Table A1 Regional groupings

Asia	People's Republic of China	
	Hong Kong	
	India	
	Japan	
	Korea	
	Chinese Taipei	
	ASEAN	Brunei Darussalam
		Cambodia
		Indonesia
		Lao P.D.R.
		Malaysia
		Myanmar
		Philippines
		Singapore
		Thailand
		Viet Nam
	Others	Bangladesh, D. P. R. Korea, Mongolia, Nepal, Pakistan, Sri Lanka, and Other Asia exluding Lao P.D.R. in IEA statistics
North America	United States	
	Canada	
Latin America	Brazil	
	Chilie	
	Mexico	
	Others	Argentina, Bolivia, Colombia, Costa Rica, Cuba, Curaçao, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Nicaragua, Panama, Paraguay, Peru, Trinidad and Tobago, Uruguay, Venezuela, and Other Non–OECD Americas in IEA statistics
Europe	OECD Europe	France
		Germany
		Italy
		United Kingdom

		Others	Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, Greece, Hungary, Iceland, Ireland, Luxembourg, the Netherlands, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, and Turkey
	Non-OECD Europe	Russia	
		Other non-OECD former Soviet Union	Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan
		Others	Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Gibraltar, Kosovo, Former Yugoslav Republic of Macedonia, Malta, Montenegro, Romania, and Serbia
Africa	Republic of South Africa		
	North Africa	Algeria, Egypt, Libya, Morocco, and Tunisia	
	Others	Angola, Benin, Botswana, Cameroon, Democratic Republic of Congo, Congo, Côte d'Ivoire, Eritrea, Ethiopia, Gabon, Ghana, Kenya, Mauritius, Mozambique, Namibia, Niger, Nigeria, Senegal, South Sudan, Sudan, Togo, United Republic of Tanzania, Zambia, Zimbabwe, and Other Africa in IEA statistics	
Middle East	Iran		
	Iraq		
	Kuwait		
	Oman		
	Qatar		
	Saudi Arabia		
	United Arab Emirates		
	Others	Bahrain, Israel, Jordan, Lebanon, Syrian Arab Republic, and Yemen	
Oceania	Australia		

	New Zealand
International bunkers	
European Union	Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, the Slovak Republic, Slovenia, Spain, Sweden, and the United Kingdom
OECD	Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States

Notes: (1) Other non-OECD former Soviet Union includes energy data of Estonia before 1990, (2) OECD does not include Israel, and (3) ASEAN8 includes Brunei Darussalam, Indonesia, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam.

Table A2 Major energy and economic indicators

		1990	2014	2040		CAGR (%) 1990/2014	2014/2040	
				Reference	Advanced Technologies		Reference	Advanced Technologies
Total primary energy consumption (Mtoe)	**World**	**8,772**	**13,699**	**18,904**	**16,561**	**1.9**	**1.2**	**0.7**
	Asia	2,108	5,517	8,635	7,577	4.1	1.7	1.2
	China	871	3,052	4,264	3,690	5.4	1.3	0.7
	India	306	825	1,763	1,497	4.2	3.0	2.3
	Japan	439	442	429	395	0.0	-0.1	-0.4
Oil consumption (Mtoe)	**World**	**3,233**	**4,285**	**5,488**	**4,656**	**1.2**	**1.0**	**0.3**
	Asia	618	1,291	2,085	1,798	3.1	1.9	1.3
	China	119	504	787	663	6.2	1.7	1.1
	India	61	185	490	424	4.7	3.8	3.2
	Japan	250	192	141	122	-1.1	-1.2	-1.7
Natural gas consumption (Mtoe)	**World**	**1,663**	**2,901**	**4,695**	**3,617**	**2.3**	**1.9**	**0.9**
	Asia	116	549	1,337	1,032	6.7	3.5	2.5
	China	13	154	571	462	10.9	5.2	4.3
	India	11	43	174	124	6.0	5.5	4.1
	Japan	44	108	105	73	3.8	-0.1	-1.5
Coal consumption (Mtoe)	**World**	**2,220**	**3,918**	**4,527**	**3,241**	**2.4**	**0.6**	**-0.7**
	Asia	785	2,758	3,552	2,620	5.4	1.0	-0.2
	China	528	2,012	2,175	1,656	5.7	0.3	-0.7
	India	93	378	747	487	6.0	2.7	1.0
	Japan	76	118	108	92	1.8	-0.4	-0.9
Power generation (TWh)	**World**	**11,864**	**23,816**	**39,819**	**34,730**	**2.9**	**2.0**	**1.5**
	Asia	2,252	9,895	19,627	17,264	6.4	2.7	2.2
	China	621	5,666	10,021	9,136	9.6	2.2	1.9
	India	293	1,287	3,775	3,167	6.4	4.2	3.5
	Japan	873	1,036	1,203	1,059	0.7	0.6	0.1
Energy-related carbon dioxide emissions (Mt)	**World**	**21,202**	**33,009**	**42,463**	**32,285**	**1.9**	**1.0**	**-0.1**
	Asia	4,918	15,067	21,990	16,701	4.8	1.5	0.4
	China	2,339	9,347	11,618	8,922	5.9	0.8	-0.2
	India	542	2,053	4,646	3,296	5.7	3.2	1.8
	Japan	1,071	1,201	1,007	812	0.5	-0.7	-1.5
Primary energy consumption per GDP (toe/$2010 million)	**World**	**233**	**188**	**125**	**109**	**-0.9**	**-1.6**	**-2.1**
	Asia	284	262	142	125	-0.3	-2.3	-2.8
	China	1,056	371	142	123	-4.3	-3.6	-4.2
	India	638	377	167	142	-2.2	-3.1	-3.7
	Japan	96	78	58	54	-0.9	-1.1	-1.4
Primary energy consumption per capita (toe/person)	**World**	**1.66**	**1.89**	**2.06**	**1.81**	**0.5**	**0.3**	**-0.2**
	Asia	0.72	1.39	1.87	1.64	2.8	1.1	0.6
	China	0.77	2.24	3.06	2.65	4.6	1.2	0.6
	India	0.35	0.64	1.08	0.92	2.5	2.1	1.4
	Japan	3.55	3.47	3.77	3.47	-0.1	0.3	0.0
GDP ($2010 billion)	**World**	**37,578**	**72,934**	**151,552**	**151,552**	**2.8**	**2.9**	**2.9**
	Asia	7,433	21,055	60,826	60,826	4.4	4.2	4.2
	China	824	8,230	29,970	29,970	10.1	5.1	5.1
	India	479	2,188	10,573	10,573	6.5	6.2	6.2
	Japan	4,553	5,650	7,354	7,354	0.9	1.0	1.0
Population (Million)	**World**	**5,276**	**7,249**	**9,157**	**9,157**	**1.3**	**0.9**	**0.9**
	Asia	2,932	3,956	4,624	4,624	1.3	0.6	0.6
	China	1,135	1,364	1,395	1,395	0.8	0.1	0.1
	India	871	1,295	1,634	1,634	1.7	0.9	0.9
	Japan	124	127	114	114	0.1	-0.4	-0.4

Table A3 Population

(Million)

	1980	1990	2000	2014	2030	2040	CAGR (%) 1990/2000	2000/2014	2014/2030	2030/2040	2014/2040
World	**4,434** (100)	**5,276** (100)	**6,107** (100)	**7,249** (100)	**8,493** (100)	**9,157** (100)	1.5	1.2	1.0	0.8	0.9
Asia	**2,440** (55.0)	**2,932** (55.6)	**3,408** (55.8)	**3,956** (54.6)	**4,445** (52.3)	**4,624** (50.5)	1.5	1.1	0.7	0.4	0.6
China	**981** (22.1)	**1,135** (21.5)	**1,263** (20.7)	**1,364** (18.8)	**1,414** (16.6)	**1,395** (15.2)	1.1	0.6	0.2	-0.1	0.1
India	**697** (15.7)	**871** (16.5)	**1,053** (17.3)	**1,295** (17.9)	**1,528** (18.0)	**1,634** (17.8)	1.9	1.5	1.0	0.7	0.9
Japan	**117** (2.6)	**124** (2.3)	**127** (2.1)	**127** (1.8)	**120** (1.4)	**114** (1.2)	0.3	0.0	-0.3	-0.6	-0.4
Korea	**38** (0.9)	**43** (0.8)	**47** (0.8)	**50** (0.7)	**53** (0.6)	**52** (0.6)	0.9	0.5	0.3	0.0	0.1
Chinese Taipei	**18** (0.4)	**20** (0.4)	**22** (0.4)	**23** (0.3)	**23** (0.3)	**22** (0.2)	0.9	0.4	-0.1	-0.4	-0.2
ASEAN	**n.a.** (n.a.)	**n.a.** (n.a.)	**523** (8.6)	**623** (8.6)	**723** (8.5)	**765** (8.4)	-	1.3	0.9	0.6	0.8
Indonesia	**147** (3.3)	**181** (3.4)	**212** (3.5)	**254** (3.5)	**295** (3.5)	**312** (3.4)	1.5	1.3	0.9	0.6	0.8
Malaysia	**14** (0.3)	**18** (0.3)	**23** (0.4)	**30** (0.4)	**36** (0.4)	**39** (0.4)	2.5	1.8	1.2	0.7	1.0
Myanmar	**34** (0.8)	**42** (0.8)	**48** (0.8)	**53** (0.7)	**60** (0.7)	**63** (0.7)	1.3	0.8	0.8	0.4	0.6
Philippines	**47** (1.1)	**62** (1.2)	**78** (1.3)	**99** (1.4)	**124** (1.5)	**137** (1.5)	2.3	1.7	1.4	1.0	1.3
Singapore	**2** (0.1)	**3** (0.1)	**4** (0.1)	**5** (0.1)	**6** (0.1)	**7** (0.1)	2.8	2.2	1.0	0.4	0.8
Thailand	**47** (1.1)	**57** (1.1)	**63** (1.0)	**68** (0.9)	**68** (0.8)	**66** (0.7)	1.0	0.6	0.0	-0.3	-0.1
Viet Nam	**54** (1.2)	**66** (1.3)	**78** (1.3)	**91** (1.3)	**105** (1.2)	**110** (1.2)	1.6	1.1	0.9	0.5	0.7
Asia excl. Japan	**2,323** (52.4)	**2,808** (53.2)	**3,281** (53.7)	**3,828** (52.8)	**4,324** (50.9)	**4,510** (49.2)	1.6	1.1	0.8	0.4	0.6
North America	**252** (5.7)	**277** (5.3)	**313** (5.1)	**354** (4.9)	**396** (4.7)	**416** (4.5)	1.2	0.9	0.7	0.5	0.6
United States	**227** (5.1)	**250** (4.7)	**282** (4.6)	**319** (4.4)	**356** (4.2)	**374** (4.1)	1.2	0.9	0.7	0.5	0.6
Latin America	**361** (8.1)	**442** (8.4)	**522** (8.5)	**622** (8.6)	**719** (8.5)	**761** (8.3)	1.7	1.3	0.9	0.6	0.8
OECD Europe	**476** (10.7)	**499** (9.5)	**521** (8.5)	**560** (7.7)	**579** (6.8)	**584** (6.4)	0.4	0.5	0.2	0.1	0.2
European Union	**n.a.** (n.a.)	**478** (9.1)	**488** (8.0)	**508** (7.0)	**521** (6.1)	**522** (5.7)	0.2	0.3	0.2	0.0	0.1
Non-OECD Europe	**319** (7.2)	**344** (6.5)	**341** (5.6)	**342** (4.7)	**341** (4.0)	**333** (3.6)	-0.1	0.0	0.0	-0.2	-0.1
Africa	**476** (10.7)	**629** (11.9)	**812** (13.3)	**1,155** (15.9)	**1,678** (19.8)	**2,063** (22.5)	2.6	2.5	2.4	2.1	2.3
Middle East	**92** (2.1)	**132** (2.5)	**168** (2.7)	**232** (3.2)	**302** (3.6)	**340** (3.7)	2.5	2.3	1.7	1.2	1.5
Oceania	**18** (0.4)	**20** (0.4)	**23** (0.4)	**28** (0.4)	**34** (0.4)	**36** (0.4)	1.2	1.4	1.1	0.8	1.0
OECD	**981** (22.1)	**1,062** (20.1)	**1,149** (18.8)	**1,263** (17.4)	**1,350** (15.9)	**1,382** (15.1)	0.8	0.7	0.4	0.2	0.3
Non-OECD	**3,453** (77.9)	**4,214** (79.9)	**4,958** (81.2)	**5,986** (82.6)	**7,143** (84.1)	**7,775** (84.9)	1.6	1.4	1.1	0.9	1.0

Source: United Nations "Population Estimates and Projections: The 2015 Revision", World Bank "World Development Indicators"

Note: Figures in parentheses are global shares (%).

Table A4 GDP

($2010 billion)

	1980	1990	2000	2014	2030	2040	CAGR (%) 1990/2000	2000/2014	2014/2030	2030/2040	2014/2040
World	27,804 (100)	37,578 (100)	49,555 (100)	72,934 (100)	116,213 (100)	151,552 (100)	2.8	2.8	3.0	2.7	2.9
Asia	4,340 (15.6)	7,433 (19.8)	10,786 (21.8)	21,055 (28.9)	42,319 (36.4)	60,826 (40.1)	3.8	4.9	4.5	3.7	4.2
China	338 (1.2)	824 (2.2)	2,224 (4.5)	8,230 (11.3)	20,185 (17.4)	29,970 (19.8)	10.4	9.8	5.8	4.0	5.1
India	279 (1.0)	479 (1.3)	825 (1.7)	2,188 (3.0)	6,281 (5.4)	10,573 (7.0)	5.6	7.2	6.8	5.3	6.2
Japan	2,894 (10.4)	4,553 (12.1)	5,093 (10.3)	5,650 (7.7)	6,582 (5.7)	7,354 (4.9)	1.1	0.7	1.0	1.1	1.0
Korea	149 (0.5)	377 (1.0)	710 (1.4)	1,234 (1.7)	1,878 (1.6)	2,270 (1.5)	6.5	4.0	2.7	1.9	2.4
Chinese Taipei	73 (0.3)	162 (0.4)	309 (0.6)	523 (0.7)	723 (0.6)	845 (0.6)	6.7	3.8	2.1	1.6	1.9
ASEAN	n.a. (n.a.)	n.a. (n.a.)	1,188 (2.4)	2,407 (3.3)	5,071 (4.4)	7,488 (4.9)	-	5.2	4.8	4.0	4.5
Indonesia	162 (0.6)	300 (0.8)	453 (0.9)	943 (1.3)	2,193 (1.9)	3,334 (2.2)	4.2	5.4	5.4	4.3	5.0
Malaysia	46 (0.2)	82 (0.2)	163 (0.3)	314 (0.4)	633 (0.5)	896 (0.6)	7.1	4.8	4.5	3.5	4.1
Myanmar	6 (0.0)	7 (0.0)	13 (0.0)	55 (0.1)	155 (0.1)	255 (0.2)	7.2	10.7	6.6	5.1	6.0
Philippines	80 (0.3)	95 (0.3)	125 (0.3)	251 (0.3)	589 (0.5)	899 (0.6)	2.9	5.1	5.5	4.3	5.0
Singapore	32 (0.1)	68 (0.2)	134 (0.3)	279 (0.4)	405 (0.3)	482 (0.3)	7.1	5.4	2.4	1.8	2.1
Thailand	67 (0.2)	142 (0.4)	218 (0.4)	383 (0.5)	643 (0.6)	881 (0.6)	4.4	4.1	3.3	3.2	3.3
Viet Nam	17 (0.1)	29 (0.1)	61 (0.1)	145 (0.2)	367 (0.3)	609 (0.4)	7.6	6.4	6.0	5.2	5.7
Asia excl. Japan	1,446 (5.2)	2,880 (7.7)	5,693 (11.5)	15,405 (21.1)	35,737 (30.8)	53,472 (35.3)	7.1	7.4	5.4	4.1	4.9
North America	7,305 (26.3)	10,073 (26.8)	14,050 (28.4)	18,052 (24.8)	25,535 (22.0)	31,014 (20.5)	3.4	1.8	2.2	2.0	2.1
United States	6,529 (23.5)	9,064 (24.1)	12,713 (25.7)	16,282 (22.3)	23,132 (19.9)	28,154 (18.6)	3.4	1.8	2.2	2.0	2.1
Latin America	2,410 (8.7)	2,782 (7.4)	3,774 (7.6)	5,881 (8.1)	9,045 (7.8)	11,817 (7.8)	3.1	3.2	2.7	2.7	2.7
OECD Europe	9,882 (35.5)	12,581 (33.5)	15,852 (32.0)	18,996 (26.0)	24,681 (21.2)	28,051 (18.5)	2.3	1.3	1.6	1.3	1.5
European Union	n.a. (n.a.)	11,801 (31.4)	14,729 (29.7)	17,396 (23.9)	22,607 (19.5)	25,741 (17.0)	2.2	1.2	1.7	1.3	1.5
Non-OECD Europe	1,750 (6.3)	2,141 (5.7)	1,494 (3.0)	2,704 (3.7)	3,863 (3.3)	5,043 (3.3)	-3.5	4.3	2.3	2.7	2.4
Africa	715 (2.6)	877 (2.3)	1,145 (2.3)	2,205 (3.0)	4,476 (3.9)	6,882 (4.5)	2.7	4.8	4.5	4.4	4.5
Middle East	875 (3.1)	971 (2.6)	1,461 (2.9)	2,556 (3.5)	4,126 (3.6)	5,331 (3.5)	4.2	4.1	3.0	2.6	2.9
Oceania	525 (1.9)	720 (1.9)	994 (2.0)	1,485 (2.0)	2,170 (1.9)	2,588 (1.7)	3.3	2.9	2.4	1.8	2.2
OECD	21,329 (76.7)	29,003 (77.2)	37,727 (76.1)	46,852 (64.2)	63,227 (54.4)	74,479 (49.1)	2.7	1.6	1.9	1.7	1.8
Non-OECD	6,475 (23.3)	8,575 (22.8)	11,828 (23.9)	26,082 (35.8)	52,987 (45.6)	77,073 (50.9)	3.3	5.8	4.5	3.8	4.3

Source: World Bank "World Development Indicators", etc. (historical)

Note: Figures in parentheses are global shares (%).

Table A5 GDP per capita

($2010 thousand/person)

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
World	6.3	7.1	8.1	10.1	13.7	16.6	1.3	1.5	1.9	1.9	1.9
Asia	1.8	2.5	3.2	5.3	9.5	13.2	2.2	3.8	3.7	3.3	3.5
China	0.3	0.7	1.8	6.0	14.3	21.5	9.3	9.2	5.5	4.2	5.0
India	0.4	0.6	0.8	1.7	4.1	6.5	3.6	5.6	5.7	4.6	5.3
Japan	24.8	36.9	40.2	44.4	54.7	64.6	0.9	0.7	1.3	1.7	1.5
Korea	3.9	8.8	15.1	24.5	35.7	43.3	5.6	3.5	2.4	2.0	2.2
Chinese Taipei	4.1	7.9	13.9	22.3	31.2	37.9	5.8	3.4	2.1	1.9	2.1
ASEAN	n.a.	n.a.	2.3	3.9	7.0	9.8	-	3.9	3.8	3.4	3.6
Indonesia	1.1	1.7	2.1	3.7	7.4	10.7	2.6	4.0	4.4	3.7	4.2
Malaysia	3.3	4.5	6.9	10.5	17.5	23.1	4.4	3.0	3.2	2.8	3.1
Myanmar	0.2	0.2	0.3	1.0	2.6	4.1	5.8	9.8	5.9	4.7	5.4
Philippines	1.7	1.5	1.6	2.5	4.8	6.6	0.5	3.3	4.0	3.2	3.7
Singapore	13.3	22.2	33.4	51.0	63.3	72.5	4.2	3.1	1.4	1.4	1.4
Thailand	1.4	2.5	3.5	5.6	9.4	13.3	3.3	3.5	3.3	3.5	3.4
Viet Nam	0.3	0.4	0.8	1.6	3.5	5.5	5.8	5.2	5.0	4.7	4.9
Asia excl. Japan	0.6	1.0	1.7	4.0	8.3	11.9	5.4	6.2	4.6	3.7	4.2
North America	29.0	36.3	44.9	50.9	64.5	74.5	2.1	0.9	1.5	1.5	1.5
United States	28.7	36.3	45.1	51.1	65.1	75.3	2.2	0.9	1.5	1.5	1.5
Latin America	6.7	6.3	7.2	9.4	12.6	15.5	1.4	1.9	1.8	2.1	1.9
OECD Europe	20.7	25.2	30.4	33.9	42.6	48.0	1.9	0.8	1.4	1.2	1.3
European Union	n.a.	24.7	30.2	34.2	43.4	49.3	2.0	0.9	1.5	1.3	1.4
Non-OECD Europe	5.5	6.2	4.4	7.9	11.3	15.1	-3.5	4.3	2.3	2.9	2.5
Africa	1.5	1.4	1.4	1.9	2.7	3.3	0.1	2.2	2.1	2.3	2.2
Middle East	9.5	7.4	8.7	11.0	13.7	15.7	1.7	1.7	1.4	1.4	1.4
Oceania	29.5	35.3	43.2	53.1	64.7	71.0	2.0	1.5	1.2	0.9	1.1
OECD	21.7	27.3	32.8	37.1	46.8	53.9	1.9	0.9	1.5	1.4	1.4
Non-OECD	1.9	2.0	2.4	4.4	7.4	9.9	1.6	4.4	3.4	2.9	3.2

Source: World Bank "World Development Indicators", International Energy Agency "World Energy Balances", etc. (historical)

Table A6 International energy prices

Real prices			2015	2020	2030	2040	CAGR (%) 2015/2020	2020/2030	2030/2040	2015/2040
Crude oil		$2015/bbl	52	75	100	125	7.6	2.9	2.3	3.6
Natural gas	Japan	$2015/MBtu	10.4	10.7	12.8	14.1	0.7	1.8	1.0	1.2
	Europe (UK)	$2015/MBtu	6.5	8.5	9.8	11.7	5.4	1.4	1.8	2.4
	United States	$2015/MBtu	2.6	4.5	5.6	6.3	11.4	2.2	1.2	3.6
Steam coal		$2015/t	80	89	106	132	2.2	1.8	2.3	2.1

Nominal prices			2015	2020	2030	2040	CAGR (%) 2015/2020	2020/2030	2030/2040	2015/2040
Crude oil		$/bbl	52	83	135	205	9.8	5.0	4.3	5.6
Natural gas	Japan	$/MBtu	10.4	11.8	17.2	23.1	2.7	3.8	3.0	3.3
	Europe (UK)	$/MBtu	6.5	9.4	13.2	19.2	7.5	3.5	3.8	4.4
	United States	$/MBtu	2.6	5.0	7.5	10.3	13.6	4.3	3.2	5.6
Steam coal		$/t	80	98	142	217	4.3	3.8	4.3	4.1

Note: 2% per annum of inflation rates are assumed.

