	333	328	322	-0.2
Russia	149	145	144	140	136	132	128	124	-0.6
Other	200	198	198	199	200	201	200	198	0.0
Non-OECD Asia	2,760	3,390	3,431	3,631	3,826	4,007	4,167	4,300	0.9
China	1,149	1,304	1,313	1,352	1,389	1,421	1,446	1,458	0.4
India	860	1,117	1,134	1,220	1,303	1,379	1,447	1,506	1.1
Other Non-OECD Asia	751	969	984	1,060	1,135	1,206	1,274	1,336	1.2
Middle East	137	189	193	213	234	255	275	294	1.7
Africa	637	902	922	1,032	1,149	1,271	1,394	1,518	2.0
Central and South America	360	448	454	483	512	539	563	585	1.0
Brazil	150	184	187	199	210	220	229	236	0.9
Other Central and South America ..	211	263	267	284	302	319	335	348	1.1
Total Non-OECD	4,243	5,272	5,342	5,699	6,058	6,405	6,728	7,020	1.1
Total World	5,293	6,434	6,512	6,903	7,290	7,662	8,007	8,317	1.0

^aIncludes the 50 States and the District of Columbia.

Sources: **United States:** EIA, *Annual Energy Outlook 2008*, DOE/EIA-0383(2008) (Washington, DC, June 2008), AEO2008 National Energy Modeling System, run AEO2008.D030208F, web site www.eia.doe.gov/oiaf/aeo. **Other Countries:** United Nations, Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, *World Population Prospects: The 2005 Revision and World Urbanization Prospects* (February 25, 2005), web site <http://esa.un.org/unpp>.