Table A7 Primary energy consumption [Reference Scenario]

(Mtoe)

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
World	**7,205** (100)	**8,772** (100)	**10,037** (100)	**13,699** (100)	**17,067** (100)	**18,904** (100)	1.4	2.2	1.4	1.0	1.2
Asia	**1,439** (20.0)	**2,108** (24.0)	**2,893** (28.8)	**5,517** (40.3)	**7,506** (44.0)	**8,635** (45.7)	3.2	4.7	1.9	1.4	1.7
China	**598** (8.3)	**871** (9.9)	**1,135** (11.3)	**3,052** (22.3)	**3,854** (22.6)	**4,264** (22.6)	2.7	7.3	1.5	1.0	1.3
India	**200** (2.8)	**306** (3.5)	**441** (4.4)	**825** (6.0)	**1,398** (8.2)	**1,763** (9.3)	3.7	4.6	3.4	2.3	3.0
Japan	**345** (4.8)	**439** (5.0)	**518** (5.2)	**442** (3.2)	**453** (2.7)	**429** (2.3)	1.7	-1.1	0.2	-0.5	-0.1
Korea	**41** (0.6)	**93** (1.1)	**188** (1.9)	**268** (2.0)	**321** (1.9)	**318** (1.7)	7.3	2.6	1.1	-0.1	0.7
Chinese Taipei	**28** (0.4)	**48** (0.5)	**85** (0.8)	**110** (0.8)	**125** (0.7)	**127** (0.7)	5.9	1.9	0.8	0.1	0.5
ASEAN	**n.a.** (n.a.)	**n.a.** (n.a.)	**385** (3.8)	**624** (4.6)	**1,046** (6.1)	**1,352** (7.1)	-	3.5	3.3	2.6	3.0
Indonesia	**56** (0.8)	**99** (1.1)	**156** (1.6)	**226** (1.6)	**417** (2.4)	**556** (2.9)	4.7	2.7	3.9	2.9	3.5
Malaysia	**12** (0.2)	**22** (0.2)	**49** (0.5)	**90** (0.7)	**126** (0.7)	**152** (0.8)	8.4	4.4	2.1	1.9	2.0
Myanmar	**9** (0.1)	**11** (0.1)	**13** (0.1)	**19** (0.1)	**31** (0.2)	**41** (0.2)	1.9	3.0	3.1	2.7	2.9
Philippines	**22** (0.3)	**29** (0.3)	**40** (0.4)	**48** (0.3)	**97** (0.6)	**136** (0.7)	3.4	1.3	4.5	3.4	4.1
Singapore	**5** (0.1)	**12** (0.1)	**19** (0.2)	**28** (0.2)	**32** (0.2)	**33** (0.2)	4.9	2.9	0.8	0.4	0.6
Thailand	**22** (0.3)	**42** (0.5)	**72** (0.7)	**135** (1.0)	**195** (1.1)	**232** (1.2)	5.6	4.5	2.3	1.8	2.1
Viet Nam	**14** (0.2)	**18** (0.2)	**29** (0.3)	**67** (0.5)	**126** (0.7)	**173** (0.9)	4.9	6.2	4.1	3.2	3.7
Asia excl. Japan	**1,094** (15.2)	**1,669** (19.0)	**2,375** (23.7)	**5,075** (37.0)	**7,054** (41.3)	**8,206** (43.4)	3.6	5.6	2.1	1.5	1.9
North America	**1,997** (27.7)	**2,126** (24.2)	**2,527** (25.2)	**2,496** (18.2)	**2,524** (14.8)	**2,499** (13.2)	1.7	-0.1	0.1	-0.1	0.0
United States	**1,805** (25.0)	**1,915** (21.8)	**2,273** (22.6)	**2,216** (16.2)	**2,230** (13.1)	**2,201** (11.6)	1.7	-0.2	0.0	-0.1	0.0
Latin America	**382** (5.3)	**465** (5.3)	**599** (6.0)	**863** (6.3)	**1,220** (7.1)	**1,427** (7.5)	2.6	2.6	2.2	1.6	2.0
OECD Europe	**1,494** (20.7)	**1,619** (18.5)	**1,748** (17.4)	**1,674** (12.2)	**1,763** (10.3)	**1,744** (9.2)	0.8	-0.3	0.3	-0.1	0.2
European Union	**n.a.** (n.a.)	**1,645** (18.8)	**1,695** (16.9)	**1,565** (11.4)	**1,644** (9.6)	**1,626** (8.6)	0.3	-0.6	0.3	-0.1	0.1
Non-OECD Europe	**1,241** (17.2)	**1,537** (17.5)	**1,004** (10.0)	**1,124** (8.2)	**1,212** (7.1)	**1,257** (6.6)	-4.2	0.8	0.5	0.4	0.4
Africa	**273** (3.8)	**393** (4.5)	**496** (4.9)	**772** (5.6)	**1,118** (6.6)	**1,357** (7.2)	2.3	3.2	2.3	2.0	2.2
Middle East	**121** (1.7)	**223** (2.5)	**372** (3.7)	**744** (5.4)	**1,077** (6.3)	**1,262** (6.7)	5.3	5.1	2.3	1.6	2.1
Oceania	**79** (1.1)	**99** (1.1)	**125** (1.2)	**146** (1.1)	**163** (1.0)	**168** (0.9)	2.4	1.1	0.7	0.3	0.5
OECD	**4,060** (56.3)	**4,514** (51.5)	**5,282** (52.6)	**5,251** (38.3)	**5,550** (32.5)	**5,531** (29.3)	1.6	0.0	0.3	0.0	0.2
Non-OECD	**2,967** (41.2)	**4,056** (46.2)	**4,482** (44.7)	**8,085** (59.0)	**11,035** (64.7)	**12,818** (67.8)	1.0	4.3	2.0	1.5	1.8

Source: International Energy Agency "World Energy Balances" (historical)

Note: Figures in parentheses are global shares (%). World includes international bunkers.

Table A8 Primary energy consumption, coal [Reference Scenario]

(Mtoe)

	1980	1990	2000	2014	2030	2040	CAGR (%) 1990/2000	2000/2014	2014/2030	2030/2040	2014/2040
World	1,783 (100)	2,220 (100)	2,316 (100)	3,918 (100)	4,320 (100)	4,527 (100)	0.4	3.8	0.6	0.5	0.6
Asia	466 (26.1)	785 (35.3)	1,037 (44.8)	2,758 (70.4)	3,268 (75.6)	3,552 (78.5)	2.8	7.2	1.1	0.8	1.0
China	313 (17.5)	528 (23.8)	665 (28.7)	2,012 (51.3)	2,134 (49.4)	2,175 (48.1)	2.3	8.2	0.4	0.2	0.3
India	44 (2.5)	93 (4.2)	146 (6.3)	378 (9.6)	613 (14.2)	747 (16.5)	4.6	7.0	3.1	2.0	2.7
Japan	60 (3.3)	76 (3.4)	97 (4.2)	118 (3.0)	114 (2.6)	108 (2.4)	2.4	1.4	-0.2	-0.6	-0.4
Korea	14 (0.8)	25 (1.1)	42 (1.8)	82 (2.1)	84 (2.0)	83 (1.8)	5.2	4.9	0.2	-0.2	0.0
Chinese Taipei	4 (0.2)	11 (0.5)	30 (1.3)	41 (1.0)	41 (1.0)	40 (0.9)	10.2	2.3	0.0	-0.3	-0.1
ASEAN	n.a. (n.a.)	n.a. (n.a.)	32 (1.4)	99 (2.5)	239 (5.5)	348 (7.7)	-	8.4	5.6	3.9	5.0
Indonesia	0 (0.0)	4 (0.2)	12 (0.5)	36 (0.9)	88 (2.0)	136 (3.0)	13.0	8.2	5.7	4.5	5.3
Malaysia	0 (0.0)	1 (0.1)	2 (0.1)	15 (0.4)	35 (0.8)	46 (1.0)	5.5	14.4	5.3	2.9	4.4
Myanmar	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (0.1)	9 (0.2)	17.0	1.8	15.8	7.5	12.5
Philippines	1 (0.0)	2 (0.1)	5 (0.2)	12 (0.3)	35 (0.8)	53 (1.2)	13.0	6.0	7.0	4.3	6.0
Singapore	0 (0.0)	0 (0.0)	- (-)	0 (0.0)	0 (0.0)	0 (0.0)	-100.0	-	0.3	0.3	0.3
Thailand	0 (0.0)	4 (0.2)	8 (0.3)	16 (0.4)	31 (0.7)	37 (0.8)	7.2	5.3	4.3	1.9	3.3
Viet Nam	2 (0.1)	2 (0.1)	4 (0.2)	19 (0.5)	42 (1.0)	62 (1.4)	7.0	11.1	5.0	4.1	4.6
Asia excl. Japan	406 (22.8)	708 (31.9)	939 (40.6)	2,639 (67.4)	3,153 (73.0)	3,445 (76.1)	2.9	7.7	1.1	0.9	1.0
North America	397 (22.3)	485 (21.8)	565 (24.4)	451 (11.5)	320 (7.4)	239 (5.3)	1.6	-1.6	-2.1	-2.9	-2.4
United States	376 (21.1)	460 (20.7)	534 (23.0)	432 (11.0)	309 (7.2)	231 (5.1)	1.5	-1.5	-2.1	-2.9	-2.4
Latin America	13 (0.7)	21 (1.0)	27 (1.2)	45 (1.2)	71 (1.6)	87 (1.9)	2.6	3.7	2.9	2.0	2.5
OECD Europe	464 (26.0)	449 (20.2)	330 (14.3)	292 (7.5)	288 (6.7)	265 (5.9)	-3.0	-0.9	-0.1	-0.8	-0.4
European Union	n.a. (n.a.)	456 (20.5)	321 (13.9)	268 (6.9)	265 (6.1)	243 (5.4)	-3.4	-1.3	-0.1	-0.8	-0.4
Non-OECD Europe	362 (20.3)	367 (16.5)	209 (9.0)	208 (5.3)	176 (4.1)	173 (3.8)	-5.5	-0.1	-1.0	-0.1	-0.7
Africa	52 (2.9)	74 (3.3)	90 (3.9)	112 (2.9)	135 (3.1)	146 (3.2)	2.0	1.6	1.2	0.8	1.0
Middle East	1 (0.1)	3 (0.1)	8 (0.3)	10 (0.2)	17 (0.4)	22 (0.5)	10.4	1.2	3.6	2.9	3.3
Oceania	28 (1.6)	36 (1.6)	49 (2.1)	43 (1.1)	45 (1.0)	43 (0.9)	3.1	-1.0	0.3	-0.5	0.0
OECD	966 (54.2)	1,079 (48.6)	1,094 (47.2)	1,006 (25.7)	889 (20.6)	783 (17.3)	0.1	-0.6	-0.8	-1.3	-1.0
Non-OECD	817 (45.8)	1,142 (51.4)	1,222 (52.8)	2,913 (74.3)	3,431 (79.4)	3,743 (82.7)	0.7	6.4	1.0	0.9	1.0

Source: International Energy Agency "World Energy Balances" (historical)

Note: Figures in parentheses are global shares (%). World includes international bunkers.

Table A9 Primary energy consumption, oil [Reference Scenario]

(Mtoe)

	1980	1990	2000	2014	2030	2040	CAGR (%) 1990/2000	2000/2014	2014/2030	2030/2040	2014/2040
World	**3,102** (100)	**3,233** (100)	**3,660** (100)	**4,285** (100)	**5,062** (100)	**5,488** (100)	1.2	1.1	1.0	0.8	1.0
Asia	**477** (15.4)	**618** (19.1)	**917** (25.1)	**1,291** (30.1)	**1,783** (35.2)	**2,085** (38.0)	4.0	2.5	2.0	1.6	1.9
China	**89** (2.9)	**119** (3.7)	**221** (6.0)	**504** (11.8)	**700** (13.8)	**787** (14.3)	6.4	6.1	2.1	1.2	1.7
India	**33** (1.1)	**61** (1.9)	**112** (3.1)	**185** (4.3)	**364** (7.2)	**490** (8.9)	6.2	3.6	4.3	3.0	3.8
Japan	**234** (7.5)	**250** (7.7)	**255** (7.0)	**192** (4.5)	**158** (3.1)	**141** (2.6)	0.2	-2.0	-1.2	-1.1	-1.2
Korea	**27** (0.9)	**50** (1.5)	**99** (2.7)	**96** (2.2)	**103** (2.0)	**100** (1.8)	7.1	-0.2	0.4	-0.3	0.2
Chinese Taipei	**20** (0.6)	**26** (0.8)	**38** (1.0)	**42** (1.0)	**47** (0.9)	**47** (0.8)	4.0	0.7	0.6	0.0	0.4
ASEAN	**n.a.** (n.a.)	**n.a.** (n.a.)	**154** (4.2)	**221** (5.2)	**334** (6.6)	**421** (7.7)	-	2.6	2.6	2.3	2.5
Indonesia	**20** (0.7)	**33** (1.0)	**58** (1.6)	**75** (1.8)	**128** (2.5)	**163** (3.0)	5.7	1.9	3.4	2.5	3.0
Malaysia	**8** (0.3)	**11** (0.4)	**19** (0.5)	**33** (0.8)	**43** (0.8)	**48** (0.9)	5.4	3.9	1.6	1.2	1.5
Myanmar	**1** (0.0)	**1** (0.0)	**2** (0.1)	**5** (0.1)	**8** (0.2)	**12** (0.2)	10.5	7.0	3.1	4.0	3.4
Philippines	**10** (0.3)	**11** (0.3)	**16** (0.4)	**15** (0.3)	**24** (0.5)	**33** (0.6)	4.0	-0.6	3.2	2.9	3.1
Singapore	**5** (0.2)	**11** (0.4)	**17** (0.5)	**18** (0.4)	**18** (0.4)	**19** (0.3)	4.3	0.2	0.3	0.0	0.2
Thailand	**11** (0.3)	**18** (0.6)	**32** (0.9)	**54** (1.3)	**73** (1.4)	**88** (1.6)	5.9	3.8	1.9	2.0	1.9
Viet Nam	**2** (0.1)	**3** (0.1)	**8** (0.2)	**18** (0.4)	**33** (0.6)	**46** (0.8)	11.2	6.1	3.8	3.4	3.7
Asia excl. Japan	**244** (7.9)	**368** (11.4)	**662** (18.1)	**1,099** (25.6)	**1,625** (32.1)	**1,943** (35.4)	6.1	3.7	2.5	1.8	2.2
North America	**885** (28.5)	**833** (25.8)	**958** (26.2)	**880** (20.5)	**834** (16.5)	**801** (14.6)	1.4	-0.6	-0.3	-0.4	-0.4
United States	**797** (25.7)	**757** (23.4)	**871** (23.8)	**782** (18.3)	**726** (14.3)	**692** (12.6)	1.4	-0.8	-0.5	-0.5	-0.5
Latin America	**223** (7.2)	**238** (7.4)	**302** (8.3)	**397** (9.3)	**478** (9.4)	**518** (9.4)	2.4	2.0	1.2	0.8	1.0
OECD Europe	**688** (22.2)	**606** (18.7)	**652** (17.8)	**541** (12.6)	**487** (9.6)	**449** (8.2)	0.7	-1.3	-0.7	-0.8	-0.7
European Union	**n.a.** (n.a.)	**605** (18.7)	**625** (17.1)	**509** (11.9)	**460** (9.1)	**425** (7.7)	0.3	-1.5	-0.6	-0.8	-0.7
Non-OECD Europe	**464** (15.0)	**468** (14.5)	**203** (5.5)	**245** (5.7)	**253** (5.0)	**255** (4.7)	-8.0	1.4	0.2	0.1	0.2
Africa	**61** (2.0)	**86** (2.7)	**97** (2.7)	**165** (3.8)	**243** (4.8)	**285** (5.2)	1.2	3.8	2.5	1.6	2.1
Middle East	**90** (2.9)	**146** (4.5)	**217** (5.9)	**353** (8.2)	**473** (9.4)	**533** (9.7)	4.0	3.5	1.9	1.2	1.6
Oceania	**34** (1.1)	**35** (1.1)	**40** (1.1)	**50** (1.2)	**58** (1.1)	**60** (1.1)	1.4	1.7	0.9	0.4	0.7
OECD	**1,938** (62.5)	**1,861** (57.6)	**2,103** (57.5)	**1,872** (43.7)	**1,778** (35.1)	**1,697** (30.9)	1.2	-0.8	-0.3	-0.5	-0.4
Non-OECD	**986** (31.8)	**1,169** (36.2)	**1,283** (35.1)	**2,050** (47.8)	**2,832** (56.0)	**3,290** (59.9)	0.9	3.4	2.0	1.5	1.8

Source: International Energy Agency "World Energy Balances" (historical)

Note: Figures in parentheses are global shares (%). World includes international bunkers.

Table A10 Primary energy consumption, natural gas [Reference Scenario]

(Mtoe)

	1980	1990	2000	2014	2030	2040	CAGR (%) 1990/2000	2000/2014	2014/2030	2030/2040	2014/2040
World	1,232 (100)	1,663 (100)	2,071 (100)	2,901 (100)	4,014 (100)	4,695 (100)	2.2	2.4	2.1	1.6	1.9
Asia	51 (4.1)	116 (7.0)	232 (11.2)	549 (18.9)	1,018 (25.4)	1,337 (28.5)	7.2	6.3	3.9	2.8	3.5
China	12 (1.0)	13 (0.8)	21 (1.0)	154 (5.3)	412 (10.3)	571 (12.2)	4.9	15.4	6.4	3.3	5.2
India	1 (0.1)	11 (0.6)	23 (1.1)	43 (1.5)	114 (2.8)	174 (3.7)	8.1	4.6	6.2	4.3	5.5
Japan	21 (1.7)	44 (2.7)	66 (3.2)	108 (3.7)	104 (2.6)	105 (2.2)	4.0	3.6	-0.2	0.1	-0.1
Korea	- (-)	3 (0.2)	17 (0.8)	43 (1.5)	50 (1.2)	51 (1.1)	20.1	6.9	0.9	0.2	0.6
Chinese Taipei	2 (0.1)	1 (0.1)	6 (0.3)	14 (0.5)	26 (0.6)	28 (0.6)	14.8	6.6	4.0	0.8	2.8
ASEAN	n.a. (n.a.)	n.a. (n.a.)	74 (3.6)	139 (4.8)	218 (5.4)	278 (5.9)	-	4.6	2.9	2.4	2.7
Indonesia	5 (0.4)	16 (1.0)	27 (1.3)	37 (1.3)	73 (1.8)	104 (2.2)	5.3	2.3	4.4	3.7	4.1
Malaysia	2 (0.2)	7 (0.4)	25 (1.2)	38 (1.3)	43 (1.1)	46 (1.0)	13.8	3.2	0.7	0.7	0.7
Myanmar	0 (0.0)	1 (0.0)	1 (0.1)	2 (0.1)	6 (0.2)	7 (0.1)	4.6	4.1	7.0	0.9	4.6
Philippines	- (-)	- (-)	0 (0.0)	3 (0.1)	13 (0.3)	25 (0.5)	-	51.9	9.5	6.5	8.3
Singapore	- (-)	- (-)	1 (0.1)	9 (0.3)	11 (0.3)	12 (0.3)	-	16.2	1.3	0.8	1.1
Thailand	- (-)	5 (0.3)	17 (0.8)	38 (1.3)	49 (1.2)	53 (1.1)	13.3	5.7	1.6	0.8	1.3
Viet Nam	- (-)	0 (0.0)	1 (0.1)	9 (0.3)	20 (0.5)	28 (0.6)	82.6	16.0	5.1	3.5	4.5
Asia excl. Japan	30 (2.4)	72 (4.3)	167 (8.0)	441 (15.2)	915 (22.8)	1,232 (26.2)	8.8	7.2	4.7	3.0	4.0
North America	522 (42.4)	493 (29.6)	622 (30.0)	713 (24.6)	836 (20.8)	893 (19.0)	2.3	1.0	1.0	0.7	0.9
United States	477 (38.7)	438 (26.3)	548 (26.4)	624 (21.5)	736 (18.3)	791 (16.8)	2.3	0.9	1.0	0.7	0.9
Latin America	48 (3.9)	72 (4.3)	119 (5.7)	203 (7.0)	352 (8.8)	440 (9.4)	5.1	3.9	3.5	2.3	3.0
OECD Europe	206 (16.7)	260 (15.6)	393 (19.0)	374 (12.9)	445 (11.1)	452 (9.6)	4.2	-0.4	1.1	0.2	0.7
European Union	n.a. (n.a.)	297 (17.9)	396 (19.1)	343 (11.8)	407 (10.1)	413 (8.8)	2.9	-1.0	1.1	0.2	0.7
Non-OECD Europe	355 (28.8)	603 (36.2)	489 (23.6)	541 (18.7)	565 (14.1)	583 (12.4)	-2.1	0.7	0.3	0.3	0.3
Africa	12 (1.0)	30 (1.8)	47 (2.3)	108 (3.7)	184 (4.6)	250 (5.3)	4.8	6.1	3.4	3.1	3.3
Middle East	29 (2.4)	72 (4.3)	145 (7.0)	376 (13.0)	556 (13.8)	668 (14.2)	7.3	7.0	2.5	1.9	2.2
Oceania	8 (0.7)	19 (1.1)	24 (1.2)	36 (1.2)	37 (0.9)	38 (0.8)	2.7	2.9	0.2	0.1	0.2
OECD	778 (63.2)	843 (50.7)	1,163 (56.1)	1,338 (46.1)	1,574 (39.2)	1,657 (35.3)	3.3	1.0	1.0	0.5	0.8
Non-OECD	454 (36.8)	820 (49.3)	909 (43.9)	1,563 (53.9)	2,419 (60.3)	3,004 (64.0)	1.0	4.0	2.8	2.2	2.5

Source: International Energy Agency "World Energy Balances" (historical)

Note: Figures in parentheses are global shares (%). World includes international bunkers.

Table A11 Final energy consumption [Reference Scenario]

(Mtoe)

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
World	**5,368** (100)	**6,262** (100)	**7,041** (100)	**9,425** (100)	**11,723** (100)	**13,028** (100)	1.2	2.1	1.4	1.1	1.3
Asia	**1,129** (21.0)	**1,551** (24.8)	**1,995** (28.3)	**3,677** (39.0)	**4,893** (41.7)	**5,625** (43.2)	2.5	4.5	1.8	1.4	1.6
China	**487** (9.1)	**654** (10.4)	**786** (11.2)	**1,988** (21.1)	**2,433** (20.8)	**2,667** (20.5)	1.9	6.9	1.3	0.9	1.1
India	**174** (3.2)	**243** (3.9)	**315** (4.5)	**556** (5.9)	**952** (8.1)	**1,210** (9.3)	2.6	4.1	3.4	2.4	3.0
Japan	**232** (4.3)	**287** (4.6)	**328** (4.7)	**296** (3.1)	**294** (2.5)	**279** (2.1)	1.4	-0.7	0.0	-0.5	-0.2
Korea	**31** (0.6)	**65** (1.0)	**127** (1.8)	**170** (1.8)	**197** (1.7)	**196** (1.5)	7.0	2.1	0.9	-0.1	0.5
Chinese Taipei	**19** (0.3)	**29** (0.5)	**49** (0.7)	**68** (0.7)	**79** (0.7)	**81** (0.6)	5.2	2.4	1.0	0.2	0.7
ASEAN	**n.a.** (n.a.)	**n.a.** (n.a.)	**274** (3.9)	**441** (4.7)	**695** (5.9)	**892** (6.8)	-	3.4	2.9	2.5	2.7
Indonesia	**50** (0.9)	**80** (1.3)	**120** (1.7)	**165** (1.8)	**274** (2.3)	**360** (2.8)	4.2	2.3	3.2	2.8	3.0
Malaysia	**7** (0.1)	**14** (0.2)	**30** (0.4)	**53** (0.6)	**78** (0.7)	**96** (0.7)	7.9	4.2	2.4	2.1	2.3
Myanmar	**8** (0.2)	**9** (0.2)	**11** (0.2)	**17** (0.2)	**24** (0.2)	**32** (0.2)	2.0	2.8	2.3	2.6	2.4
Philippines	**17** (0.3)	**20** (0.3)	**24** (0.3)	**27** (0.3)	**52** (0.4)	**73** (0.6)	2.0	0.9	4.1	3.6	3.9
Singapore	**2** (0.0)	**5** (0.1)	**8** (0.1)	**17** (0.2)	**20** (0.2)	**21** (0.2)	5.2	5.4	0.9	0.5	0.8
Thailand	**15** (0.3)	**29** (0.5)	**51** (0.7)	**96** (1.0)	**135** (1.2)	**161** (1.2)	5.8	4.7	2.2	1.8	2.0
Viet Nam	**13** (0.2)	**16** (0.3)	**25** (0.4)	**56** (0.6)	**95** (0.8)	**125** (1.0)	4.6	5.8	3.4	2.8	3.2
Asia excl. Japan	**897** (16.7)	**1,264** (20.2)	**1,667** (23.7)	**3,381** (35.9)	**4,600** (39.2)	**5,346** (41.0)	2.8	5.2	1.9	1.5	1.8
North America	**1,466** (27.3)	**1,455** (23.2)	**1,738** (24.7)	**1,738** (18.4)	**1,782** (15.2)	**1,783** (13.7)	1.8	0.0	0.2	0.0	0.1
United States	**1,311** (24.4)	**1,294** (20.7)	**1,546** (22.0)	**1,538** (16.3)	**1,553** (13.3)	**1,550** (11.9)	1.8	0.0	0.1	0.0	0.0
Latin America	**288** (5.4)	**343** (5.5)	**447** (6.3)	**617** (6.5)	**855** (7.3)	**995** (7.6)	2.7	2.3	2.1	1.5	1.9
OECD Europe	**1,081** (20.1)	**1,122** (17.9)	**1,229** (17.5)	**1,172** (12.4)	**1,242** (10.6)	**1,226** (9.4)	0.9	-0.3	0.4	-0.1	0.2
European Union	**n.a.** (n.a.)	**1,130** (18.0)	**1,180** (16.8)	**1,095** (11.6)	**1,161** (9.9)	**1,148** (8.8)	0.4	-0.5	0.4	-0.1	0.2
Non-OECD Europe	**869** (16.2)	**1,073** (17.1)	**654** (9.3)	**713** (7.6)	**797** (6.8)	**836** (6.4)	-4.8	0.6	0.7	0.5	0.6
Africa	**218** (4.1)	**292** (4.7)	**369** (5.2)	**559** (5.9)	**838** (7.1)	**1,024** (7.9)	2.4	3.0	2.6	2.0	2.4
Middle East	**84** (1.6)	**157** (2.5)	**253** (3.6)	**491** (5.2)	**724** (6.2)	**868** (6.7)	4.9	4.9	2.5	1.8	2.2
Oceania	**54** (1.0)	**66** (1.1)	**83** (1.2)	**95** (1.0)	**110** (0.9)	**116** (0.9)	2.2	1.0	0.9	0.6	0.8
OECD	**2,937** (54.7)	**3,090** (49.3)	**3,621** (51.4)	**3,614** (38.4)	**3,827** (32.6)	**3,827** (29.4)	1.6	0.0	0.4	0.0	0.2
Non-OECD	**2,252** (42.0)	**2,970** (47.4)	**3,147** (44.7)	**5,447** (57.8)	**7,413** (63.2)	**8,645** (66.4)	0.6	4.0	1.9	1.5	1.8

Source: International Energy Agency "World Energy Balances" (historical)

Note: Figures in parentheses are global shares (%). World includes international bunkers.

Table A12 Final energy consumption, industry [Reference Scenario]

(Mtoe)

	1980	1990	2000	2014	2030	2040	CAGR (%) 1990/2000	2000/2014	2014/2030	2030/2040	2014/2040
World	**1,766** (100)	**1,805** (100)	**1,868** (100)	**2,751** (100)	**3,375** (100)	**3,781** (100)	0.3	2.8	1.3	1.1	1.2
Asia	**383** (21.7)	**517** (28.6)	**645** (34.6)	**1,494** (54.3)	**1,811** (53.7)	**2,027** (53.6)	2.2	6.2	1.2	1.1	1.2
China	**181** (10.3)	**234** (13.0)	**299** (16.0)	**983** (35.7)	**995** (29.5)	**1,007** (26.6)	2.5	8.9	0.1	0.1	0.1
India	**41** (2.3)	**67** (3.7)	**83** (4.5)	**191** (6.9)	**347** (10.3)	**463** (12.3)	2.3	6.1	3.8	2.9	3.5
Japan	**91** (5.2)	**110** (6.1)	**100** (5.3)	**88** (3.2)	**95** (2.8)	**93** (2.5)	-0.9	-0.9	0.5	-0.2	0.2
Korea	**10** (0.6)	**19** (1.1)	**38** (2.1)	**49** (1.8)	**58** (1.7)	**57** (1.5)	7.2	1.8	1.0	-0.2	0.6
Chinese Taipei	**10** (0.6)	**12** (0.7)	**19** (1.0)	**23** (0.8)	**27** (0.8)	**27** (0.7)	4.5	1.2	1.1	0.1	0.7
ASEAN	**n.a.** (n.a.)	**n.a.** (n.a.)	**76** (4.1)	**121** (4.4)	**221** (6.5)	**296** (7.8)	-	3.4	3.8	3.0	3.5
Indonesia	**7** (0.4)	**18** (1.0)	**30** (1.6)	**39** (1.4)	**81** (2.4)	**116** (3.1)	5.2	1.9	4.6	3.7	4.2
Malaysia	**3** (0.2)	**6** (0.3)	**12** (0.6)	**15** (0.6)	**24** (0.7)	**31** (0.8)	7.8	2.0	2.8	2.6	2.7
Myanmar	**1** (0.0)	**0** (0.0)	**1** (0.1)	**2** (0.1)	**5** (0.1)	**7** (0.2)	11.3	4.2	5.2	4.0	4.7
Philippines	**3** (0.2)	**5** (0.3)	**5** (0.3)	**7** (0.3)	**15** (0.5)	**23** (0.6)	1.4	2.1	4.8	4.0	4.5
Singapore	**0** (0.0)	**1** (0.0)	**2** (0.1)	**6** (0.2)	**7** (0.2)	**8** (0.2)	13.7	7.2	1.3	1.1	1.2
Thailand	**4** (0.2)	**9** (0.5)	**17** (0.9)	**29** (1.1)	**47** (1.4)	**57** (1.5)	6.8	4.1	3.0	1.9	2.6
Viet Nam	**4** (0.2)	**5** (0.3)	**8** (0.4)	**21** (0.8)	**40** (1.2)	**52** (1.4)	5.7	7.4	4.0	2.6	3.5
Asia excl. Japan	**292** (16.5)	**407** (22.6)	**546** (29.2)	**1,406** (51.1)	**1,716** (50.9)	**1,934** (51.1)	3.0	7.0	1.3	1.2	1.2
North America	**437** (24.8)	**331** (18.3)	**388** (20.7)	**317** (11.5)	**325** (9.6)	**327** (8.6)	1.6	-1.4	0.2	0.0	0.1
United States	**387** (21.9)	**284** (15.7)	**332** (17.8)	**269** (9.8)	**271** (8.0)	**269** (7.1)	1.6	-1.5	0.0	-0.1	0.0
Latin America	**98** (5.6)	**114** (6.3)	**148** (7.9)	**196** (7.1)	**286** (8.5)	**345** (9.1)	2.7	2.0	2.4	1.9	2.2
OECD Europe	**356** (20.2)	**323** (17.9)	**325** (17.4)	**280** (10.2)	**289** (8.6)	**286** (7.6)	0.1	-1.1	0.2	-0.1	0.1
European Union	**n.a.** (n.a.)	**343** (19.0)	**310** (16.6)	**255** (9.3)	**267** (7.9)	**266** (7.0)	-1.0	-1.4	0.3	0.0	0.2
Non-OECD Europe	**394** (22.3)	**396** (21.9)	**206** (11.0)	**195** (7.1)	**243** (7.2)	**269** (7.1)	-6.3	-0.4	1.4	1.0	1.2
Africa	**46** (2.6)	**55** (3.0)	**58** (3.1)	**86** (3.1)	**140** (4.2)	**183** (4.8)	0.5	2.9	3.1	2.7	3.0
Middle East	**30** (1.7)	**47** (2.6)	**71** (3.8)	**156** (5.7)	**250** (7.4)	**314** (8.3)	4.2	5.8	3.0	2.3	2.7
Oceania	**20** (1.1)	**23** (1.3)	**28** (1.5)	**29** (1.1)	**30** (0.9)	**31** (0.8)	2.0	0.2	0.2	0.4	0.3
OECD	**940** (53.3)	**835** (46.2)	**913** (48.9)	**806** (29.3)	**868** (25.7)	**877** (23.2)	0.9	-0.9	0.5	0.1	0.3
Non-OECD	**825** (46.7)	**970** (53.8)	**954** (51.1)	**1,945** (70.7)	**2,507** (74.3)	**2,904** (76.8)	-0.2	5.2	1.6	1.5	1.6

Source: International Energy Agency "World Energy Balances" (historical)

Note: Figures in parentheses are global shares (%).

Table A13 Final energy consumption, transport [Reference Scenario]

(Mtoe)

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
World	**1,248** (100)	**1,573** (100)	**1,961** (100)	**2,627** (100)	**3,255** (100)	**3,573** (100)	2.2	2.1	1.3	0.9	1.2
Asia	**126** (10.1)	**186** (11.9)	**321** (16.3)	**612** (23.3)	**963** (29.6)	**1,171** (32.8)	5.6	4.7	2.9	2.0	2.5
China	**24** (1.9)	**33** (2.1)	**87** (4.5)	**268** (10.2)	**426** (13.1)	**501** (14.0)	10.1	8.4	2.9	1.6	2.4
India	**17** (1.3)	**21** (1.3)	**32** (1.6)	**78** (3.0)	**190** (5.8)	**258** (7.2)	4.4	6.6	5.7	3.1	4.7
Japan	**54** (4.3)	**68** (4.3)	**84** (4.3)	**72** (2.7)	**62** (1.9)	**56** (1.6)	2.2	-1.2	-0.9	-1.1	-1.0
Korea	**5** (0.4)	**15** (0.9)	**26** (1.3)	**32** (1.2)	**34** (1.0)	**32** (0.9)	6.1	1.4	0.3	-0.6	0.0
Chinese Taipei	**3** (0.2)	**7** (0.4)	**12** (0.6)	**12** (0.5)	**13** (0.4)	**13** (0.4)	5.7	0.4	0.4	-0.2	0.2
ASEAN	**n.a.** (n.a.)	**n.a.** (n.a.)	**62** (3.1)	**118** (4.5)	**186** (5.7)	**237** (6.6)	-	4.7	2.9	2.4	2.7
Indonesia	**6** (0.5)	**11** (0.7)	**21** (1.1)	**46** (1.8)	**84** (2.6)	**110** (3.1)	6.9	5.8	3.8	2.8	3.4
Malaysia	**2** (0.2)	**5** (0.3)	**11** (0.6)	**22** (0.8)	**29** (0.9)	**33** (0.9)	8.3	5.3	1.7	1.1	1.5
Myanmar	**1** (0.1)	**0** (0.0)	**1** (0.1)	**2** (0.1)	**4** (0.1)	**7** (0.2)	10.0	5.6	3.3	5.3	4.1
Philippines	**3** (0.3)	**5** (0.3)	**8** (0.4)	**9** (0.3)	**17** (0.5)	**25** (0.7)	6.0	0.9	4.1	3.7	3.9
Singapore	**1** (0.1)	**1** (0.1)	**2** (0.1)	**2** (0.1)	**3** (0.1)	**3** (0.1)	2.6	2.5	0.6	0.0	0.4
Thailand	**3** (0.3)	**9** (0.6)	**15** (0.7)	**22** (0.8)	**23** (0.7)	**24** (0.7)	5.0	3.0	0.3	0.1	0.3
Viet Nam	**1** (0.1)	**1** (0.1)	**3** (0.2)	**11** (0.4)	**20** (0.6)	**28** (0.8)	9.7	8.3	4.1	3.5	3.8
Asia excl. Japan	**72** (5.8)	**118** (7.5)	**236** (12.0)	**540** (20.6)	**901** (27.7)	**1,115** (31.2)	7.1	6.1	3.3	2.2	2.8
North America	**470** (37.6)	**531** (33.7)	**640** (32.7)	**685** (26.1)	**655** (20.1)	**620** (17.3)	1.9	0.5	-0.3	-0.6	-0.4
United States	**425** (34.1)	**488** (31.0)	**588** (30.0)	**623** (23.7)	**588** (18.1)	**556** (15.6)	1.9	0.4	-0.4	-0.6	-0.4
Latin America	**85** (6.8)	**103** (6.5)	**141** (7.2)	**223** (8.5)	**309** (9.5)	**349** (9.8)	3.2	3.3	2.1	1.2	1.7
OECD Europe	**209** (16.7)	**266** (16.9)	**316** (16.1)	**325** (12.4)	**304** (9.3)	**281** (7.9)	1.8	0.2	-0.4	-0.8	-0.6
European Union	**n.a.** (n.a.)	**259** (16.5)	**304** (15.5)	**307** (11.7)	**288** (8.9)	**267** (7.5)	1.6	0.1	-0.4	-0.8	-0.5
Non-OECD Europe	**107** (8.6)	**173** (11.0)	**111** (5.6)	**144** (5.5)	**167** (5.1)	**172** (4.8)	-4.3	1.9	0.9	0.3	0.7
Africa	**27** (2.2)	**38** (2.4)	**54** (2.8)	**96** (3.6)	**143** (4.4)	**161** (4.5)	3.7	4.2	2.5	1.2	2.0
Middle East	**26** (2.1)	**51** (3.2)	**75** (3.8)	**142** (5.4)	**190** (5.8)	**220** (6.2)	4.0	4.7	1.8	1.5	1.7
Oceania	**19** (1.5)	**24** (1.5)	**30** (1.5)	**36** (1.4)	**42** (1.3)	**44** (1.2)	2.1	1.5	0.9	0.5	0.7
OECD	**781** (62.6)	**934** (59.4)	**1,139** (58.1)	**1,210** (46.0)	**1,183** (36.4)	**1,127** (31.5)	2.0	0.4	-0.1	-0.5	-0.3
Non-OECD	**289** (23.1)	**436** (27.7)	**549** (28.0)	**1,054** (40.1)	**1,589** (48.8)	**1,890** (52.9)	2.3	4.8	2.6	1.8	2.3

Source: International Energy Agency "World Energy Balances" (historical)

Note: Figures in parentheses are global shares (%). World includes international bunkers.

Table A14 Final energy consumption, buildings, etc. [Reference Scenario]

(Mtoe)

	1980	1990	2000	2014	2030	2040	CAGR (%) 1990/2000	2000/2014	2014/2030	2030/2040	2014/2040
World	**2,000** (100)	**2,408** (100)	**2,596** (100)	**3,219** (100)	**4,076** (100)	**4,543** (100)	0.8	1.5	1.5	1.1	1.3
Asia	**567** (28.3)	**733** (30.4)	**842** (32.4)	**1,215** (37.7)	**1,650** (40.5)	**1,891** (41.6)	1.4	2.7	1.9	1.4	1.7
China	**272** (13.6)	**344** (14.3)	**340** (13.1)	**577** (17.9)	**800** (19.6)	**918** (20.2)	-0.1	3.9	2.1	1.4	1.8
India	**110** (5.5)	**142** (5.9)	**173** (6.7)	**246** (7.6)	**351** (8.6)	**408** (9.0)	2.0	2.5	2.3	1.5	2.0
Japan	**58** (2.9)	**76** (3.1)	**103** (4.0)	**100** (3.1)	**102** (2.5)	**97** (2.1)	3.1	-0.2	0.1	-0.5	-0.1
Korea	**13** (0.7)	**24** (1.0)	**37** (1.4)	**43** (1.3)	**51** (1.2)	**51** (1.1)	4.4	1.0	1.1	0.1	0.7
Chinese Taipei	**4** (0.2)	**7** (0.3)	**10** (0.4)	**12** (0.4)	**13** (0.3)	**14** (0.3)	4.6	1.1	0.6	0.4	0.5
ASEAN	**n.a.** (n.a.)	**n.a.** (n.a.)	**116** (4.5)	**154** (4.8)	**216** (5.3)	**268** (5.9)	-	2.0	2.2	2.2	2.2
Indonesia	**36** (1.8)	**44** (1.8)	**59** (2.3)	**72** (2.2)	**97** (2.4)	**117** (2.6)	3.1	1.4	1.8	2.0	1.9
Malaysia	**2** (0.1)	**3** (0.1)	**5** (0.2)	**9** (0.3)	**15** (0.4)	**20** (0.4)	6.6	4.6	3.2	2.7	3.0
Myanmar	**7** (0.4)	**8** (0.4)	**9** (0.3)	**12** (0.4)	**15** (0.4)	**17** (0.4)	0.7	2.1	1.4	1.3	1.3
Philippines	**9** (0.5)	**10** (0.4)	**10** (0.4)	**10** (0.3)	**19** (0.5)	**25** (0.5)	-0.1	0.1	3.7	3.0	3.5
Singapore	**0** (0.0)	**1** (0.0)	**2** (0.1)	**2** (0.1)	**3** (0.1)	**3** (0.1)	3.8	2.8	1.4	1.2	1.3
Thailand	**8** (0.4)	**11** (0.4)	**14** (0.5)	**21** (0.7)	**29** (0.7)	**36** (0.8)	2.4	3.3	2.0	2.0	2.0
Viet Nam	**9** (0.4)	**10** (0.4)	**14** (0.5)	**21** (0.6)	**29** (0.7)	**36** (0.8)	3.0	3.1	2.1	2.2	2.2
Asia excl. Japan	**508** (25.4)	**657** (27.3)	**739** (28.5)	**1,115** (34.6)	**1,548** (38.0)	**1,794** (39.5)	1.2	3.0	2.1	1.5	1.8
North America	**446** (22.3)	**460** (19.1)	**537** (20.7)	**595** (18.5)	**642** (15.7)	**659** (14.5)	1.6	0.7	0.5	0.3	0.4
United States	**397** (19.8)	**403** (16.7)	**473** (18.2)	**526** (16.4)	**568** (13.9)	**584** (12.9)	1.6	0.8	0.5	0.3	0.4
Latin America	**89** (4.4)	**101** (4.2)	**120** (4.6)	**159** (4.9)	**210** (5.1)	**245** (5.4)	1.8	2.0	1.8	1.6	1.7
OECD Europe	**425** (21.3)	**433** (18.0)	**473** (18.2)	**463** (14.4)	**531** (13.0)	**537** (11.8)	0.9	-0.1	0.9	0.1	0.6
European Union	**n.a.** (n.a.)	**429** (17.8)	**454** (17.5)	**433** (13.5)	**494** (12.1)	**501** (11.0)	0.6	-0.3	0.8	0.1	0.6
Non-OECD Europe	**301** (15.1)	**439** (18.2)	**289** (11.1)	**282** (8.8)	**302** (7.4)	**310** (6.8)	-4.1	-0.2	0.4	0.3	0.4
Africa	**139** (7.0)	**188** (7.8)	**242** (9.3)	**357** (11.1)	**523** (12.8)	**638** (14.1)	2.6	2.8	2.4	2.0	2.3
Middle East	**22** (1.1)	**40** (1.7)	**75** (2.9)	**125** (3.9)	**190** (4.7)	**229** (5.0)	6.5	3.7	2.7	1.9	2.4
Oceania	**11** (0.6)	**15** (0.6)	**19** (0.7)	**23** (0.7)	**30** (0.7)	**33** (0.7)	2.3	1.6	1.5	1.0	1.3
OECD	**972** (48.6)	**1,032** (42.8)	**1,198** (46.2)	**1,258** (39.1)	**1,396** (34.2)	**1,424** (31.3)	1.5	0.3	0.7	0.2	0.5
Non-OECD	**1,027** (51.4)	**1,376** (57.2)	**1,397** (53.8)	**1,961** (60.9)	**2,681** (65.8)	**3,119** (68.7)	0.2	2.5	2.0	1.5	1.8

Source: International Energy Agency "World Energy Balances" (historical)

Note: Figures in parentheses are global shares (%).

Table A15 Final energy consumption, electricity [Reference Scenario]

(TWh)

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
World	**6,816** (100)	**9,716** (100)	**12,699** (100)	**19,836** (100)	**28,289** (100)	**33,682** (100)	2.7	3.2	2.2	1.8	2.1
Asia	**1,025** (15.0)	**1,834** (18.9)	**3,254** (25.6)	**8,328** (42.0)	**13,406** (47.4)	**16,761** (49.8)	5.9	6.9	3.0	2.3	2.7
China	**248** (3.6)	**454** (4.7)	**1,037** (8.2)	**4,716** (23.8)	**7,193** (25.4)	**8,584** (25.5)	8.6	11.4	2.7	1.8	2.3
India	**91** (1.3)	**215** (2.2)	**376** (3.0)	**947** (4.8)	**2,037** (7.2)	**2,905** (8.6)	5.8	6.8	4.9	3.6	4.4
Japan	**513** (7.5)	**771** (7.9)	**969** (7.6)	**951** (4.8)	**1,087** (3.8)	**1,117** (3.3)	2.3	-0.1	0.8	0.3	0.6
Korea	**33** (0.5)	**94** (1.0)	**263** (2.1)	**487** (2.5)	**688** (2.4)	**727** (2.2)	10.8	4.5	2.2	0.5	1.6
Chinese Taipei	**37** (0.5)	**77** (0.8)	**160** (1.3)	**232** (1.2)	**281** (1.0)	**294** (0.9)	7.6	2.7	1.2	0.4	0.9
ASEAN	**n.a.** (n.a.)	**n.a.** (n.a.)	**321** (2.5)	**762** (3.8)	**1,641** (5.8)	**2,445** (7.3)	-	6.4	4.9	4.1	4.6
Indonesia	**7** (0.1)	**28** (0.3)	**79** (0.6)	**199** (1.0)	**482** (1.7)	**781** (2.3)	10.8	6.8	5.7	4.9	5.4
Malaysia	**9** (0.1)	**20** (0.2)	**61** (0.5)	**133** (0.7)	**241** (0.9)	**327** (1.0)	11.9	5.7	3.8	3.1	3.5
Myanmar	**1** (0.0)	**2** (0.0)	**3** (0.0)	**10** (0.1)	**33** (0.1)	**57** (0.2)	6.5	8.3	7.8	5.5	6.9
Philippines	**17** (0.2)	**21** (0.2)	**37** (0.3)	**63** (0.3)	**198** (0.7)	**333** (1.0)	5.6	4.0	7.4	5.4	6.6
Singapore	**6** (0.1)	**13** (0.1)	**27** (0.2)	**46** (0.2)	**58** (0.2)	**64** (0.2)	7.7	3.9	1.4	1.0	1.2
Thailand	**13** (0.2)	**38** (0.4)	**88** (0.7)	**169** (0.9)	**275** (1.0)	**361** (1.1)	8.7	4.8	3.1	2.8	3.0
Viet Nam	**3** (0.0)	**6** (0.1)	**22** (0.2)	**131** (0.7)	**325** (1.1)	**476** (1.4)	13.7	13.4	5.9	3.9	5.1
Asia excl. Japan	**512** (7.5)	**1,063** (10.9)	**2,285** (18.0)	**7,376** (37.2)	**12,318** (43.5)	**15,644** (46.4)	8.0	8.7	3.3	2.4	2.9
North America	**2,329** (34.2)	**3,052** (31.4)	**3,981** (31.3)	**4,277** (21.6)	**4,900** (17.3)	**5,135** (15.2)	2.7	0.5	0.9	0.5	0.7
United States	**2,026** (29.7)	**2,634** (27.1)	**3,499** (27.6)	**3,788** (19.1)	**4,318** (15.3)	**4,519** (13.4)	2.9	0.6	0.8	0.5	0.7
Latin America	**317** (4.7)	**517** (5.3)	**798** (6.3)	**1,282** (6.5)	**2,057** (7.3)	**2,613** (7.8)	4.4	3.4	3.0	2.4	2.8
OECD Europe	**1,709** (25.1)	**2,230** (22.9)	**2,708** (21.3)	**2,988** (15.1)	**3,546** (12.5)	**3,729** (11.1)	2.0	0.7	1.1	0.5	0.9
European Union	**n.a.** (n.a.)	**2,163** (22.3)	**2,529** (19.9)	**2,706** (13.6)	**3,209** (11.3)	**3,390** (10.1)	1.6	0.5	1.1	0.5	0.9
Non-OECD Europe	**1,100** (16.1)	**1,471** (15.1)	**1,011** (8.0)	**1,246** (6.3)	**1,561** (5.5)	**1,773** (5.3)	-3.7	1.5	1.4	1.3	1.4
Africa	**162** (2.4)	**257** (2.6)	**361** (2.8)	**605** (3.0)	**1,021** (3.6)	**1,381** (4.1)	3.4	3.8	3.3	3.1	3.2
Middle East	**75** (1.1)	**199** (2.0)	**379** (3.0)	**864** (4.4)	**1,479** (5.2)	**1,934** (5.7)	6.7	6.1	3.4	2.7	3.1
Oceania	**99** (1.4)	**157** (1.6)	**207** (1.6)	**247** (1.2)	**319** (1.1)	**356** (1.1)	2.8	1.3	1.6	1.1	1.4
OECD	**4,749** (69.7)	**6,420** (66.1)	**8,310** (65.4)	**9,269** (46.7)	**11,061** (39.1)	**11,724** (34.8)	2.6	0.8	1.1	0.6	0.9
Non-OECD	**2,067** (30.3)	**3,296** (33.9)	**4,389** (34.6)	**10,567** (53.3)	**17,228** (60.9)	**21,958** (65.2)	2.9	6.5	3.1	2.5	2.9

Source: International Energy Agency "World Energy Balances" (historical)

Note: Figures in parentheses are global shares (%).

Table A16 Electricity generation [Reference Scenario]

(TWh)

	1980	1990	2000	2014	2030	2040	CAGR (%) 1990/2000	2000/2014	2014/2030	2030/2040	2014/2040
World	**8,283** (100)	**11,864** (100)	**15,471** (100)	**23,816** (100)	**33,573** (100)	**39,819** (100)	2.7	3.1	2.2	1.7	2.0
Asia	**1,196** (14.4)	**2,252** (19.0)	**4,013** (25.9)	**9,895** (41.5)	**15,749** (46.9)	**19,627** (49.3)	5.9	6.7	2.9	2.2	2.7
China	**301** (3.6)	**621** (5.2)	**1,356** (8.8)	**5,666** (23.8)	**8,455** (25.2)	**10,021** (25.2)	8.1	10.8	2.5	1.7	2.2
India	**120** (1.5)	**293** (2.5)	**570** (3.7)	**1,287** (5.4)	**2,687** (8.0)	**3,775** (9.5)	6.9	6.0	4.7	3.5	4.2
Japan	**573** (6.9)	**873** (7.4)	**1,088** (7.0)	**1,036** (4.3)	**1,177** (3.5)	**1,203** (3.0)	2.2	-0.4	0.8	0.2	0.6
Korea	**37** (0.4)	**105** (0.9)	**289** (1.9)	**546** (2.3)	**747** (2.2)	**788** (2.0)	10.6	4.7	2.0	0.5	1.4
Chinese Taipei	**43** (0.5)	**88** (0.7)	**181** (1.2)	**257** (1.1)	**307** (0.9)	**320** (0.8)	7.4	2.6	1.1	0.4	0.8
ASEAN	**n.a.** (n.a.)	**n.a.** (n.a.)	**374** (2.4)	**854** (3.6)	**1,864** (5.6)	**2,769** (7.0)	-	6.1	5.0	4.0	4.6
Indonesia	**8** (0.1)	**33** (0.3)	**93** (0.6)	**229** (1.0)	**553** (1.6)	**890** (2.2)	11.1	6.6	5.7	4.9	5.4
Malaysia	**10** (0.1)	**23** (0.2)	**69** (0.4)	**147** (0.6)	**262** (0.8)	**355** (0.9)	11.6	5.5	3.6	3.1	3.4
Myanmar	**1** (0.0)	**2** (0.0)	**5** (0.0)	**14** (0.1)	**60** (0.2)	**102** (0.3)	7.5	7.5	9.5	5.3	7.9
Philippines	**18** (0.2)	**26** (0.2)	**45** (0.3)	**77** (0.3)	**241** (0.7)	**406** (1.0)	5.6	3.9	7.4	5.3	6.6
Singapore	**7** (0.1)	**16** (0.1)	**32** (0.2)	**49** (0.2)	**61** (0.2)	**68** (0.2)	7.3	3.2	1.4	1.0	1.2
Thailand	**14** (0.2)	**44** (0.4)	**96** (0.6)	**174** (0.7)	**273** (0.8)	**349** (0.9)	8.1	4.3	2.9	2.5	2.7
Viet Nam	**4** (0.0)	**9** (0.1)	**27** (0.2)	**141** (0.6)	**347** (1.0)	**506** (1.3)	11.8	12.7	5.8	3.8	5.0
Asia excl. Japan	**623** (7.5)	**1,380** (11.6)	**2,925** (18.9)	**8,860** (37.2)	**14,571** (43.4)	**18,425** (46.3)	7.8	8.2	3.2	2.4	2.9
North America	**2,801** (33.8)	**3,685** (31.1)	**4,631** (29.9)	**4,975** (20.9)	**5,630** (16.8)	**5,884** (14.8)	2.3	0.5	0.8	0.4	0.6
United States	**2,427** (29.3)	**3,203** (27.0)	**4,026** (26.0)	**4,319** (18.1)	**4,878** (14.5)	**5,096** (12.8)	2.3	0.5	0.8	0.4	0.6
Latin America	**380** (4.6)	**623** (5.3)	**1,009** (6.5)	**1,592** (6.7)	**2,484** (7.4)	**3,116** (7.8)	4.9	3.3	2.8	2.3	2.6
OECD Europe	**2,049** (24.7)	**2,662** (22.4)	**3,223** (20.8)	**3,500** (14.7)	**4,121** (12.3)	**4,325** (10.9)	1.9	0.6	1.0	0.5	0.8
European Union	**n.a.** (n.a.)	**2,577** (21.7)	**3,006** (19.4)	**3,159** (13.3)	**3,729** (11.1)	**3,953** (9.9)	1.6	0.4	1.0	0.6	0.9
Non-OECD Europe	**1,461** (17.6)	**1,894** (16.0)	**1,432** (9.3)	**1,749** (7.3)	**2,173** (6.5)	**2,457** (6.2)	-2.8	1.4	1.4	1.2	1.3
Africa	**184** (2.2)	**316** (2.7)	**442** (2.9)	**762** (3.2)	**1,272** (3.8)	**1,712** (4.3)	3.4	4.0	3.3	3.0	3.2
Middle East	**95** (1.1)	**244** (2.1)	**472** (3.1)	**1,051** (4.4)	**1,771** (5.3)	**2,280** (5.7)	6.8	5.9	3.3	2.6	3.0
Oceania	**118** (1.4)	**187** (1.6)	**249** (1.6)	**292** (1.2)	**374** (1.1)	**416** (1.0)	2.9	1.1	1.6	1.1	1.4
OECD	**5,656** (68.3)	**7,645** (64.4)	**9,726** (62.9)	**10,724** (45.0)	**12,650** (37.7)	**13,367** (33.6)	2.4	0.7	1.0	0.6	0.9
Non-OECD	**2,628** (31.7)	**4,218** (35.6)	**5,745** (37.1)	**13,092** (55.0)	**20,923** (62.3)	**26,451** (66.4)	3.1	6.1	3.0	2.4	2.7

Source: International Energy Agency "World Energy Balances" (historical)

Note: Figures in parentheses are global shares (%).

Table A17 Primary energy consumption per capita [Reference Scenario]

(toe/person)

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/2000	2000/2014	2014/2030	2030/2040	2014/2040
World	1.62	1.66	1.64	1.89	2.01	2.06	-0.1	1.0	0.4	0.3	0.3
Asia	0.59	0.72	0.85	1.39	1.69	1.87	1.7	3.6	1.2	1.0	1.1
China	0.61	0.77	0.90	2.24	2.73	3.06	1.6	6.7	1.2	1.2	1.2
India	0.29	0.35	0.42	0.64	0.92	1.08	1.8	3.0	2.3	1.7	2.1
Japan	2.95	3.55	4.08	3.47	3.77	3.77	1.4	-1.1	0.5	0.0	0.3
Korea	1.08	2.17	4.00	5.32	6.09	6.08	6.3	2.1	0.8	0.0	0.5
Chinese Taipei	1.56	2.34	3.81	4.70	5.41	5.68	5.0	1.5	0.9	0.5	0.7
ASEAN	n.a.	n.a.	0.74	1.00	1.45	1.77	-	2.2	2.3	2.0	2.2
Indonesia	0.38	0.54	0.74	0.89	1.41	1.78	3.1	1.3	2.9	2.3	2.7
Malaysia	0.86	1.20	2.09	3.00	3.48	3.91	5.7	2.6	0.9	1.2	1.0
Myanmar	0.27	0.25	0.27	0.36	0.52	0.65	0.6	2.1	2.3	2.3	2.3
Philippines	0.47	0.46	0.51	0.48	0.79	0.99	1.0	-0.5	3.1	2.4	2.8
Singapore	2.13	3.78	4.63	5.12	4.95	4.97	2.1	0.7	-0.2	0.0	-0.1
Thailand	0.46	0.74	1.15	1.99	2.85	3.50	4.5	4.0	2.3	2.1	2.2
Viet Nam	0.27	0.27	0.37	0.73	1.20	1.57	3.2	5.0	3.1	2.7	3.0
Asia excl. Japan	0.47	0.59	0.72	1.33	1.63	1.82	2.0	4.4	1.3	1.1	1.2
North America	7.93	7.66	8.08	7.04	6.38	6.00	0.5	-1.0	-0.6	-0.6	-0.6
United States	7.94	7.67	8.06	6.95	6.27	5.89	0.5	-1.0	-0.6	-0.6	-0.6
Latin America	1.06	1.05	1.15	1.39	1.70	1.88	0.9	1.4	1.3	1.0	1.2
OECD Europe	3.14	3.25	3.36	2.99	3.04	2.99	0.3	-0.8	0.1	-0.2	0.0
European Union	n.a.	3.44	3.47	3.08	3.16	3.11	0.1	-0.9	0.2	-0.1	0.0
Non-OECD Europe	3.89	4.47	2.94	3.28	3.56	3.77	-4.1	0.8	0.5	0.6	0.5
Africa	0.57	0.62	0.61	0.67	0.67	0.66	-0.2	0.7	0.0	-0.1	-0.1
Middle East	1.32	1.69	2.22	3.20	3.57	3.71	2.7	2.7	0.7	0.4	0.6
Oceania	4.41	4.86	5.44	5.21	4.87	4.61	1.1	-0.3	-0.4	-0.5	-0.5
OECD	4.14	4.25	4.60	4.16	4.11	4.00	0.8	-0.7	-0.1	-0.3	-0.1
Non-OECD	0.86	0.96	0.90	1.35	1.54	1.65	-0.6	2.9	0.8	0.7	0.8

Source: World Bank "World Development Indicators", International Energy Agency "World Energy Balances", etc. (historical)

Note: World includes international bunkers.

Table A18 Primary energy consumption per GDP [Reference Scenario]

(toe/$2010 million)

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
World	259	233	203	188	147	125	-1.4	-0.5	-1.5	-1.6	-1.6
Asia	332	284	268	262	177	142	-0.6	-0.2	-2.4	-2.2	-2.3
China	1,768	1,056	510	371	191	142	-7.0	-2.3	-4.1	-2.9	-3.6
India	716	638	534	377	223	167	-1.8	-2.5	-3.2	-2.8	-3.1
Japan	119	96	102	78	69	58	0.5	-1.9	-0.8	-1.6	-1.1
Korea	277	246	265	218	171	140	0.7	-1.4	-1.5	-1.9	-1.7
Chinese Taipei	380	295	274	211	173	150	-0.7	-1.9	-1.2	-1.4	-1.3
ASEAN	n.a.	n.a.	324	259	206	181	-	-1.6	-1.4	-1.3	-1.4
Indonesia	345	329	343	239	190	167	0.4	-2.5	-1.4	-1.3	-1.4
Malaysia	260	267	301	285	198	170	1.2	-0.4	-2.2	-1.6	-2.0
Myanmar	1,606	1,602	966	349	202	161	-4.9	-7.0	-3.3	-2.2	-2.9
Philippines	280	304	319	190	165	151	0.5	-3.6	-0.9	-0.9	-0.9
Singapore	160	171	139	100	78	69	-2.0	-2.3	-1.5	-1.3	-1.5
Thailand	331	296	332	352	303	263	1.1	0.4	-0.9	-1.4	-1.1
Viet Nam	851	606	470	460	343	284	-2.5	-0.2	-1.8	-1.9	-1.8
Asia excl. Japan	757	579	417	329	197	153	-3.2	-1.7	-3.2	-2.5	-2.9
North America	273	211	180	138	99	81	-1.6	-1.9	-2.1	-2.0	-2.1
United States	276	211	179	136	96	78	-1.7	-1.9	-2.1	-2.1	-2.1
Latin America	159	167	159	147	135	121	-0.5	-0.6	-0.5	-1.1	-0.7
OECD Europe	151	129	110	88	71	62	-1.5	-1.6	-1.3	-1.4	-1.3
European Union	n.a.	139	115	90	73	63	-1.9	-1.7	-1.3	-1.4	-1.4
Non-OECD Europe	709	718	672	416	314	249	-0.7	-3.4	-1.7	-2.3	-1.9
Africa	382	448	433	350	250	197	-0.3	-1.5	-2.1	-2.3	-2.2
Middle East	139	229	254	291	261	237	1.1	1.0	-0.7	-1.0	-0.8
Oceania	150	138	126	98	75	65	-0.9	-1.8	-1.6	-1.5	-1.6
OECD	190	156	140	112	88	74	-1.1	-1.6	-1.5	-1.7	-1.6
Non-OECD	458	473	379	310	208	166	-2.2	-1.4	-2.5	-2.2	-2.4

Source: World Bank "World Development Indicators", International Energy Agency "World Energy Balances", etc. (historical)

Note: World includes international bunkers.

Table A19 Energy–related carbon dioxide emissions [Reference Scenario]

(Mt)

	1980	1990	2000	2014	2030	2040	CAGR (%) 1990/2000	2000/2014	2014/2030	2030/2040	2014/2040
World	**18,409** (100)	**21,202** (100)	**23,433** (100)	**33,009** (100)	**39,062** (100)	**42,463** (100)	1.0	2.5	1.1	0.8	1.0
Asia	**3,267** (17.7)	**4,918** (23.2)	**6,893** (29.4)	**15,067** (45.6)	**19,379** (49.6)	**21,990** (51.8)	3.4	5.7	1.6	1.3	1.5
China	**1,505** (8.2)	**2,339** (11.0)	**3,164** (13.5)	**9,347** (28.3)	**10,894** (27.9)	**11,618** (27.4)	3.1	8.0	1.0	0.6	0.8
India	**263** (1.4)	**542** (2.6)	**899** (3.8)	**2,053** (6.2)	**3,638** (9.3)	**4,646** (10.9)	5.2	6.1	3.6	2.5	3.2
Japan	**916** (5.0)	**1,071** (5.1)	**1,195** (5.1)	**1,201** (3.6)	**1,075** (2.8)	**1,007** (2.4)	1.1	0.0	-0.7	-0.6	-0.7
Korea	**126** (0.7)	**239** (1.1)	**433** (1.8)	**578** (1.8)	**599** (1.5)	**582** (1.4)	6.1	2.1	0.2	-0.3	0.0
Chinese Taipei	**74** (0.4)	**115** (0.5)	**225** (1.0)	**259** (0.8)	**286** (0.7)	**282** (0.7)	6.9	1.0	0.6	-0.1	0.3
ASEAN	**n.a.** (n.a.)	**n.a.** (n.a.)	**713** (3.0)	**1,258** (3.8)	**2,328** (6.0)	**3,137** (7.4)	-	4.1	3.9	3.0	3.6
Indonesia	**71** (0.4)	**134** (0.6)	**262** (1.1)	**439** (1.3)	**878** (2.2)	**1,244** (2.9)	6.9	3.8	4.4	3.5	4.1
Malaysia	**29** (0.2)	**54** (0.3)	**121** (0.5)	**236** (0.7)	**347** (0.9)	**410** (1.0)	8.3	4.9	2.4	1.7	2.1
Myanmar	**5** (0.0)	**4** (0.0)	**10** (0.0)	**21** (0.1)	**56** (0.1)	**87** (0.2)	9.3	5.7	6.1	4.6	5.5
Philippines	**33** (0.2)	**39** (0.2)	**69** (0.3)	**98** (0.3)	**241** (0.6)	**364** (0.9)	6.0	2.5	5.8	4.2	5.2
Singapore	**15** (0.1)	**29** (0.1)	**48** (0.2)	**57** (0.2)	**63** (0.2)	**66** (0.2)	4.9	1.3	0.6	0.5	0.5
Thailand	**34** (0.2)	**81** (0.4)	**152** (0.6)	**248** (0.8)	**354** (0.9)	**407** (1.0)	6.5	3.6	2.2	1.4	1.9
Viet Nam	**15** (0.1)	**17** (0.1)	**43** (0.2)	**143** (0.4)	**294** (0.8)	**426** (1.0)	9.8	8.9	4.6	3.8	4.3
Asia excl. Japan	**2,351** (12.8)	**3,847** (18.1)	**5,698** (24.3)	**13,866** (42.0)	**18,304** (46.9)	**20,983** (49.4)	4.0	6.6	1.8	1.4	1.6
North America	**5,169** (28.1)	**5,236** (24.7)	**6,125** (26.1)	**5,739** (17.4)	**5,316** (13.6)	**4,972** (11.7)	1.6	-0.5	-0.5	-0.7	-0.5
United States	**4,743** (25.8)	**4,820** (22.7)	**5,617** (24.0)	**5,221** (15.8)	**4,805** (12.3)	**4,476** (10.5)	1.5	-0.5	-0.5	-0.7	-0.6
Latin America	**801** (4.4)	**909** (4.3)	**1,204** (5.1)	**1,760** (5.3)	**2,432** (6.2)	**2,810** (6.6)	2.9	2.8	2.0	1.5	1.8
OECD Europe	**4,164** (22.6)	**3,951** (18.6)	**3,891** (16.6)	**3,385** (10.3)	**3,328** (8.5)	**3,129** (7.4)	-0.2	-1.0	-0.1	-0.6	-0.3
European Union	**n.a.** (n.a.)	**4,067** (19.2)	**3,783** (16.1)	**3,134** (9.5)	**3,085** (7.9)	**2,898** (6.8)	-0.7	-1.3	-0.1	-0.6	-0.3
Non-OECD Europe	**3,497** (19.0)	**4,123** (19.4)	**2,462** (10.5)	**2,596** (7.9)	**2,569** (6.6)	**2,607** (6.1)	-5.0	0.4	-0.1	0.1	0.0
Africa	**403** (2.2)	**593** (2.8)	**718** (3.1)	**1,148** (3.5)	**1,626** (4.2)	**1,929** (4.5)	1.9	3.4	2.2	1.7	2.0
Middle East	**332** (1.8)	**572** (2.7)	**945** (4.0)	**1,810** (5.5)	**2,560** (6.6)	**2,991** (7.0)	5.1	4.7	2.2	1.6	2.0
Oceania	**227** (1.2)	**281** (1.3)	**357** (1.5)	**390** (1.2)	**418** (1.1)	**417** (1.0)	2.4	0.6	0.4	0.0	0.3
OECD	**10,863** (59.0)	**11,100** (52.4)	**12,412** (53.0)	**11,846** (35.9)	**11,530** (29.5)	**11,002** (25.9)	1.1	-0.3	-0.2	-0.5	-0.3
Non-OECD	**6,998** (38.0)	**9,482** (44.7)	**10,181** (43.4)	**20,049** (60.7)	**26,098** (66.8)	**29,842** (70.3)	0.7	5.0	1.7	1.3	1.5

Source: Compiled from International Energy Agency "World Energy Balances" (historical)

Note: Figures in parentheses are global shares (%). Excludes emission reduction by CCS. World includes international bunkers.

Table A20 World [Reference Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	7,205	8,772	10,037	13,699	17,067	18,904	100	100	100	1.4	2.2	1.4	1.0	1.2
Coal	1,783	2,220	2,316	3,918	4,320	4,527	25	29	24	0.4	3.8	0.6	0.5	0.6
Oil	3,102	3,233	3,660	4,285	5,062	5,488	37	31	29	1.2	1.1	1.0	0.8	1.0
Natural gas	1,232	1,663	2,071	2,901	4,014	4,695	19	21	25	2.2	2.4	2.1	1.6	1.9
Nuclear	186	526	676	661	991	1,136	6.0	4.8	6.0	2.5	-0.2	2.6	1.4	2.1
Hydro	148	184	225	335	413	447	2.1	2.4	2.4	2.0	2.9	1.3	0.8	1.1
Geothermal	12	34	52	71	182	229	0.4	0.5	1.2	4.3	2.3	6.0	2.3	4.6
Solar, wind, etc.	0.1	2.6	8.0	110	247	348	0.0	0.8	1.8	11.9	20.5	5.2	3.5	4.5
Biomass and waste	741	909	1,028	1,413	1,834	2,028	10	10	11	1.2	2.3	1.6	1.0	1.4

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	5,368	6,262	7,041	9,425	11,723	13,028	100	100	100	1.2	2.1	1.4	1.1	1.3
Industry	1,766	1,805	1,868	2,751	3,375	3,781	29	29	29	0.3	2.8	1.3	1.1	1.2
Transport	1,248	1,573	1,961	2,627	3,255	3,573	25	28	27	2.2	2.1	1.3	0.9	1.2
Buildings, etc.	2,000	2,408	2,596	3,219	4,076	4,543	38	34	35	0.8	1.5	1.5	1.1	1.3
Non-energy use	354	476	617	828	1,017	1,132	7.6	8.8	8.7	2.6	2.1	1.3	1.1	1.2
Coal	703	754	548	1,075	1,098	1,102	12	11	8.5	-3.1	4.9	0.1	0.0	0.1
Oil	2,446	2,595	3,115	3,761	4,520	4,948	41	40	38	1.8	1.4	1.2	0.9	1.1
Natural gas	814	944	1,117	1,420	1,914	2,206	15	15	17	1.7	1.7	1.9	1.4	1.7
Electricity	586	836	1,092	1,706	2,433	2,897	13	18	22	2.7	3.2	2.2	1.8	2.1
Heat	121	335	248	274	298	303	5.4	2.9	2.3	-3.0	0.7	0.5	0.2	0.4
Hydrogen	-	-	-	-	0.3	0.6	-	-	0.0	n.a.	n.a.	n.a.	5.8	n.a.
Renewables	698	799	921	1,188	1,460	1,571	13	13	12	1.4	1.8	1.3	0.7	1.1

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	8,283	11,864	15,471	23,816	33,573	39,819	100	100	100	2.7	3.1	2.2	1.7	2.0
Coal	3,137	4,425	6,005	9,707	11,934	13,365	37	41	34	3.1	3.5	1.3	1.1	1.2
Oil	1,659	1,358	1,251	1,023	1,027	1,060	11	4.3	2.7	-0.8	-1.4	0.0	0.3	0.1
Natural gas	999	1,753	2,753	5,155	8,545	11,028	15	22	28	4.6	4.6	3.2	2.6	3.0
Nuclear	713	2,013	2,591	2,535	3,800	4,357	17	11	11	2.6	-0.2	2.6	1.4	2.1
Hydro	1,717	2,143	2,619	3,895	4,807	5,201	18	16	13	2.0	2.9	1.3	0.8	1.1
Geothermal	14	36	52	77	183	232	0.3	0.3	0.6	3.6	2.9	5.5	2.4	4.3
Solar, wind, etc.	0.5	5.2	35	928	2,309	3,342	0.0	3.9	8.4	20.8	26.5	5.9	3.8	5.1
Biomass and waste	44	131	164	493	965	1,232	1.1	2.1	3.1	2.3	8.2	4.3	2.5	3.6
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	27,804	37,578	49,555	72,934	116,213	151,552	2.8	2.8	3.0	2.7	2.9
Population (million)	4,434	5,276	6,107	7,249	8,493	9,157	1.5	1.2	1.0	0.8	0.9
CO_2 emissions[*2] (Mt)	18,409	21,202	23,433	33,009	39,062	42,463	1.0	2.5	1.1	0.8	1.0
GDP per capita ($2010 thousand)	6.3	7.1	8.1	10	14	17	1.3	1.5	1.9	1.9	1.9
Primary energy consump. per capita (toe)	1.6	1.7	1.6	1.9	2.0	2.1	-0.1	1.0	0.4	0.3	0.3
Primary energy consumption per GDP[*3]	259	233	203	188	147	125	-1.4	-0.5	-1.5	-1.6	-1.6
CO_2 emissions per GDP[*2, *4]	662	564	473	453	336	280	-1.8	-0.3	-1.8	-1.8	-1.8
CO_2 per primary energy consumption[*2, *5]	2.6	2.4	2.3	2.4	2.3	2.2	-0.3	0.2	-0.3	-0.2	-0.3
Automobile ownership (million)	416	577	767	1,243	1,853	2,171	2.9	3.5	2.5	1.6	2.2
Automobile ownership rates[*6]	94	109	126	171	218	237	1.4	2.3	1.5	0.8	1.3

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A21 Asia [Reference Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	1,439	2,108	2,893	5,517	7,506	8,635	100	100	100	3.2	4.7	1.9	1.4	1.7
Coal	466	785	1,037	2,758	3,268	3,552	37	50	41	2.8	7.2	1.1	0.8	1.0
Oil	477	618	917	1,291	1,783	2,085	29	23	24	4.0	2.5	2.0	1.6	1.9
Natural gas	51	116	232	549	1,018	1,337	5.5	10.0	15	7.2	6.3	3.9	2.8	3.5
Nuclear	25	77	132	97	349	455	3.6	1.8	5.3	5.5	-2.2	8.3	2.7	6.1
Hydro	20	32	41	125	176	195	1.5	2.3	2.3	2.7	8.3	2.2	1.0	1.7
Geothermal	2.6	8.2	23	33	99	122	0.4	0.6	1.4	10.9	2.7	7.0	2.2	5.1
Solar, wind, etc.	-	1.5	2.2	44	110	169	0.1	0.8	2.0	4.4	23.7	5.9	4.3	5.3
Biomass and waste	397	471	508	617	701	718	22	11	8.3	0.8	1.4	0.8	0.2	0.6

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	1,129	1,551	1,995	3,677	4,893	5,625	100	100	100	2.5	4.5	1.8	1.4	1.6
Industry	383	517	645	1,494	1,811	2,027	33	41	36	2.2	6.2	1.2	1.1	1.2
Transport	126	186	321	612	963	1,171	12	17	21	5.6	4.7	2.9	2.0	2.5
Buildings, etc.	567	733	842	1,215	1,650	1,891	47	33	34	1.4	2.7	1.9	1.4	1.7
Non-energy use	54	115	188	356	469	536	7.4	9.7	9.5	5.0	4.7	1.7	1.3	1.6
Coal	301	424	378	926	931	932	27	25	17	-1.1	6.6	0.0	0.0	0.0
Oil	327	453	727	1,120	1,616	1,909	29	30	34	4.9	3.1	2.3	1.7	2.1
Natural gas	21	47	88	255	463	614	3.0	6.9	11	6.4	7.9	3.8	2.9	3.4
Electricity	88	158	280	716	1,153	1,441	10	19	26	5.9	6.9	3.0	2.3	2.7
Heat	7.5	14	30	84	110	119	0.9	2.3	2.1	7.7	7.7	1.7	0.8	1.3
Hydrogen	-	-	-	-	0.0	0.0	-	-	0.0	n.a.	n.a.	n.a.	7.1	n.a.
Renewables	386	456	493	575	621	609	29	16	11	0.8	1.1	0.5	-0.2	0.2

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	1,196	2,252	4,013	9,895	15,749	19,627	100	100	100	5.9	6.7	2.9	2.2	2.7
Coal	298	863	1,994	6,116	8,472	10,079	38	62	51	8.7	8.3	2.1	1.8	1.9
Oil	476	469	430	275	208	206	21	2.8	1.1	-0.9	-3.2	-1.7	-0.1	-1.1
Natural gas	90	240	565	1,252	2,481	3,441	11	13	18	9.0	5.9	4.4	3.3	4.0
Nuclear	97	294	505	373	1,340	1,748	13	3.8	8.9	5.5	-2.2	8.3	2.7	6.1
Hydro	232	367	479	1,453	2,045	2,263	16	15	12	2.7	8.3	2.2	1.0	1.7
Geothermal	3.0	8.4	20	23	65	80	0.4	0.2	0.4	9.0	1.0	6.7	2.0	4.9
Solar, wind, etc.	-	0.0	3.0	268	863	1,430	0.0	2.7	7.3	52.3	37.8	7.6	5.2	6.7
Biomass and waste	0.0	10	17	136	274	380	0.5	1.4	1.9	5.1	16.2	4.5	3.3	4.0
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	4,340	7,433	10,786	21,055	42,319	60,826	3.8	4.9	4.5	3.7	4.2
Population (million)	2,440	2,932	3,408	3,956	4,445	4,624	1.5	1.1	0.7	0.4	0.6
CO_2 emissions[*2] (Mt)	3,267	4,918	6,893	15,067	19,379	21,990	3.4	5.7	1.6	1.3	1.5
GDP per capita ($2010 thousand)	1.8	2.5	3.2	5.3	9.5	13	2.2	3.8	3.7	3.3	3.5
Primary energy consump. per capita (toe)	0.6	0.7	0.8	1.4	1.7	1.9	1.7	3.6	1.2	1.0	1.1
Primary energy consumption per GDP[*3]	332	284	268	262	177	142	-0.6	-0.2	-2.4	-2.2	-2.3
CO_2 emissions per GDP[*2, *4]	753	662	639	716	458	362	-0.3	0.8	-2.8	-2.3	-2.6
CO_2 per primary energy consumption[*2, *5]	2.3	2.3	2.4	2.7	2.6	2.5	0.2	1.0	-0.4	-0.1	-0.3
Automobile ownership (million)	48	86	139	351	709	900	5.0	6.8	4.5	2.4	3.7
Automobile ownership rates[*6]	20	29	41	89	160	195	3.4	5.7	3.7	2.0	3.1

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A22 China [Reference Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	598	871	1,135	3,052	3,854	4,264	100	100	100	2.7	7.3	1.5	1.0	1.3
Coal	313	528	665	2,012	2,134	2,175	61	66	51	2.3	8.2	0.4	0.2	0.3
Oil	89	119	221	504	700	787	14	17	18	6.4	6.1	2.1	1.2	1.7
Natural gas	12	13	21	154	412	571	1.5	5.0	13	4.9	15.4	6.4	3.3	5.2
Nuclear	-	-	4.4	35	172	240	-	1.1	5.6	n.a.	15.9	10.6	3.4	7.7
Hydro	5.0	11	19	90	121	126	1.3	3.0	2.9	5.8	11.7	1.8	0.4	1.3
Geothermal	-	-	1.7	4.8	10	12	-	0.2	0.3	n.a.	7.9	4.8	1.8	3.6
Solar, wind, etc.	-	0.0	1.0	36	79	118	0.0	1.2	2.8	40.4	29.3	5.1	4.0	4.7
Biomass and waste	180	200	203	217	226	236	23	7.1	5.5	0.1	0.5	0.3	0.4	0.3

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	487	654	786	1,988	2,433	2,667	100	100	100	1.9	6.9	1.3	0.9	1.1
Industry	181	234	299	983	995	1,007	36	49	38	2.5	8.9	0.1	0.1	0.1
Transport	24	33	87	268	426	501	5.1	13	19	10.1	8.4	2.9	1.6	2.4
Buildings, etc.	272	344	340	577	800	918	53	29	34	-0.1	3.9	2.1	1.4	1.8
Non-energy use	10	43	60	160	212	240	6.6	8.0	9.0	3.4	7.2	1.8	1.3	1.6
Coal	214	308	274	726	616	554	47	37	21	-1.2	7.2	-1.0	-1.0	-1.0
Oil	59	85	180	451	643	725	13	23	27	7.8	6.8	2.2	1.2	1.8
Natural gas	6.4	8.9	12	106	230	320	1.4	5.3	12	3.4	16.6	5.0	3.4	4.3
Electricity	21	39	89	406	619	738	6.0	20	28	8.6	11.4	2.7	1.8	2.3
Heat	7.4	13	25	78	100	107	2.0	3.9	4.0	6.8	8.3	1.5	0.7	1.2
Hydrogen	-	-	-	-	0.0	0.0	-	-	0.0	n.a.	n.a.	n.a.	7.4	n.a.
Renewables	180	200	205	221	225	223	31	11	8.3	0.2	0.5	0.1	-0.1	0.0

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	301	621	1,356	5,666	8,455	10,021	100	100	100	8.1	10.8	2.5	1.7	2.2
Coal	159	441	1,060	4,115	5,147	5,739	71	73	57	9.2	10.2	1.4	1.1	1.3
Oil	82	50	47	9.5	9.2	9.1	8.1	0.2	0.1	-0.6	-10.8	-0.2	-0.2	-0.2
Natural gas	0.7	2.8	5.8	115	589	840	0.4	2.0	8.4	7.6	23.8	10.8	3.6	8.0
Nuclear	-	-	17	133	660	920	-	2.3	9.2	n.a.	15.9	10.6	3.4	7.7
Hydro	58	127	222	1,051	1,405	1,460	20	19	15	5.8	11.7	1.8	0.4	1.3
Geothermal	-	0.1	0.1	0.1	0.4	0.4	0.0	0.0	0.0	6.7	1.0	7.1	1.4	4.9
Solar, wind, etc.	-	0.0	0.6	185	518	856	0.0	3.3	8.5	50.2	49.8	6.6	5.1	6.1
Biomass and waste	-	-	2.4	57	126	195	-	1.0	2.0	n.a.	25.4	5.0	4.5	4.8
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	338	824	2,224	8,230	20,185	29,970	10.4	9.8	5.8	4.0	5.1
Population (million)	981	1,135	1,263	1,364	1,414	1,395	1.1	0.6	0.2	-0.1	0.1
CO_2 emissions[*2] (Mt)	1,505	2,339	3,164	9,347	10,894	11,618	3.1	8.0	1.0	0.6	0.8
GDP per capita ($2010 thousand)	0.3	0.7	1.8	6.0	14	21	9.3	9.2	5.5	4.2	5.0
Primary energy consump. per capita (toe)	0.6	0.8	0.9	2.2	2.7	3.1	1.6	6.7	1.2	1.2	1.2
Primary energy consumption per GDP[*3]	1,768	1,056	510	371	191	142	-7.0	-2.3	-4.1	-2.9	-3.6
CO_2 emissions per GDP[*2, *4]	4,452	2,838	1,423	1,136	540	388	-6.7	-1.6	-4.5	-3.3	-4.0
CO_2 per primary energy consumption[*2, *5]	2.5	2.7	2.8	3.1	2.8	2.7	0.4	0.7	-0.5	-0.4	-0.4
Automobile ownership (million)	1.2	5.3	16	146	353	417	11.5	17.3	5.7	1.7	4.1
Automobile ownership rates[*6]	1.2	4.7	12	107	250	299	10.3	16.6	5.4	1.8	4.0

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A23 India [Reference Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	200	306	441	825	1,398	1,763	100	100	100	3.7	4.6	3.4	2.3	3.0
Coal	44	93	146	378	613	747	30	46	42	4.6	7.0	3.1	2.0	2.7
Oil	33	61	112	185	364	490	20	22	28	6.2	3.6	4.3	3.0	3.8
Natural gas	1.3	11	23	43	114	174	3.5	5.2	9.9	8.1	4.6	6.2	4.3	5.5
Nuclear	0.8	1.6	4.4	9.4	34	59	0.5	1.1	3.3	10.7	5.6	8.4	5.5	7.3
Hydro	4.0	6.2	6.4	11	21	29	2.0	1.4	1.6	0.4	4.2	3.8	3.4	3.6
Geothermal	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Solar, wind, etc.	-	0.0	0.2	4.2	20	35	0.0	0.5	2.0	33.0	25.2	10.5	5.4	8.5
Biomass and waste	116	133	149	194	231	230	44	23	13	1.1	1.9	1.1	0.0	0.7

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	174	243	315	556	952	1,210	100	100	100	2.6	4.1	3.4	2.4	3.0
Industry	41	67	83	191	347	463	27	34	38	2.3	6.1	3.8	2.9	3.5
Transport	17	21	32	78	190	258	8.6	14	21	4.4	6.6	5.7	3.1	4.7
Buildings, etc.	110	142	173	246	351	408	59	44	34	2.0	2.5	2.3	1.5	2.0
Non-energy use	5.7	13	27	41	63	81	5.5	7.4	6.7	7.3	3.1	2.7	2.5	2.6
Coal	25	39	35	114	194	244	16	20	20	-1.1	8.9	3.4	2.3	3.0
Oil	27	50	94	156	336	460	21	28	38	6.5	3.7	4.9	3.2	4.2
Natural gas	0.7	5.6	9.7	29	52	73	2.3	5.2	6.0	5.5	8.1	3.8	3.4	3.6
Electricity	7.8	18	32	81	175	250	7.6	15	21	5.8	6.8	4.9	3.6	4.4
Heat	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Renewables	114	130	144	176	195	183	54	32	15	1.0	1.4	0.6	-0.6	0.2

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	120	293	570	1,287	2,687	3,775	100	100	100	6.9	6.0	4.7	3.5	4.2
Coal	61	192	390	967	1,728	2,211	65	75	59	7.4	6.7	3.7	2.5	3.2
Oil	8.8	13	29	23	19	16	4.5	1.8	0.4	8.2	-1.8	-1.0	-2.1	-1.4
Natural gas	0.6	10.0	56	63	284	522	3.4	4.9	14	18.8	0.8	9.9	6.3	8.5
Nuclear	3.0	6.1	17	36	131	225	2.1	2.8	6.0	10.7	5.6	8.4	5.5	7.3
Hydro	47	72	74	132	239	334	24	10	8.8	0.4	4.2	3.8	3.4	3.6
Geothermal	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Solar, wind, etc.	-	0.0	1.7	42	227	390	0.0	3.3	10	48.7	25.8	11.1	5.5	8.9
Biomass and waste	-	-	1.3	25	59	78	-	2.0	2.1	n.a.	23.8	5.4	2.9	4.4
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	279	479	825	2,188	6,281	10,573	5.6	7.2	6.8	5.3	6.2
Population (million)	697	871	1,053	1,295	1,528	1,634	1.9	1.5	1.0	0.7	0.9
CO_2 emissions[*2] (Mt)	263	542	899	2,053	3,638	4,646	5.2	6.1	3.6	2.5	3.2
GDP per capita ($2010 thousand)	0.4	0.6	0.8	1.7	4.1	6.5	3.6	5.6	5.7	4.6	5.3
Primary energy consump. per capita (toe)	0.3	0.4	0.4	0.6	0.9	1.1	1.8	3.0	2.3	1.7	2.1
Primary energy consumption per GDP[*3]	716	638	534	377	223	167	-1.8	-2.5	-3.2	-2.8	-3.1
CO_2 emissions per GDP[*2, *4]	943	1,131	1,090	938	579	439	-0.4	-1.1	-3.0	-2.7	-2.9
CO_2 per primary energy consumption[*2, *5]	1.3	1.8	2.0	2.5	2.6	2.6	1.4	1.4	0.3	0.1	0.2
Automobile ownership (million)	1.7	4.3	9.4	38	126	207	8.1	10.5	7.8	5.1	6.7
Automobile ownership rates[*6]	2.4	5.0	8.9	29	83	127	6.1	8.9	6.7	4.4	5.8

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A24 Japan [Reference Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	345	439	518	442	453	429	100	100	100	1.7	-1.1	0.2	-0.5	-0.1
Coal	60	76	97	118	114	108	17	27	25	2.4	1.4	-0.2	-0.6	-0.4
Oil	234	250	255	192	158	141	57	43	33	0.2	-2.0	-1.2	-1.1	-1.2
Natural gas	21	44	66	108	104	105	10	24	25	4.0	3.6	-0.2	0.1	-0.1
Nuclear	22	53	84	-	41	34	12	-	8.0	4.8	-100	n.a.	-1.7	n.a.
Hydro	7.6	7.5	7.3	7.0	8.1	8.1	1.7	1.6	1.9	-0.2	-0.3	0.9	0.0	0.6
Geothermal	0.8	1.6	3.1	2.4	7.7	8.9	0.4	0.5	2.1	7.0	-1.8	7.5	1.6	5.2
Solar, wind, etc.	-	1.4	0.9	2.9	6.8	8.9	0.3	0.7	2.1	-3.7	8.4	5.5	2.7	4.4
Biomass and waste	-	4.5	4.7	11	13	14	1.0	2.5	3.3	0.4	6.3	1.1	0.6	0.9

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	232	287	328	296	294	279	100	100	100	1.4	-0.7	0.0	-0.5	-0.2
Industry	91	110	100	88	95	93	38	30	33	-0.9	-0.9	0.5	-0.2	0.2
Transport	54	68	84	72	62	56	24	24	20	2.2	-1.2	-0.9	-1.1	-1.0
Buildings, etc.	58	76	103	100	102	97	26	34	35	3.1	-0.2	0.1	-0.5	-0.1
Non-energy use	28	34	41	36	35	33	12	12	12	2.1	-1.0	-0.2	-0.6	-0.3
Coal	25	30	24	24	25	22	11	8.0	8.1	-2.2	-0.2	0.4	-1.1	-0.2
Oil	157	171	194	156	133	116	59	53	42	1.3	-1.6	-1.0	-1.4	-1.1
Natural gas	5.8	15	22	30	34	34	5.3	10	12	3.6	2.3	0.8	0.0	0.5
Electricity	44	66	83	82	94	96	23	28	34	2.3	-0.1	0.8	0.3	0.6
Heat	0.1	0.2	0.5	0.5	4.7	6.5	0.1	0.2	2.3	10.5	0.1	14.3	3.4	10.0
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Renewables	-	4.1	3.8	3.9	4.0	4.0	1.4	1.3	1.4	-0.7	0.1	0.3	0.0	0.2

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	573	873	1,088	1,036	1,177	1,203	100	100	100	2.2	-0.4	0.8	0.2	0.6
Coal	55	118	234	349	325	308	13	34	26	7.1	2.9	-0.4	-0.5	-0.5
Oil	265	284	179	116	60	59	33	11	4.9	-4.5	-3.0	-4.1	-0.1	-2.6
Natural gas	81	171	254	421	411	446	20	41	37	4.0	3.7	-0.1	0.8	0.2
Nuclear	83	202	322	-	156	132	23	-	11	4.8	-100	n.a.	-1.7	n.a.
Hydro	88	87	85	82	94	94	10.0	7.9	7.9	-0.2	-0.3	0.9	0.0	0.6
Geothermal	0.9	1.7	3.3	2.6	8.7	10	0.2	0.2	0.8	6.8	-1.9	7.9	1.6	5.4
Solar, wind, etc.	-	0.0	0.5	30	76	100	0.0	2.9	8.3	84.4	34.7	6.0	2.8	4.8
Biomass and waste	-	9.6	10	36	46	52	1.1	3.4	4.4	0.7	9.3	1.7	1.2	1.5
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	2,894	4,553	5,093	5,650	6,582	7,354	1.1	0.7	1.0	1.1	1.0
Population (million)	117	124	127	127	120	114	0.3	0.0	-0.3	-0.6	-0.4
CO_2 emissions[*2] (Mt)	916	1,071	1,195	1,201	1,075	1,007	1.1	0.0	-0.7	-0.6	-0.7
GDP per capita ($2010 thousand)	25	37	40	44	55	65	0.9	0.7	1.3	1.7	1.5
Primary energy consump. per capita (toe)	3.0	3.6	4.1	3.5	3.8	3.8	1.4	-1.1	0.5	0.0	0.3
Primary energy consumption per GDP[*3]	119	96	102	78	69	58	0.5	-1.9	-0.8	-1.6	-1.1
CO_2 emissions per GDP[*2, *4]	317	235	235	213	163	137	0.0	-0.7	-1.6	-1.7	-1.7
CO_2 per primary energy consumption[*2, *5]	2.7	2.4	2.3	2.7	2.4	2.3	-0.6	1.2	-0.8	-0.1	-0.6
Automobile ownership (million)	38	58	72	77	74	71	2.3	0.4	-0.2	-0.4	-0.3
Automobile ownership rates[*6]	325	467	571	604	615	626	2.0	0.4	0.1	0.2	0.1

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A25 Korea [Reference Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	41	93	188	268	321	318	100	100	100	7.3	2.6	1.1	-0.1	0.7
Coal	14	25	42	82	84	83	27	30	26	5.2	4.9	0.2	-0.2	0.0
Oil	27	50	99	96	103	100	54	36	31	7.1	-0.2	0.4	-0.3	0.2
Natural gas	-	2.7	17	43	50	51	2.9	16	16	20.1	6.9	0.9	0.2	0.6
Nuclear	0.9	14	28	41	76	76	15	15	24	7.5	2.6	4.0	0.0	2.4
Hydro	0.2	0.5	0.3	0.2	0.2	0.2	0.6	0.1	0.1	-4.5	-2.7	0.0	0.0	0.0
Geothermal	-	-	-	0.1	0.1	0.1	-	0.0	0.0	n.a.	n.a.	1.4	1.1	1.2
Solar, wind, etc.	-	0.0	0.0	0.5	1.5	2.6	0.0	0.2	0.8	15.8	18.5	7.6	5.5	6.8
Biomass and waste	-	0.7	1.4	5.6	5.8	5.8	0.8	2.1	1.8	6.6	10.5	0.3	-0.1	0.1

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	31	65	127	170	197	196	100	100	100	7.0	2.1	0.9	-0.1	0.5
Industry	10	19	38	49	58	57	30	29	29	7.2	1.8	1.0	-0.2	0.6
Transport	4.8	15	26	32	34	32	22	19	16	6.1	1.4	0.3	-0.6	0.0
Buildings, etc.	13	24	37	43	51	51	38	25	26	4.4	1.0	1.1	0.1	0.7
Non-energy use	3.1	6.7	25	46	54	56	10	27	29	14.0	4.5	1.0	0.3	0.7
Coal	9.7	12	9.1	11	10	8.5	18	6.4	4.3	-2.5	1.3	-0.4	-1.7	-0.9
Oil	19	44	80	87	94	92	67	51	47	6.2	0.6	0.5	-0.2	0.2
Natural gas	-	0.7	11	22	26	25	1.0	13	13	32.1	5.2	0.9	-0.1	0.5
Electricity	2.8	8.1	23	42	59	62	13	25	32	10.8	4.5	2.2	0.5	1.6
Heat	-	-	3.3	4.6	4.1	3.9	-	2.7	2.0	n.a.	2.4	-0.7	-0.4	-0.6
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Renewables	-	0.7	1.3	4.2	4.1	4.0	1.1	2.5	2.0	5.9	8.7	-0.2	-0.3	-0.2

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	37	105	289	546	747	788	100	100	100	10.6	4.7	2.0	0.5	1.4
Coal	2.5	18	111	232	267	285	17	42	36	20.2	5.4	0.9	0.7	0.8
Oil	29	19	35	17	7.7	6.1	18	3.2	0.8	6.3	-4.8	-4.9	-2.4	-4.0
Natural gas	-	9.6	29	130	157	169	9.1	24	21	11.9	11.2	1.2	0.7	1.0
Nuclear	3.5	53	109	156	291	291	50	29	37	7.5	2.6	4.0	0.0	2.4
Hydro	2.0	6.4	4.0	2.8	2.8	2.8	6.0	0.5	0.3	-4.5	-2.7	0.0	0.0	0.0
Geothermal	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Solar, wind, etc.	-	0.0	0.0	5.1	17	30	0.0	0.9	3.8	36.2	47.6	7.8	5.6	7.0
Biomass and waste	-	-	0.1	2.2	3.2	3.7	-	0.4	0.5	n.a.	25.2	2.5	1.5	2.1
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	149	377	710	1,234	1,878	2,270	6.5	4.0	2.7	1.9	2.4
Population (million)	38	43	47	50	53	52	0.9	0.5	0.3	0.0	0.1
CO_2 emissions[*2] (Mt)	126	239	433	578	599	582	6.1	2.1	0.2	-0.3	0.0
GDP per capita ($2010 thousand)	3.9	8.8	15	24	36	43	5.6	3.5	2.4	2.0	2.2
Primary energy consump. per capita (toe)	1.1	2.2	4.0	5.3	6.1	6.1	6.3	2.1	0.8	0.0	0.5
Primary energy consumption per GDP[*3]	277	246	265	218	171	140	0.7	-1.4	-1.5	-1.9	-1.7
CO_2 emissions per GDP[*2, *4]	845	634	610	469	319	256	-0.4	-1.9	-2.4	-2.2	-2.3
CO_2 per primary energy consumption[*2, *5]	3.1	2.6	2.3	2.2	1.9	1.8	-1.1	-0.5	-0.9	-0.2	-0.6
Automobile ownership (million)	0.5	3.4	12	20	25	28	13.5	3.7	1.5	1.0	1.3
Automobile ownership rates[*6]	14	79	257	399	483	535	12.5	3.2	1.2	1.0	1.1

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A26 Chinese Taipei [Reference Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	28	48	85	110	125	127	100	100	100	5.9	1.9	0.8	0.1	0.5
Coal	3.9	11	30	41	41	40	24	37	31	10.2	2.3	0.0	-0.3	-0.1
Oil	20	26	38	42	47	47	54	38	37	4.0	0.7	0.6	0.0	0.4
Natural gas	1.6	1.4	5.6	14	26	28	2.9	12	22	14.8	6.6	4.0	0.8	2.8
Nuclear	2.1	8.6	10	11	8.0	8.0	18	10	6.3	1.6	0.7	-2.0	0.0	-1.2
Hydro	0.3	0.5	0.4	0.4	0.4	0.4	1.1	0.3	0.3	-3.3	-0.4	0.0	0.0	0.0
Geothermal	-	0.0	-	-	-	-	0.0	-	-	-100	n.a.	n.a.	n.a.	n.a.
Solar, wind, etc.	-	0.0	0.1	0.3	0.8	1.2	0.0	0.3	0.9	14.7	10.3	6.7	4.0	5.7
Biomass and waste	-	-	0.6	1.7	2.7	3.1	-	1.5	2.4	n.a.	7.4	3.1	1.2	2.4

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	19	29	49	68	79	81	100	100	100	5.2	2.4	1.0	0.2	0.7
Industry	10	12	19	23	27	27	42	34	34	4.5	1.2	1.1	0.1	0.7
Transport	2.9	6.6	12	12	13	13	22	18	16	5.7	0.4	0.4	-0.2	0.2
Buildings, etc.	3.6	6.5	10	12	13	14	22	17	17	4.6	1.1	0.6	0.4	0.5
Non-energy use	2.0	4.0	7.8	21	26	27	14	31	34	7.0	7.4	1.3	0.4	1.0
Coal	2.2	3.6	5.0	7.6	9.2	9.5	12	11	12	3.3	3.1	1.2	0.3	0.9
Oil	12	18	28	37	42	42	62	55	52	4.4	2.0	0.8	0.0	0.5
Natural gas	1.4	0.9	1.6	2.7	3.2	3.5	3.0	4.0	4.4	5.9	4.1	1.1	0.9	1.0
Electricity	3.2	6.6	14	20	24	25	22	29	31	7.6	2.7	1.2	0.4	0.9
Heat	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Renewables	-	0.0	0.1	0.3	0.4	0.4	0.1	0.5	0.5	18.7	8.5	1.2	0.3	0.8

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	43	88	181	257	307	320	100	100	100	7.4	2.6	1.1	0.4	0.8
Coal	6.0	24	88	125	118	113	28	49	35	13.7	2.5	-0.4	-0.4	-0.4
Oil	26	23	30	8.6	5.8	5.4	26	3.3	1.7	2.5	-8.6	-2.4	-0.8	-1.7
Natural gas	-	1.2	17	70	134	146	1.4	27	46	30.3	10.5	4.1	0.9	2.9
Nuclear	8.2	33	39	42	31	31	37	16	9.6	1.6	0.7	-2.0	0.0	-1.2
Hydro	2.9	6.4	4.6	4.3	4.3	4.3	7.2	1.7	1.3	-3.3	-0.4	0.0	0.0	0.0
Geothermal	-	0.0	-	-	-	-	0.0	-	-	-100	n.a.	n.a.	n.a.	n.a.
Solar, wind, etc.	-	-	0.0	2.1	7.7	12	-	0.8	3.7	n.a.	72.4	8.6	4.6	7.0
Biomass and waste	-	-	1.7	3.7	7.2	8.2	-	1.4	2.6	n.a.	5.7	4.2	1.3	3.1
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	73	162	309	523	723	845	6.7	3.8	2.1	1.6	1.9
Population (million)	18	20	22	23	23	22	0.9	0.4	-0.1	-0.4	-0.2
CO_2 emissions[*2] (Mt)	74	115	225	259	286	282	6.9	1.0	0.6	-0.1	0.3
GDP per capita ($2010 thousand)	4.1	7.9	14	22	31	38	5.8	3.4	2.1	1.9	2.1
Primary energy consump. per capita (toe)	1.6	2.3	3.8	4.7	5.4	5.7	5.0	1.5	0.9	0.5	0.7
Primary energy consumption per GDP[*3]	380	295	274	211	173	150	-0.7	-1.9	-1.2	-1.4	-1.3
CO_2 emissions per GDP[*2, *4]	1,015	714	727	495	395	334	0.2	-2.7	-1.4	-1.7	-1.5
CO_2 per primary energy consumption[*2, *5]	2.7	2.4	2.6	2.3	2.3	2.2	0.9	-0.9	-0.2	-0.3	-0.2
Automobile ownership (million)	0.5	2.9	5.5	7.5	8.6	9.0	6.7	2.2	0.9	0.5	0.7
Automobile ownership rates[*6]	27	141	249	320	373	405	5.8	1.8	1.0	0.8	0.9

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A27 ASEAN [Reference Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	n.a.	n.a.	385	624	1,046	1,352	n.a.	100	100	n.a.	3.5	3.3	2.6	3.0
Coal	n.a.	n.a.	32	99	239	348	n.a.	16	26	n.a.	8.4	5.6	3.9	5.0
Oil	n.a.	n.a.	154	221	334	421	n.a.	35	31	n.a.	2.6	2.6	2.3	2.5
Natural gas	n.a.	n.a.	74	139	218	278	n.a.	22	21	n.a.	4.6	2.9	2.4	2.7
Nuclear	n.a.	n.a.	-	-	9.1	30	n.a.	-	2.2	n.a.	n.a.	n.a.	12.5	n.a.
Hydro	n.a.	n.a.	4.4	11	19	25	n.a.	1.8	1.8	n.a.	6.8	3.6	2.5	3.2
Geothermal	n.a.	n.a.	18	26	80	101	n.a.	4.2	7.4	n.a.	2.5	7.3	2.3	5.3
Solar, wind, etc.	n.a.	n.a.	0.0	0.2	1.1	2.7	n.a.	0.0	0.2	n.a.	72.9	11.7	9.3	10.7
Biomass and waste	n.a.	n.a.	102	127	145	148	n.a.	20	11	n.a.	1.6	0.8	0.2	0.6

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	n.a.	n.a.	274	441	695	892	n.a.	100	100	n.a.	3.4	2.9	2.5	2.7
Industry	n.a.	n.a.	76	121	221	296	n.a.	28	33	n.a.	3.4	3.8	3.0	3.5
Transport	n.a.	n.a.	62	118	186	237	n.a.	27	27	n.a.	4.7	2.9	2.4	2.7
Buildings, etc.	n.a.	n.a.	116	154	216	268	n.a.	35	30	n.a.	2.0	2.2	2.2	2.2
Non-energy use	n.a.	n.a.	21	48	72	91	n.a.	11	10	n.a.	6.0	2.6	2.4	2.5
Coal	n.a.	n.a.	13	29	54	68	n.a.	6.6	7.6	n.a.	5.7	3.9	2.3	3.3
Oil	n.a.	n.a.	123	197	309	395	n.a.	45	44	n.a.	3.4	2.9	2.5	2.7
Natural gas	n.a.	n.a.	17	38	73	102	n.a.	8.5	11	n.a.	5.9	4.2	3.5	3.9
Electricity	n.a.	n.a.	28	65	141	210	n.a.	15	24	n.a.	6.4	4.9	4.1	4.6
Heat	n.a.	n.a.	-	-	-	-	n.a.	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Hydrogen	n.a.	n.a.	-	-	0.0	0.0	n.a.	-	0.0	n.a.	n.a.	n.a.	6.9	n.a.
Renewables	n.a.	n.a.	93	112	119	117	n.a.	25	13	n.a.	1.3	0.4	-0.2	0.2

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	n.a.	n.a.	374	854	1,864	2,769	n.a.	100	100	n.a.	6.1	5.0	4.0	4.6
Coal	n.a.	n.a.	79	283	813	1,303	n.a.	33	47	n.a.	9.5	6.8	4.8	6.0
Oil	n.a.	n.a.	72	38	30	26	n.a.	4.4	0.9	n.a.	-4.5	-1.5	-1.4	-1.5
Natural gas	n.a.	n.a.	154	371	662	898	n.a.	43	32	n.a.	6.5	3.7	3.1	3.5
Nuclear	n.a.	n.a.	-	-	35	114	n.a.	-	4.1	n.a.	n.a.	n.a.	12.5	n.a.
Hydro	n.a.	n.a.	51	128	224	288	n.a.	15	10	n.a.	6.8	3.6	2.5	3.2
Geothermal	n.a.	n.a.	16	20	56	69	n.a.	2.4	2.5	n.a.	1.5	6.5	2.1	4.8
Solar, wind, etc.	n.a.	n.a.	0.0	2.2	13	32	n.a.	0.3	1.1	n.a.	73.4	11.7	9.3	10.7
Biomass and waste	n.a.	n.a.	1.0	12	32	42	n.a.	1.4	1.5	n.a.	19.3	6.4	2.8	5.0
Hydrogen	n.a.	n.a.	-	-	-	-	n.a.	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	422	735	1,188	2,407	5,071	7,488	4.9	5.2	4.8	4.0	4.5
Population (million)	357	443	523	623	723	765	1.7	1.3	0.9	0.6	0.8
CO_2 emissions[*2] (Mt)	n.a.	n.a.	713	1,258	2,328	3,137	n.a.	4.1	3.9	3.0	3.6
GDP per capita ($2010 thousand)	1.2	1.7	2.3	3.9	7.0	9.8	3.2	3.9	3.8	3.4	3.6
Primary energy consump. per capita (toe)	n.a.	n.a.	0.7	1.0	1.4	1.8	n.a.	2.2	2.3	2.0	2.2
Primary energy consumption per GDP[*3]	n.a.	n.a.	324	259	206	181	n.a.	-1.6	-1.4	-1.3	-1.4
CO_2 emissions per GDP[*2, *4]	n.a.	n.a.	601	523	459	419	n.a.	-1.0	-0.8	-0.9	-0.8
CO_2 per primary energy consumption[*2, *5]	n.a.	n.a.	1.9	2.0	2.2	2.3	n.a.	0.6	0.6	0.4	0.5
Automobile ownership (million)	n.a.	n.a.	21	55	106	145	n.a.	7.2	4.3	3.1	3.8
Automobile ownership rates[*6]	n.a.	n.a.	40	88	147	189	n.a.	5.8	3.3	2.5	3.0

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A28 Indonesia [Reference Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	56	99	156	226	417	556	100	100	100	4.7	2.7	3.9	2.9	3.5
Coal	0.2	3.5	12	36	88	136	3.6	16	25	13.0	8.2	5.7	4.5	5.3
Oil	20	33	58	75	128	163	34	33	29	5.7	1.9	3.4	2.5	3.0
Natural gas	4.9	16	27	37	73	104	16	16	19	5.3	2.3	4.4	3.7	4.1
Nuclear	-	-	-	-	-	5.1	-	-	0.9	n.a.	n.a.	n.a.	n.a.	n.a.
Hydro	0.1	0.5	0.9	1.3	1.6	1.7	0.5	0.6	0.3	5.8	3.0	1.4	0.7	1.1
Geothermal	-	1.9	8.4	17	65	83	2.0	7.7	15	15.8	5.3	8.6	2.5	6.2
Solar, wind, etc.	-	-	-	0.0	0.0	0.1	-	0.0	0.0	n.a.	n.a.	22.9	11.8	18.5
Biomass and waste	30	44	50	59	62	62	44	26	11	1.4	1.2	0.3	0.0	0.2

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	50	80	120	165	274	360	100	100	100	4.2	2.3	3.2	2.8	3.0
Industry	6.7	18	30	39	81	116	23	24	32	5.2	1.9	4.6	3.7	4.2
Transport	6.0	11	21	46	84	110	13	28	31	6.9	5.8	3.8	2.8	3.4
Buildings, etc.	36	44	59	72	97	117	55	44	33	3.1	1.4	1.8	2.0	1.9
Non-energy use	1.2	7.4	9.8	7.7	12	16	9.2	4.7	4.4	2.9	-1.7	2.9	2.6	2.8
Coal	0.1	2.2	4.7	6.6	15	20	2.7	4.0	5.6	7.8	2.5	5.4	2.8	4.4
Oil	17	27	48	67	118	153	34	40	43	5.8	2.4	3.7	2.6	3.3
Natural gas	2.4	6.0	12	17	39	59	7.5	10	16	6.7	2.8	5.3	4.3	4.9
Electricity	0.6	2.4	6.8	17	41	67	3.0	10	19	10.8	6.8	5.7	4.9	5.4
Heat	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Renewables	29	42	49	58	60	60	53	35	17	1.6	1.2	0.3	-0.1	0.1

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	7.5	33	93	229	553	890	100	100	100	11.1	6.6	5.7	4.9	5.4
Coal	-	9.8	34	120	322	545	30	53	61	13.3	9.4	6.4	5.4	6.0
Oil	6.2	15	18	26	22	21	47	11	2.3	1.8	2.5	-0.9	-0.9	-0.9
Natural gas	-	0.7	26	56	148	232	2.2	25	26	42.9	5.6	6.2	4.6	5.6
Nuclear	-	-	-	-	-	20	-	-	2.2	n.a.	n.a.	n.a.	n.a.	n.a.
Hydro	1.3	5.7	10	15	19	20	17	6.6	2.3	5.8	3.0	1.4	0.7	1.1
Geothermal	-	1.1	4.9	10	38	48	3.4	4.4	5.4	15.8	5.3	8.6	2.5	6.2
Solar, wind, etc.	-	-	-	0.0	0.3	0.9	-	0.0	0.1	n.a.	n.a.	22.9	11.8	18.5
Biomass and waste	-	-	0.0	1.0	2.6	3.5	-	0.4	0.4	n.a.	43.7	6.5	2.9	5.1
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	162	300	453	943	2,193	3,334	4.2	5.4	5.4	4.3	5.0
Population (million)	147	181	212	254	295	312	1.5	1.3	0.9	0.6	0.8
CO_2 emissions[*2] (Mt)	71	134	262	439	878	1,244	6.9	3.8	4.4	3.5	4.1
GDP per capita ($2010 thousand)	1.1	1.7	2.1	3.7	7.4	11	2.6	4.0	4.4	3.7	4.2
Primary energy consump. per capita (toe)	0.4	0.5	0.7	0.9	1.4	1.8	3.1	1.3	2.9	2.3	2.7
Primary energy consumption per GDP[*3]	345	329	343	239	190	167	0.4	-2.5	-1.4	-1.3	-1.4
CO_2 emissions per GDP[*2, *4]	442	447	578	466	400	373	2.6	-1.5	-0.9	-0.7	-0.8
CO_2 per primary energy consumption[*2, *5]	1.3	1.4	1.7	1.9	2.1	2.2	2.2	1.0	0.5	0.6	0.5
Automobile ownership (million)	1.3	2.8	5.4	20	48	69	6.8	9.7	5.8	3.7	4.9
Automobile ownership rates[*6]	8.8	15	26	78	164	222	5.2	8.3	4.8	3.1	4.1

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A29 Malaysia [Reference Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	12	22	49	90	126	152	100	100	100	8.4	4.4	2.1	1.9	2.0
Coal	0.1	1.4	2.3	15	35	46	6.2	17	31	5.5	14.4	5.3	2.9	4.4
Oil	7.9	11	19	33	43	48	53	37	32	5.4	3.9	1.6	1.2	1.5
Natural gas	2.2	6.8	25	38	43	46	31	43	31	13.8	3.2	0.7	0.7	0.7
Nuclear	-	-	-	-	-	5.1	-	-	3.4	n.a.	n.a.	n.a.	n.a.	n.a.
Hydro	0.1	0.3	0.6	1.2	2.0	2.8	1.6	1.3	1.8	5.7	4.8	3.6	3.1	3.4
Geothermal	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Solar, wind, etc.	-	-	-	0.0	0.1	0.3	-	0.0	0.2	n.a.	n.a.	12.4	8.8	11.0
Biomass and waste	1.6	1.9	1.9	1.9	2.5	2.8	8.5	2.1	1.9	0.0	0.0	1.8	1.3	1.6

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	7.2	14	30	53	78	96	100	100	100	7.9	4.2	2.4	2.1	2.3
Industry	3.1	5.6	12	15	24	31	40	29	32	7.8	2.0	2.8	2.6	2.7
Transport	2.1	4.9	11	22	29	33	35	42	34	8.3	5.3	1.7	1.1	1.5
Buildings, etc.	1.7	2.6	5.0	9.4	15	20	19	18	21	6.6	4.6	3.2	2.7	3.0
Non-energy use	0.3	0.8	2.2	6.2	9.6	12	6.0	12	13	10.4	7.5	2.8	2.3	2.6
Coal	0.1	0.5	1.0	1.7	2.7	4.1	3.7	3.2	4.2	6.8	4.0	2.9	4.1	3.4
Oil	5.3	9.3	18	29	39	44	67	55	46	7.0	3.4	1.8	1.2	1.6
Natural gas	0.0	1.1	3.9	9.6	15	18	7.9	18	19	13.5	6.7	2.6	2.3	2.5
Electricity	0.7	1.7	5.3	11	21	28	12	21	29	11.9	5.7	3.8	3.1	3.5
Heat	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Hydrogen	-	-	-	-	0.0	0.0	-	-	0.0	n.a.	n.a.	n.a.	6.7	n.a.
Renewables	1.0	1.3	1.3	1.1	1.4	1.5	9.1	2.1	1.6	0.4	-1.1	1.2	1.0	1.1

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	10	23	69	147	262	355	100	100	100	11.6	5.5	3.6	3.1	3.4
Coal	-	2.9	7.7	56	141	192	13	38	54	10.1	15.2	6.0	3.1	4.9
Oil	8.5	11	3.6	3.5	0.7	0.3	46	2.4	0.1	-10.2	-0.2	-9.6	-9.1	-9.4
Natural gas	0.1	5.5	51	74	93	104	24	50	29	24.9	2.7	1.4	1.2	1.3
Nuclear	-	-	-	-	-	20	-	-	5.5	n.a.	n.a.	n.a.	n.a.	n.a.
Hydro	1.4	4.0	7.0	13	24	32	17	9.1	9.1	5.7	4.8	3.6	3.1	3.4
Geothermal	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Solar, wind, etc.	-	-	-	0.2	1.5	3.5	-	0.2	1.0	n.a.	n.a.	12.4	8.8	11.0
Biomass and waste	-	-	-	0.7	1.8	2.5	-	0.5	0.7	n.a.	n.a.	6.2	2.9	4.9
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	46	82	163	314	633	896	7.1	4.8	4.5	3.5	4.1
Population (million)	14	18	23	30	36	39	2.5	1.8	1.2	0.7	1.0
CO_2 emissions[*2] (Mt)	29	54	121	236	347	410	8.3	4.9	2.4	1.7	2.1
GDP per capita ($2010 thousand)	3.3	4.5	6.9	11	18	23	4.4	3.0	3.2	2.8	3.1
Primary energy consump. per capita (toe)	0.9	1.2	2.1	3.0	3.5	3.9	5.7	2.6	0.9	1.2	1.0
Primary energy consumption per GDP[*3]	260	267	301	285	198	170	1.2	-0.4	-2.2	-1.6	-2.0
CO_2 emissions per GDP[*2, *4]	630	665	744	751	548	457	1.1	0.1	-2.0	-1.8	-1.9
CO_2 per primary energy consumption[*2, *5]	2.4	2.5	2.5	2.6	2.8	2.7	-0.1	0.4	0.3	-0.2	0.1
Automobile ownership (million)	0.9	2.4	5.2	12	18	21	8.0	6.3	2.3	1.5	2.0
Automobile ownership rates[*6]	65	133	224	414	492	532	5.3	4.5	1.1	0.8	1.0

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A30 Myanmar [Reference Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	9.4	11	13	19	31	41	100	100	100	1.9	3.0	3.1	2.7	2.9
Coal	0.2	0.1	0.3	0.4	4.3	8.9	0.6	2.1	22	17.0	1.8	15.8	7.5	12.5
Oil	1.3	0.7	2.0	5.1	8.3	12	6.8	26	30	10.5	7.0	3.1	4.0	3.4
Natural gas	0.3	0.8	1.2	2.1	6.2	6.7	7.1	11	16	4.6	4.1	7.0	0.9	4.6
Nuclear	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Hydro	0.1	0.1	0.2	0.8	1.7	2.8	1.0	3.9	6.7	4.7	11.6	5.1	5.1	5.1
Geothermal	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Solar, wind, etc.	-	-	-	-	0.0	0.0	-	-	0.1	n.a.	n.a.	n.a.	3.2	n.a.
Biomass and waste	7.6	9.0	9.2	11	12	13	84	57	31	0.2	1.3	0.7	0.4	0.6

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	8.4	9.4	11	17	24	32	100	100	100	2.0	2.8	2.3	2.6	2.4
Industry	0.6	0.4	1.2	2.0	4.6	6.8	4.2	12	22	11.3	4.2	5.2	4.0	4.7
Transport	0.6	0.4	1.2	2.5	4.1	7.0	4.7	15	22	10.0	5.6	3.3	5.3	4.1
Buildings, etc.	7.0	8.5	9.1	12	15	17	90	72	55	0.7	2.1	1.4	1.3	1.3
Non-energy use	0.1	0.1	0.1	0.3	0.4	0.5	1.0	1.5	1.6	-0.1	7.5	3.3	1.9	2.8
Coal	0.1	0.1	0.3	0.3	0.4	0.5	0.5	2.0	1.5	20.1	0.4	1.2	1.1	1.2
Oil	1.2	0.6	1.5	4.2	7.4	11	6.2	24	36	10.0	7.4	3.6	4.4	3.9
Natural gas	0.1	0.2	0.3	0.7	1.5	2.2	2.4	4.1	6.9	3.7	5.6	4.9	3.8	4.5
Electricity	0.1	0.1	0.3	0.9	2.9	4.9	1.6	5.1	16	6.5	8.3	7.8	5.5	6.9
Heat	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Hydrogen	-	-	-	-	0.0	0.0	-	-	0.0	n.a.	n.a.	n.a.	8.0	n.a.
Renewables	6.9	8.4	9.0	11	12	13	89	64	40	0.7	1.4	0.7	0.4	0.6

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	1.5	2.5	5.1	14	60	102	100	100	100	7.5	7.5	9.5	5.3	7.9
Coal	0.0	0.0	-	0.3	18	40	1.6	2.0	40	-100	n.a.	29.3	8.7	21.0
Oil	0.5	0.3	0.7	0.1	0.1	0.1	11	0.5	0.1	9.8	-15.5	0.0	0.0	0.0
Natural gas	0.2	1.0	2.5	5.0	23	28	39	35	28	10.0	4.9	10.0	2.2	6.9
Nuclear	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Hydro	0.8	1.2	1.9	8.8	20	32	48	62	32	4.7	11.6	5.1	5.1	5.1
Geothermal	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Solar, wind, etc.	-	-	-	-	0.4	0.5	-	-	0.5	n.a.	n.a.	n.a.	3.2	n.a.
Biomass and waste	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	5.9	6.7	13	55	155	255	7.2	10.7	6.6	5.1	6.0
Population (million)	34	42	48	53	60	63	1.3	0.8	0.8	0.4	0.6
CO_2 emissions[*2] (Mt)	5.2	4.1	9.9	21	56	87	9.3	5.7	6.1	4.6	5.5
GDP per capita ($2010 thousand)	0.2	0.2	0.3	1.0	2.6	4.1	5.8	9.8	5.9	4.7	5.4
Primary energy consump. per capita (toe)	0.3	0.3	0.3	0.4	0.5	0.7	0.6	2.1	2.3	2.3	2.3
Primary energy consumption per GDP[*3]	1,606	1,602	966	349	202	161	-4.9	-7.0	-3.3	-2.2	-2.9
CO_2 emissions per GDP[*2, *4]	893	609	745	388	360	342	2.0	-4.6	-0.5	-0.5	-0.5
CO_2 per primary energy consumption[*2, *5]	0.6	0.4	0.8	1.1	1.8	2.1	7.3	2.6	3.0	1.8	2.5
Automobile ownership (million)	0.1	0.1	0.3	0.7	2.2	4.8	13.9	7.7	7.3	8.1	7.6
Automobile ownership rates[*6]	2.2	1.6	5.3	13	37	77	12.5	6.8	6.5	7.7	7.0

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A31 Philippines [Reference Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	22	29	40	48	97	136	100	100	100	3.4	1.3	4.5	3.4	4.1
Coal	0.5	1.5	5.2	12	35	53	5.3	24	39	13.0	6.0	7.0	4.3	6.0
Oil	10	11	16	15	24	33	38	31	24	4.0	-0.6	3.2	2.9	3.1
Natural gas	-	-	0.0	3.1	13	25	-	6.4	18	n.a.	51.9	9.5	6.5	8.3
Nuclear	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Hydro	0.3	0.5	0.7	0.8	0.8	0.8	1.8	1.6	0.6	2.6	1.1	0.0	0.0	0.0
Geothermal	1.8	4.7	10.0	8.9	15	17	16	19	13	7.8	-0.9	3.5	1.2	2.6
Solar, wind, etc.	-	-	-	0.0	0.2	0.4	-	0.0	0.3	n.a.	n.a.	16.7	8.3	13.4
Biomass and waste	9.4	11	8.1	8.5	8.7	7.6	39	18	5.6	-3.1	0.3	0.1	-1.3	-0.4

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	17	20	24	27	52	73	100	100	100	2.0	0.9	4.1	3.6	3.9
Industry	3.4	4.7	5.3	7.1	15	23	24	26	31	1.4	2.1	4.8	4.0	4.5
Transport	3.5	4.5	8.1	9.2	17	25	23	34	34	6.0	0.9	4.1	3.7	3.9
Buildings, etc.	9.4	10	10	10	19	25	52	38	34	-0.1	0.1	3.7	3.0	3.5
Non-energy use	0.3	0.2	0.3	0.5	0.6	0.7	1.2	1.7	1.0	1.8	3.6	1.9	1.9	1.9
Coal	0.2	0.6	0.8	2.3	4.3	5.8	3.1	8.7	7.9	2.3	8.2	3.9	3.0	3.5
Oil	7.0	8.1	13	13	23	32	41	48	43	4.9	-0.1	3.7	3.2	3.5
Natural gas	-	-	-	0.1	0.7	1.3	-	0.3	1.7	n.a.	n.a.	14.6	6.2	11.3
Electricity	1.5	1.8	3.1	5.4	17	29	9.3	20	39	5.6	4.0	7.4	5.4	6.6
Heat	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Hydrogen	-	-	-	-	0.0	0.0	-	-	0.0	n.a.	n.a.	n.a.	9.2	n.a.
Renewables	7.8	9.1	6.9	6.2	6.5	5.9	46	23	8.1	-2.7	-0.7	0.3	-1.0	-0.2

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	18	26	45	77	241	406	100	100	100	5.6	3.9	7.4	5.3	6.6
Coal	0.2	1.9	17	33	127	217	7.3	43	53	24.0	5.0	8.8	5.5	7.5
Oil	12	12	9.2	5.7	3.9	2.4	47	7.4	0.6	-3.0	-3.3	-2.4	-4.8	-3.3
Natural gas	-	-	0.0	19	80	152	-	24	37	n.a.	64.9	9.5	6.6	8.4
Nuclear	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Hydro	3.5	6.1	7.8	9.1	9.1	9.1	23	12	2.3	2.6	1.1	0.0	0.0	0.0
Geothermal	2.1	5.5	12	10	18	20	21	13	5.0	7.8	-0.9	3.5	1.2	2.6
Solar, wind, etc.	-	-	-	0.2	2.0	4.5	-	0.2	1.1	n.a.	n.a.	16.7	8.3	13.4
Biomass and waste	-	0.4	-	0.2	0.5	0.7	1.6	0.3	0.2	-100	n.a.	6.6	2.9	5.1
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	80	95	125	251	589	899	2.9	5.1	5.5	4.3	5.0
Population (million)	47	62	78	99	124	137	2.3	1.7	1.4	1.0	1.3
CO_2 emissions[*2] (Mt)	33	39	69	98	241	364	6.0	2.5	5.8	4.2	5.2
GDP per capita ($2010 thousand)	1.7	1.5	1.6	2.5	4.8	6.6	0.5	3.3	4.0	3.2	3.7
Primary energy consump. per capita (toe)	0.5	0.5	0.5	0.5	0.8	1.0	1.0	-0.5	3.1	2.4	2.8
Primary energy consumption per GDP[*3]	280	304	319	190	165	151	0.5	-3.6	-0.9	-0.9	-0.9
CO_2 emissions per GDP[*2, *4]	414	409	550	389	409	405	3.0	-2.4	0.3	-0.1	0.2
CO_2 per primary energy consumption[*2, *5]	1.5	1.3	1.7	2.0	2.5	2.7	2.5	1.2	1.2	0.8	1.0
Automobile ownership (million)	0.9	1.2	2.4	3.5	8.1	13	7.2	2.6	5.4	5.1	5.3
Automobile ownership rates[*6]	18	20	31	35	66	97	4.7	0.8	4.0	4.0	4.0

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A32 Thailand [Reference Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	22	42	72	135	195	232	100	100	100	5.6	4.5	2.3	1.8	2.1
Coal	0.5	3.8	7.7	16	31	37	9.1	12	16	7.2	5.3	4.3	1.9	3.3
Oil	11	18	32	54	73	88	43	40	38	5.9	3.8	1.9	2.0	1.9
Natural gas	-	5.0	17	38	49	53	12	28	23	13.3	5.7	1.6	0.8	1.3
Nuclear	-	-	-	-	2.6	7.7	-	-	3.3	n.a.	n.a.	n.a.	11.6	n.a.
Hydro	0.1	0.4	0.5	0.5	0.5	0.5	1.0	0.4	0.2	1.9	-0.6	0.5	0.5	0.5
Geothermal	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.2	-4.8	9.6	1.2	6.3
Solar, wind, etc.	-	-	-	0.1	0.6	1.5	-	0.1	0.6	n.a.	n.a.	9.3	9.5	9.4
Biomass and waste	11	15	15	26	37	40	35	19	17	-0.1	4.1	2.2	0.9	1.7

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	15	29	51	96	135	161	100	100	100	5.8	4.7	2.2	1.8	2.0
Industry	4.0	8.7	17	29	47	57	30	31	35	6.8	4.1	3.0	1.9	2.6
Transport	3.2	9.0	15	22	23	24	31	23	15	5.0	3.0	0.3	0.1	0.3
Buildings, etc.	7.8	11	14	21	29	36	37	22	22	2.4	3.3	2.0	2.0	2.0
Non-energy use	0.2	0.4	5.6	23	35	46	1.5	24	28	29.4	10.6	2.7	2.5	2.7
Coal	0.1	1.3	3.5	6.4	13	15	4.5	6.7	9.2	10.5	4.3	4.4	1.5	3.3
Oil	7.3	15	29	52	69	85	52	54	52	6.9	4.2	1.9	2.0	1.9
Natural gas	-	0.1	1.1	7.4	12	14	0.5	7.8	8.7	23.1	14.6	2.8	1.9	2.5
Electricity	1.1	3.3	7.6	15	24	31	11	15	19	8.7	4.8	3.1	2.8	3.0
Heat	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Renewables	6.7	9.2	9.4	16	18	17	32	17	10	0.2	3.8	0.6	-0.4	0.2

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	14	44	96	174	273	349	100	100	100	8.1	4.3	2.9	2.5	2.7
Coal	1.4	11	18	38	77	101	25	22	29	4.9	5.5	4.6	2.8	3.9
Oil	12	10	10	1.7	1.6	1.5	23	1.0	0.4	-0.3	-12.0	-0.4	-0.5	-0.5
Natural gas	-	18	62	119	148	163	40	68	47	13.2	4.8	1.4	0.9	1.2
Nuclear	-	-	-	-	9.8	29	-	-	8.4	n.a.	n.a.	n.a.	11.6	n.a.
Hydro	1.3	5.0	6.0	5.5	6.0	6.3	11	3.2	1.8	1.9	-0.6	0.5	0.5	0.5
Geothermal	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.2	-4.8	9.6	1.2	6.3
Solar, wind, etc.	-	-	-	1.7	7.0	17	-	1.0	5.0	n.a.	n.a.	9.3	9.5	9.4
Biomass and waste	-	-	0.5	8.5	24	31	-	4.9	9.0	n.a.	22.3	6.6	2.9	5.1
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	67	142	218	383	643	881	4.4	4.1	3.3	3.2	3.3
Population (million)	47	57	63	68	68	66	1.0	0.6	0.0	-0.3	-0.1
CO_2 emissions[*2] (Mt)	34	81	152	248	354	407	6.5	3.6	2.2	1.4	1.9
GDP per capita ($2010 thousand)	1.4	2.5	3.5	5.6	9.4	13	3.3	3.5	3.3	3.5	3.4
Primary energy consump. per capita (toe)	0.5	0.7	1.2	2.0	2.9	3.5	4.5	4.0	2.3	2.1	2.2
Primary energy consumption per GDP[*3]	331	296	332	352	303	263	1.1	0.4	-0.9	-1.4	-1.1
CO_2 emissions per GDP[*2, *4]	512	570	697	648	550	462	2.0	-0.5	-1.0	-1.7	-1.3
CO_2 per primary energy consumption[*2, *5]	1.5	1.9	2.1	1.8	1.8	1.8	0.9	-0.9	-0.1	-0.3	-0.2
Automobile ownership (million)	0.9	2.8	6.1	16	23	25	8.1	6.9	2.4	0.9	1.8
Automobile ownership rates[*6]	19	50	98	230	333	377	7.0	6.3	2.3	1.2	1.9

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A33 Viet Nam [Reference Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	14	18	29	67	126	173	100	100	100	4.9	6.2	4.1	3.2	3.7
Coal	2.3	2.2	4.4	19	42	62	12	29	36	7.0	11.1	5.0	4.1	4.6
Oil	1.8	2.7	7.8	18	33	46	15	27	27	11.2	6.1	3.8	3.4	3.7
Natural gas	-	0.0	1.1	8.9	20	28	0.0	13	16	82.6	16.0	5.1	3.5	4.5
Nuclear	-	-	-	-	6.6	12	-	-	6.8	n.a.	n.a.	n.a.	5.9	n.a.
Hydro	0.1	0.5	1.3	5.0	9.0	10	2.6	7.6	5.8	10.5	10.5	3.7	1.2	2.7
Geothermal	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Solar, wind, etc.	-	-	-	0.0	0.1	0.3	-	0.0	0.2	n.a.	n.a.	19.1	10.0	15.5
Biomass and waste	10	12	14	15	15	14	70	23	7.9	1.3	0.6	-0.1	-1.1	-0.5

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	13	16	25	56	95	125	100	100	100	4.6	5.8	3.4	2.8	3.2
Industry	3.8	4.5	7.9	21	40	52	28	38	41	5.7	7.4	4.0	2.6	3.5
Transport	0.6	1.4	3.5	11	20	28	8.6	19	23	9.7	8.3	4.1	3.5	3.8
Buildings, etc.	8.6	10	14	21	29	36	63	38	29	3.0	3.1	2.1	2.2	2.2
Non-energy use	0.0	0.0	0.1	2.8	5.8	8.7	0.2	5.0	7.0	16.9	24.3	4.8	4.2	4.5
Coal	1.5	1.3	3.2	12	18	22	8.3	21	18	9.3	9.6	2.9	2.1	2.6
Oil	1.7	2.3	6.5	17	32	45	15	31	36	10.8	7.2	4.0	3.5	3.8
Natural gas	-	-	0.0	1.0	2.6	3.9	-	1.8	3.1	n.a.	33.1	6.1	4.2	5.4
Electricity	0.2	0.5	1.9	11	28	41	3.3	20	33	13.7	13.4	5.9	3.9	5.1
Heat	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Renewables	9.7	12	13	14	14	13	74	26	10	1.2	0.5	-0.1	-1.1	-0.5

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	3.6	8.7	27	141	347	506	100	100	100	11.8	12.7	5.8	3.8	5.0
Coal	1.4	2.0	3.1	35	110	189	23	25	37	4.6	18.7	7.5	5.6	6.8
Oil	0.7	1.3	4.5	0.4	0.4	0.4	15	0.3	0.1	13.2	-15.2	0.0	0.0	0.0
Natural gas	-	0.0	4.4	47	106	150	0.1	34	30	93.2	18.6	5.2	3.5	4.6
Nuclear	-	-	-	-	25	45	-	-	8.9	n.a.	n.a.	n.a.	5.9	n.a.
Hydro	1.5	5.4	15	59	104	117	62	42	23	10.5	10.5	3.7	1.2	2.7
Geothermal	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Solar, wind, etc.	-	-	-	0.1	1.4	3.7	-	0.1	0.7	n.a.	n.a.	19.1	10.0	15.5
Biomass and waste	-	-	-	0.1	0.2	0.2	-	0.0	0.0	n.a.	n.a.	6.2	2.9	4.9
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	17	29	61	145	367	609	7.6	6.4	6.0	5.2	5.7
Population (million)	54	66	78	91	105	110	1.6	1.1	0.9	0.5	0.7
CO_2 emissions[*2] (Mt)	15	17	43	143	294	426	9.8	8.9	4.6	3.8	4.3
GDP per capita ($2010 thousand)	0.3	0.4	0.8	1.6	3.5	5.5	5.8	5.2	5.0	4.7	4.9
Primary energy consump. per capita (toe)	0.3	0.3	0.4	0.7	1.2	1.6	3.2	5.0	3.1	2.7	3.0
Primary energy consumption per GDP[*3]	851	606	470	460	343	284	-2.5	-0.2	-1.8	-1.9	-1.8
CO_2 emissions per GDP[*2, *4]	860	579	711	990	802	700	2.1	2.4	-1.3	-1.4	-1.3
CO_2 per primary energy consumption[*2, *5]	1.0	1.0	1.5	2.2	2.3	2.5	4.7	2.5	0.5	0.5	0.5
Automobile ownership (million)	0.1	0.2	0.4	1.3	5.4	9.5	9.2	9.5	9.1	5.9	7.9
Automobile ownership rates[*6]	2.6	2.3	4.8	15	51	87	7.5	8.3	8.2	5.4	7.1

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A34 North America [Reference Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	1,997	2,126	2,527	2,496	2,524	2,499	100	100	100	1.7	-0.1	0.1	-0.1	0.0
Coal	397	485	565	451	320	239	23	18	9.5	1.6	-1.6	-2.1	-2.9	-2.4
Oil	885	833	958	880	834	801	39	35	32	1.4	-0.6	-0.3	-0.4	-0.4
Natural gas	522	493	622	713	836	893	23	29	36	2.3	1.0	1.0	0.7	0.9
Nuclear	80	179	227	245	234	234	8.4	9.8	9.4	2.4	0.5	-0.3	0.0	-0.2
Hydro	46	49	53	55	60	62	2.3	2.2	2.5	0.7	0.4	0.5	0.3	0.5
Geothermal	4.6	14	13	9.0	21	27	0.7	0.4	1.1	-0.7	-2.7	5.5	2.3	4.3
Solar, wind, etc.	-	0.3	2.1	23	57	74	0.0	0.9	3.0	20.6	18.5	6.0	2.7	4.7
Biomass and waste	62	73	87	121	161	169	3.4	4.8	6.8	1.8	2.3	1.8	0.5	1.3

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	1,466	1,455	1,738	1,738	1,782	1,783	100	100	100	1.8	0.0	0.2	0.0	0.1
Industry	437	331	388	317	325	327	23	18	18	1.6	-1.4	0.2	0.0	0.1
Transport	470	531	640	685	655	620	36	39	35	1.9	0.5	-0.3	-0.6	-0.4
Buildings, etc.	446	460	537	595	642	659	32	34	37	1.6	0.7	0.5	0.3	0.4
Non-energy use	114	134	173	142	159	178	9.2	8.1	10.0	2.6	-1.4	0.7	1.1	0.9
Coal	60	59	36	26	24	22	4.0	1.5	1.2	-4.8	-2.4	-0.3	-1.0	-0.6
Oil	769	752	874	835	782	753	52	48	42	1.5	-0.3	-0.4	-0.4	-0.4
Natural gas	374	346	413	405	422	433	24	23	24	1.8	-0.1	0.3	0.3	0.3
Electricity	200	262	342	368	421	442	18	21	25	2.7	0.5	0.9	0.5	0.7
Heat	1.0	2.8	6.1	6.5	6.9	6.7	0.2	0.4	0.4	8.1	0.5	0.3	-0.2	0.1
Hydrogen	-	-	-	-	0.2	0.4	-	-	0.0	n.a.	n.a.	n.a.	5.9	n.a.
Renewables	62	33	66	98	125	126	2.3	5.7	7.1	7.2	2.9	1.5	0.1	1.0

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	2,801	3,685	4,631	4,975	5,630	5,884	100	100	100	2.3	0.5	0.8	0.4	0.6
Coal	1,303	1,782	2,247	1,777	1,311	983	48	36	17	2.3	-1.7	-1.9	-2.8	-2.3
Oil	277	147	133	48	35	25	4.0	1.0	0.4	-1.0	-7.1	-2.0	-3.3	-2.5
Natural gas	380	391	668	1,223	1,865	2,199	11	25	37	5.5	4.4	2.7	1.7	2.3
Nuclear	304	685	871	938	897	897	19	19	15	2.4	0.5	-0.3	0.0	-0.2
Hydro	530	570	612	644	703	724	15	13	12	0.7	0.4	0.5	0.3	0.5
Geothermal	5.4	16	15	19	45	56	0.4	0.4	1.0	-0.9	1.8	5.6	2.4	4.3
Solar, wind, etc.	-	3.8	6.7	239	623	817	0.1	4.8	14	5.9	29.1	6.2	2.7	4.8
Biomass and waste	1.8	90	80	87	152	184	2.5	1.8	3.1	-1.2	0.6	3.5	1.9	2.9
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	7,305	10,073	14,050	18,052	25,535	31,014	3.4	1.8	2.2	2.0	2.1
Population (million)	252	277	313	354	396	416	1.2	0.9	0.7	0.5	0.6
CO_2 emissions[*2] (Mt)	5,169	5,236	6,125	5,739	5,316	4,972	1.6	-0.5	-0.5	-0.7	-0.5
GDP per capita ($2010 thousand)	29	36	45	51	64	75	2.1	0.9	1.5	1.5	1.5
Primary energy consump. per capita (toe)	7.9	7.7	8.1	7.0	6.4	6.0	0.5	-1.0	-0.6	-0.6	-0.6
Primary energy consumption per GDP[*3]	273	211	180	138	99	81	-1.6	-1.9	-2.1	-2.0	-2.1
CO_2 emissions per GDP[*2, *4]	708	520	436	318	208	160	-1.7	-2.2	-2.6	-2.6	-2.6
CO_2 per primary energy consumption[*2, *5]	2.6	2.5	2.4	2.3	2.1	2.0	-0.2	-0.4	-0.5	-0.6	-0.6
Automobile ownership (million)	169	205	239	275	327	352	1.5	1.0	1.1	0.8	1.0
Automobile ownership rates[*6]	671	740	764	775	825	846	0.3	0.1	0.4	0.3	0.3

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A35 United States [Reference Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	1,805	1,915	2,273	2,216	2,230	2,201	100	100	100	1.7	-0.2	0.0	-0.1	0.0
Coal	376	460	534	432	309	231	24	19	10	1.5	-1.5	-2.1	-2.9	-2.4
Oil	797	757	871	782	726	692	40	35	31	1.4	-0.8	-0.5	-0.5	-0.5
Natural gas	477	438	548	624	736	791	23	28	36	2.3	0.9	1.0	0.7	0.9
Nuclear	69	159	208	216	212	212	8.3	9.8	9.6	2.7	0.3	-0.1	0.0	-0.1
Hydro	24	23	22	22	24	24	1.2	1.0	1.1	-0.8	0.2	0.4	0.1	0.3
Geothermal	4.6	14	13	9.0	21	27	0.7	0.4	1.2	-0.7	-2.7	5.5	2.3	4.3
Solar, wind, etc.	-	0.3	2.1	20	52	68	0.0	0.9	3.1	20.5	17.8	6.0	2.7	4.7
Biomass and waste	54	62	73	105	145	152	3.3	4.7	6.9	1.6	2.6	2.0	0.5	1.4

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	1,311	1,294	1,546	1,538	1,553	1,550	100	100	100	1.8	0.0	0.1	0.0	0.0
Industry	387	284	332	269	271	269	22	17	17	1.6	-1.5	0.0	-0.1	0.0
Transport	425	488	588	623	588	556	38	41	36	1.9	0.4	-0.4	-0.6	-0.4
Buildings, etc.	397	403	473	526	568	584	31	34	38	1.6	0.8	0.5	0.3	0.4
Non-energy use	102	119	153	119	127	141	9.2	7.8	9.1	2.5	-1.8	0.4	1.0	0.6
Coal	56	56	33	22	20	18	4.3	1.4	1.2	-5.2	-2.7	-0.5	-1.2	-0.8
Oil	689	683	793	744	677	646	53	48	42	1.5	-0.5	-0.6	-0.5	-0.5
Natural gas	337	303	360	355	368	378	23	23	24	1.7	-0.1	0.2	0.3	0.2
Electricity	174	226	301	326	371	389	18	21	25	2.9	0.6	0.8	0.5	0.7
Heat	-	2.2	5.3	5.6	5.9	5.7	0.2	0.4	0.4	9.4	0.4	0.3	-0.3	0.1
Hydrogen	-	-	-	-	0.2	0.3	-	-	0.0	n.a.	n.a.	n.a.	5.6	n.a.
Renewables	54	23	54	84	111	112	1.8	5.5	7.3	9.0	3.2	1.7	0.2	1.1

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	2,427	3,203	4,026	4,319	4,878	5,096	100	100	100	2.3	0.5	0.8	0.4	0.6
Coal	1,243	1,700	2,129	1,713	1,284	969	53	40	19	2.3	-1.5	-1.8	-2.8	-2.2
Oil	263	131	118	40	27	18	4.1	0.9	0.3	-1.0	-7.5	-2.4	-4.1	-3.0
Natural gas	370	382	634	1,161	1,724	2,042	12	27	40	5.2	4.4	2.5	1.7	2.2
Nuclear	266	612	798	831	812	812	19	19	16	2.7	0.3	-0.1	0.0	-0.1
Hydro	279	273	253	261	278	281	8.5	6.1	5.5	-0.8	0.2	0.4	0.1	0.3
Geothermal	5.4	16	15	19	45	56	0.5	0.4	1.1	-0.9	1.8	5.6	2.4	4.3
Solar, wind, etc.	-	3.7	6.4	213	565	745	0.1	4.9	15	5.5	28.5	6.3	2.8	4.9
Biomass and waste	0.5	86	72	82	143	173	2.7	1.9	3.4	-1.8	0.9	3.5	1.9	2.9
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	6,529	9,064	12,713	16,282	23,132	28,154	3.4	1.8	2.2	2.0	2.1
Population (million)	227	250	282	319	356	374	1.2	0.9	0.7	0.5	0.6
CO_2 emissions[*2] (Mt)	4,743	4,820	5,617	5,221	4,805	4,476	1.5	-0.5	-0.5	-0.7	-0.6
GDP per capita ($2010 thousand)	29	36	45	51	65	75	2.2	0.9	1.5	1.5	1.5
Primary energy consump. per capita (toe)	7.9	7.7	8.1	7.0	6.3	5.9	0.5	-1.0	-0.6	-0.6	-0.6
Primary energy consumption per GDP[*3]	276	211	179	136	96	78	-1.7	-1.9	-2.1	-2.1	-2.1
CO_2 emissions per GDP[*2, *4]	726	532	442	321	208	159	-1.8	-2.3	-2.7	-2.6	-2.7
CO_2 per primary energy consumption[*2, *5]	2.6	2.5	2.5	2.4	2.2	2.0	-0.2	-0.3	-0.6	-0.6	-0.6
Automobile ownership (million)	156	189	221	252	300	323	1.6	0.9	1.1	0.7	1.0
Automobile ownership rates[*6]	686	756	785	790	843	863	0.4	0.0	0.4	0.2	0.3

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A36 Latin America [Reference Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	382	465	599	863	1,220	1,427	100	100	100	2.6	2.6	2.2	1.6	2.0
Coal	13	21	27	45	71	87	4.5	5.2	6.1	2.6	3.7	2.9	2.0	2.5
Oil	223	238	302	397	478	518	51	46	36	2.4	2.0	1.2	0.8	1.0
Natural gas	48	72	119	203	352	440	16	24	31	5.1	3.9	3.5	2.3	3.0
Nuclear	0.6	3.2	5.3	8.0	16	21	0.7	0.9	1.5	5.1	3.0	4.3	2.8	3.7
Hydro	19	33	50	64	76	85	7.2	7.4	5.9	4.2	1.7	1.2	1.0	1.1
Geothermal	1.2	5.1	6.3	6.4	26	40	1.1	0.7	2.8	2.2	0.0	9.2	4.2	7.3
Solar, wind, etc.	-	0.0	0.2	3.1	8.1	13	0.0	0.4	0.9	24.4	23.8	6.2	4.8	5.6
Biomass and waste	78	92	89	136	192	224	20	16	16	-0.3	3.1	2.2	1.5	1.9

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	288	343	447	617	855	995	100	100	100	2.7	2.3	2.1	1.5	1.9
Industry	98	114	148	196	286	345	33	32	35	2.7	2.0	2.4	1.9	2.2
Transport	85	103	141	223	309	349	30	36	35	3.2	3.3	2.1	1.2	1.7
Buildings, etc.	89	101	120	159	210	245	29	26	25	1.8	2.0	1.8	1.6	1.7
Non-energy use	16	26	38	40	51	56	7.5	6.5	5.7	4.0	0.4	1.5	1.0	1.3
Coal	6.1	7.8	11	14	19	20	2.3	2.3	2.0	3.1	2.0	1.8	0.5	1.3
Oil	159	179	240	316	412	458	52	51	46	3.0	2.0	1.7	1.1	1.4
Natural gas	27	38	53	77	119	143	11	12	14	3.6	2.6	2.8	1.9	2.4
Electricity	27	44	69	110	177	225	13	18	23	4.4	3.4	3.0	2.4	2.8
Heat	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Renewables	69	74	74	99	129	149	22	16	15	0.0	2.1	1.6	1.5	1.6

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	380	623	1,009	1,592	2,484	3,116	100	100	100	4.9	3.3	2.8	2.3	2.6
Coal	7.8	23	43	103	236	322	3.8	6.5	10	6.3	6.4	5.3	3.2	4.5
Oil	111	128	197	200	147	121	21	13	3.9	4.4	0.1	-1.9	-1.9	-1.9
Natural gas	35	60	141	416	900	1,263	9.6	26	41	9.0	8.1	4.9	3.4	4.4
Nuclear	2.3	12	20	31	61	80	2.0	1.9	2.6	5.1	3.0	4.3	2.8	3.7
Hydro	218	386	584	740	888	985	62	46	32	4.2	1.7	1.2	1.0	1.1
Geothermal	1.4	5.9	7.8	10	31	47	1.0	0.6	1.5	2.8	1.8	7.3	4.2	6.1
Solar, wind, etc.	-	0.0	0.3	26	78	121	0.0	1.6	3.9	66.8	36.6	7.0	4.5	6.0
Biomass and waste	3.9	7.6	14	66	143	178	1.2	4.1	5.7	6.3	11.7	5.0	2.2	3.9
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	2,410	2,782	3,774	5,881	9,045	11,817	3.1	3.2	2.7	2.7	2.7
Population (million)	361	442	522	622	719	761	1.7	1.3	0.9	0.6	0.8
CO_2 emissions[*2] (Mt)	801	909	1,204	1,760	2,432	2,810	2.9	2.8	2.0	1.5	1.8
GDP per capita ($2010 thousand)	6.7	6.3	7.2	9.4	13	16	1.4	1.9	1.8	2.1	1.9
Primary energy consump. per capita (toe)	1.1	1.1	1.1	1.4	1.7	1.9	0.9	1.4	1.3	1.0	1.2
Primary energy consumption per GDP[*3]	159	167	159	147	135	121	-0.5	-0.6	-0.5	-1.1	-0.7
CO_2 emissions per GDP[*2, *4]	332	327	319	299	269	238	-0.2	-0.5	-0.7	-1.2	-0.9
CO_2 per primary energy consumption[*2, *5]	2.1	2.0	2.0	2.0	2.0	2.0	0.3	0.1	-0.1	-0.1	-0.1
Automobile ownership (million)	28	38	55	120	182	218	3.6	5.8	2.6	1.8	2.3
Automobile ownership rates[*6]	79	87	105	193	254	286	1.9	4.5	1.7	1.2	1.5

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A37 OECD Europe [Reference Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	1,494	1,619	1,748	1,674	1,763	1,744	100	100	100	0.8	-0.3	0.3	-0.1	0.2
Coal	464	449	330	292	288	265	28	17	15	-3.0	-0.9	-0.1	-0.8	-0.4
Oil	688	606	652	541	487	449	37	32	26	0.7	-1.3	-0.7	-0.8	-0.7
Natural gas	206	260	393	374	445	452	16	22	26	4.2	-0.4	1.1	0.2	0.7
Nuclear	60	205	245	228	210	216	13	14	12	1.8	-0.5	-0.5	0.3	-0.2
Hydro	36	38	47	49	51	51	2.4	2.9	2.9	2.0	0.3	0.2	0.0	0.2
Geothermal	3.0	4.9	7.2	14	20	24	0.3	0.8	1.4	3.9	4.9	2.3	1.6	2.0
Solar, wind, etc.	0.1	0.3	2.7	35	56	66	0.0	2.1	3.8	25.1	20.1	3.0	1.6	2.5
Biomass and waste	36	54	70	140	204	219	3.4	8.4	13	2.6	5.1	2.4	0.7	1.7

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	1,081	1,122	1,229	1,172	1,242	1,226	100	100	100	0.9	-0.3	0.4	-0.1	0.2
Industry	356	323	325	280	289	286	29	24	23	0.1	-1.1	0.2	-0.1	0.1
Transport	209	266	316	325	304	281	24	28	23	1.8	0.2	-0.4	-0.8	-0.6
Buildings, etc.	425	433	473	463	531	537	39	40	44	0.9	-0.1	0.9	0.1	0.6
Non-energy use	90	100	115	104	118	121	8.9	8.9	9.9	1.4	-0.7	0.8	0.2	0.6
Coal	156	124	63	47	46	42	11	4.0	3.4	-6.6	-2.1	-0.1	-1.0	-0.4
Oil	551	518	571	491	450	417	46	42	34	1.0	-1.1	-0.5	-0.8	-0.6
Natural gas	161	201	268	247	286	291	18	21	24	2.9	-0.6	0.9	0.2	0.6
Electricity	147	192	233	257	305	321	17	22	26	2.0	0.7	1.1	0.5	0.9
Heat	35	40	41	45	48	48	3.6	3.9	3.9	0.1	0.8	0.4	-0.1	0.2
Hydrogen	-	-	-	-	0.1	0.1	-	-	0.0	n.a.	n.a.	n.a.	5.2	n.a.
Renewables	31	47	54	85	106	107	4.2	7.2	8.7	1.4	3.3	1.4	0.1	0.9

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	2,049	2,662	3,223	3,500	4,121	4,325	100	100	100	1.9	0.6	1.0	0.5	0.8
Coal	887	1,030	968	876	947	906	39	25	21	-0.6	-0.7	0.5	-0.4	0.1
Oil	364	206	179	52	24	16	7.7	1.5	0.4	-1.4	-8.4	-4.7	-4.1	-4.5
Natural gas	138	168	512	566	775	816	6.3	16	19	11.8	0.7	2.0	0.5	1.4
Nuclear	230	787	939	876	807	831	30	25	19	1.8	-0.5	-0.5	0.3	-0.2
Hydro	416	446	546	568	591	593	17	16	14	2.0	0.3	0.2	0.0	0.2
Geothermal	2.7	3.6	6.2	14	22	26	0.1	0.4	0.6	5.5	5.9	2.8	2.0	2.5
Solar, wind, etc.	0.5	1.4	24	355	596	711	0.1	10	16	33.3	21.2	3.3	1.8	2.7
Biomass and waste	11	21	48	192	358	426	0.8	5.5	9.8	8.9	10.3	4.0	1.7	3.1
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	9,882	12,581	15,852	18,996	24,681	28,051	2.3	1.3	1.6	1.3	1.5
Population (million)	476	499	521	560	579	584	0.4	0.5	0.2	0.1	0.2
CO_2 emissions[*2] (Mt)	4,164	3,951	3,891	3,385	3,328	3,129	-0.2	-1.0	-0.1	-0.6	-0.3
GDP per capita ($2010 thousand)	21	25	30	34	43	48	1.9	0.8	1.4	1.2	1.3
Primary energy consump. per capita (toe)	3.1	3.2	3.4	3.0	3.0	3.0	0.3	-0.8	0.1	-0.2	0.0
Primary energy consumption per GDP[*3]	151	129	110	88	71	62	-1.5	-1.6	-1.3	-1.4	-1.3
CO_2 emissions per GDP[*2, *4]	421	314	245	178	135	112	-2.4	-2.3	-1.7	-1.9	-1.8
CO_2 per primary energy consumption[*2, *5]	2.8	2.4	2.2	2.0	1.9	1.8	-0.9	-0.7	-0.4	-0.5	-0.5
Automobile ownership (million)	124	179	238	304	356	370	2.9	1.8	1.0	0.4	0.8
Automobile ownership rates[*6]	261	359	457	543	615	634	2.4	1.2	0.8	0.3	0.6

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A38 Non-OECD Europe [Reference Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	1,241	1,537	1,004	1,124	1,212	1,257	100	100	100	-4.2	0.8	0.5	0.4	0.4
Coal	362	367	209	208	176	173	24	18	14	-5.5	-0.1	-1.0	-0.1	-0.7
Oil	464	468	203	245	253	255	30	22	20	-8.0	1.4	0.2	0.1	0.2
Natural gas	355	603	489	541	565	583	39	48	46	-2.1	0.7	0.3	0.3	0.3
Nuclear	21	59	64	78	147	157	3.9	7.0	12	0.7	1.5	4.0	0.6	2.7
Hydro	20	23	24	26	28	29	1.5	2.3	2.3	0.3	0.7	0.4	0.3	0.4
Geothermal	-	0.0	0.1	0.2	1.4	1.6	0.0	0.0	0.1	12.5	7.6	12.3	1.5	8.0
Solar, wind, etc.	-	-	0.0	1.3	4.7	8.5	-	0.1	0.7	n.a.	28.8	8.2	6.0	7.3
Biomass and waste	21	18	17	24	37	51	1.2	2.1	4.0	-0.7	2.6	2.8	3.2	3.0

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	869	1,073	654	713	797	836	100	100	100	-4.8	0.6	0.7	0.5	0.6
Industry	394	396	206	195	243	269	37	27	32	-6.3	-0.4	1.4	1.0	1.2
Transport	107	173	111	144	167	172	16	20	21	-4.3	1.9	0.9	0.3	0.7
Buildings, etc.	301	439	289	282	302	310	41	40	37	-4.1	-0.2	0.4	0.3	0.4
Non-energy use	67	66	49	91	85	85	6.2	13	10	-2.9	4.5	-0.4	0.0	-0.2
Coal	152	114	37	36	39	40	11	5.1	4.8	-10.7	-0.1	0.5	0.2	0.4
Oil	310	280	146	203	210	213	26	28	26	-6.3	2.4	0.2	0.2	0.2
Natural gas	215	261	201	212	265	284	24	30	34	-2.6	0.4	1.4	0.7	1.1
Electricity	95	126	87	107	134	153	12	15	18	-3.7	1.5	1.4	1.3	1.4
Heat	78	278	172	138	133	130	26	19	16	-4.7	-1.6	-0.2	-0.2	-0.2
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Renewables	21	14	12	17	16	16	1.3	2.3	2.0	-1.0	2.1	-0.1	0.1	0.0

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	1,461	1,894	1,432	1,749	2,173	2,457	100	100	100	-2.8	1.4	1.4	1.2	1.3
Coal	471	429	338	392	379	411	23	22	17	-2.4	1.1	-0.2	0.8	0.2
Oil	357	256	70	20	19	18	14	1.2	0.7	-12.2	-8.5	-0.5	-0.5	-0.5
Natural gas	295	715	504	712	806	945	38	41	38	-3.4	2.5	0.8	1.6	1.1
Nuclear	79	226	242	299	561	599	12	17	24	0.7	1.5	4.0	0.6	2.7
Hydro	232	267	275	305	324	334	14	17	14	0.3	0.7	0.4	0.3	0.4
Geothermal	-	0.0	0.1	0.5	1.5	1.7	0.0	0.0	0.1	7.6	15.9	7.5	1.5	5.2
Solar, wind, etc.	-	-	0.0	14	53	97	-	0.8	4.0	n.a.	65.8	8.6	6.2	7.6
Biomass and waste	27	0.0	2.6	5.6	29	52	0.0	0.3	2.1	48.8	5.8	10.7	6.2	8.9
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	1,750	2,141	1,494	2,704	3,863	5,043	-3.5	4.3	2.3	2.7	2.4
Population (million)	319	344	341	342	341	333	-0.1	0.0	0.0	-0.2	-0.1
CO_2 emissions[*2] (Mt)	3,497	4,123	2,462	2,596	2,569	2,607	-5.0	0.4	-0.1	0.1	0.0
GDP per capita ($2010 thousand)	5.5	6.2	4.4	7.9	11	15	-3.5	4.3	2.3	2.9	2.5
Primary energy consump. per capita (toe)	3.9	4.5	2.9	3.3	3.6	3.8	-4.1	0.8	0.5	0.6	0.5
Primary energy consumption per GDP[*3]	709	718	672	416	314	249	-0.7	-3.4	-1.7	-2.3	-1.9
CO_2 emissions per GDP[*2, *4]	1,998	1,926	1,648	960	665	517	-1.5	-3.8	-2.3	-2.5	-2.4
CO_2 per primary energy consumption[*2, *5]	2.8	2.7	2.5	2.3	2.1	2.1	-0.9	-0.4	-0.5	-0.2	-0.4
Automobile ownership (million)	22	32	47	96	118	126	3.9	5.3	1.3	0.6	1.0
Automobile ownership rates[*6]	69	93	137	281	347	378	4.0	5.3	1.3	0.9	1.1

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A39 European Union [Reference Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	n.a.	1,645	1,695	1,565	1,644	1,626	100	100	100	0.3	-0.6	0.3	-0.1	0.1
Coal	n.a.	456	321	268	265	243	28	17	15	-3.4	-1.3	-0.1	-0.8	-0.4
Oil	n.a.	605	625	509	460	425	37	33	26	0.3	-1.5	-0.6	-0.8	-0.7
Natural gas	n.a.	297	396	343	407	413	18	22	25	2.9	-1.0	1.1	0.2	0.7
Nuclear	n.a.	207	246	228	209	215	13	15	13	1.7	-0.5	-0.5	0.3	-0.2
Hydro	n.a.	25	31	32	33	33	1.5	2.1	2.0	2.1	0.4	0.2	0.0	0.1
Geothermal	n.a.	3.2	4.6	6.2	8.0	8.9	0.2	0.4	0.6	3.7	2.2	1.6	1.1	1.4
Solar, wind, etc.	n.a.	0.3	2.4	34	56	68	0.0	2.2	4.2	25.3	20.8	3.2	1.9	2.7
Biomass and waste	n.a.	47	67	142	203	219	2.9	9.1	13	3.5	5.5	2.3	0.8	1.7

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	n.a.	1,130	1,180	1,095	1,161	1,148	100	100	100	0.4	-0.5	0.4	-0.1	0.2
Industry	n.a.	343	310	255	267	266	30	23	23	-1.0	-1.4	0.3	0.0	0.2
Transport	n.a.	259	304	307	288	267	23	28	23	1.6	0.1	-0.4	-0.8	-0.5
Buildings, etc.	n.a.	429	454	433	494	501	38	40	44	0.6	-0.3	0.8	0.1	0.6
Non-energy use	n.a.	99	113	100	111	114	8.7	9.1	9.9	1.4	-0.9	0.7	0.2	0.5
Coal	n.a.	122	53	37	36	33	11	3.4	2.9	-8.1	-2.5	-0.1	-1.0	-0.4
Oil	n.a.	503	543	460	424	392	44	42	34	0.8	-1.2	-0.5	-0.8	-0.6
Natural gas	n.a.	226	272	235	272	277	20	21	24	1.9	-1.0	0.9	0.2	0.6
Electricity	n.a.	186	217	233	276	292	16	21	25	1.6	0.5	1.1	0.5	0.9
Heat	n.a.	54	45	46	49	49	4.8	4.2	4.3	-1.8	0.0	0.5	-0.1	0.3
Hydrogen	n.a.	-	-	-	0.1	0.1	-	-	0.0	n.a.	n.a.	n.a.	5.2	n.a.
Renewables	n.a.	40	50	85	104	105	3.5	7.7	9.1	2.3	3.8	1.3	0.1	0.8

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	n.a.	2,577	3,006	3,159	3,729	3,953	100	100	100	1.6	0.4	1.0	0.6	0.9
Coal	n.a.	1,050	968	841	911	870	41	27	22	-0.8	-1.0	0.5	-0.5	0.1
Oil	n.a.	224	181	57	30	22	8.7	1.8	0.5	-2.1	-7.9	-4.0	-3.2	-3.7
Natural gas	n.a.	193	480	457	618	661	7.5	14	17	9.5	-0.3	1.9	0.7	1.4
Nuclear	n.a.	795	945	876	804	825	31	28	21	1.7	-0.5	-0.5	0.3	-0.2
Hydro	n.a.	290	357	375	385	385	11	12	9.7	2.1	0.4	0.2	0.0	0.1
Geothermal	n.a.	3.2	4.8	6.2	8.1	9.1	0.1	0.2	0.2	4.0	1.9	1.7	1.1	1.5
Solar, wind, etc.	n.a.	1.3	24	355	616	752	0.1	11	19	33.9	21.2	3.5	2.0	2.9
Biomass and waste	n.a.	20	46	189	357	430	0.8	6.0	11	8.9	10.6	4.0	1.9	3.2
Hydrogen	n.a.	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	n.a.	11,801	14,729	17,396	22,607	25,741	2.2	1.2	1.7	1.3	1.5
Population (million)	n.a.	478	488	508	521	522	0.2	0.3	0.2	0.0	0.1
CO_2 emissions[*2] (Mt)	n.a.	4,067	3,783	3,134	3,085	2,898	-0.7	-1.3	-0.1	-0.6	-0.3
GDP per capita ($2010 thousand)	n.a.	25	30	34	43	49	2.0	0.9	1.5	1.3	1.4
Primary energy consump. per capita (toe)	n.a.	3.4	3.5	3.1	3.2	3.1	0.1	-0.9	0.2	-0.1	0.0
Primary energy consumption per GDP[*3]	n.a.	139	115	90	73	63	-1.9	-1.7	-1.3	-1.4	-1.4
CO_2 emissions per GDP[*2, *4]	n.a.	345	257	180	136	113	-2.9	-2.5	-1.7	-1.9	-1.8
CO_2 per primary energy consumption[*2, *5]	n.a.	2.5	2.2	2.0	1.9	1.8	-1.0	-0.8	-0.4	-0.5	-0.4
Automobile ownership (million)	n.a.	177	235	298	346	359	2.9	1.7	0.9	0.4	0.7
Automobile ownership rates[*6]	n.a.	371	482	587	665	687	2.7	1.4	0.8	0.3	0.6

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A40 Africa [Reference Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	273	393	496	772	1,118	1,357	100	100	100	2.3	3.2	2.3	2.0	2.2
Coal	52	74	90	112	135	146	19	15	11	2.0	1.6	1.2	0.8	1.0
Oil	61	86	97	165	243	285	22	21	21	1.2	3.8	2.5	1.6	2.1
Natural gas	12	30	47	108	184	250	7.5	14	18	4.8	6.1	3.4	3.1	3.3
Nuclear	-	2.2	3.4	3.6	10	23	0.6	0.5	1.7	4.4	0.4	6.6	8.7	7.4
Hydro	4.1	4.8	6.4	11	16	20	1.2	1.4	1.5	2.9	3.6	2.7	2.0	2.4
Geothermal	-	0.3	0.4	3.5	6.4	7.2	0.1	0.5	0.5	2.9	17.4	3.9	1.1	2.8
Solar, wind, etc.	-	0.0	0.0	0.7	2.3	4.8	0.0	0.1	0.4	45.1	29.0	7.3	7.7	7.5
Biomass and waste	143	196	250	368	520	619	50	48	46	2.5	2.8	2.2	1.8	2.0

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	218	292	369	559	838	1,024	100	100	100	2.4	3.0	2.6	2.0	2.4
Industry	46	55	58	86	140	183	19	15	18	0.5	2.9	3.1	2.7	3.0
Transport	27	38	54	96	143	161	13	17	16	3.7	4.2	2.5	1.2	2.0
Buildings, etc.	139	188	242	357	523	638	64	64	62	2.6	2.8	2.4	2.0	2.3
Non-energy use	5.4	11	15	20	32	41	3.8	3.5	4.0	3.2	1.9	3.0	2.5	2.8
Coal	22	20	19	21	31	38	6.7	3.8	3.7	-0.5	0.9	2.4	2.0	2.2
Oil	54	71	89	145	222	263	24	26	26	2.4	3.5	2.7	1.7	2.3
Natural gas	2.8	8.6	14	34	54	72	2.9	6.1	7.1	5.0	6.5	3.0	2.9	2.9
Electricity	14	22	31	52	88	119	7.6	9.3	12	3.4	3.8	3.3	3.1	3.2
Heat	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Renewables	126	171	216	306	443	532	59	55	52	2.4	2.5	2.3	1.9	2.2

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	184	316	442	762	1,272	1,712	100	100	100	3.4	4.0	3.3	3.0	3.2
Coal	100	165	209	258	358	411	52	34	24	2.4	1.5	2.1	1.4	1.8
Oil	22	41	51	72	86	94	13	9.4	5.5	2.4	2.4	1.1	0.9	1.0
Natural gas	14	45	92	282	564	821	14	37	48	7.3	8.4	4.4	3.8	4.2
Nuclear	-	8.4	13	14	38	89	2.7	1.8	5.2	4.4	0.4	6.6	8.7	7.4
Hydro	47	56	75	123	189	230	18	16	13	2.9	3.6	2.7	2.0	2.4
Geothermal	-	0.3	0.4	4.1	7.5	8.4	0.1	0.5	0.5	2.9	17.4	3.9	1.1	2.8
Solar, wind, etc.	-	-	0.2	6.8	25	54	-	0.9	3.1	n.a.	27.2	8.4	8.0	8.3
Biomass and waste	0.2	0.5	1.1	1.8	3.7	4.9	0.1	0.2	0.3	8.9	3.9	4.5	2.8	3.8
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	715	877	1,145	2,205	4,476	6,882	2.7	4.8	4.5	4.4	4.5
Population (million)	476	629	812	1,155	1,678	2,063	2.6	2.5	2.4	2.1	2.3
CO_2 emissions[*2] (Mt)	403	593	718	1,148	1,626	1,929	1.9	3.4	2.2	1.7	2.0
GDP per capita ($2010 thousand)	1.5	1.4	1.4	1.9	2.7	3.3	0.1	2.2	2.1	2.3	2.2
Primary energy consump. per capita (toe)	0.6	0.6	0.6	0.7	0.7	0.7	-0.2	0.7	0.0	-0.1	-0.1
Primary energy consumption per GDP[*3]	382	448	433	350	250	197	-0.3	-1.5	-2.1	-2.3	-2.2
CO_2 emissions per GDP[*2, *4]	564	676	627	521	363	280	-0.8	-1.3	-2.2	-2.6	-2.4
CO_2 per primary energy consumption[*2, *5]	1.5	1.5	1.4	1.5	1.5	1.4	-0.4	0.2	-0.1	-0.2	-0.2
Automobile ownership (million)	9.8	14	20	37	70	95	3.1	4.6	4.1	3.1	3.7
Automobile ownership rates[*6]	21	23	24	32	42	46	0.5	2.0	1.7	1.0	1.4

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A41 Middle East [Reference Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	121	223	372	744	1,077	1,262	100	100	100	5.3	5.1	2.3	1.6	2.1
Coal	1.2	3.0	8.1	9.5	17	22	1.3	1.3	1.8	10.4	1.2	3.6	2.9	3.3
Oil	90	146	217	353	473	533	66	47	42	4.0	3.5	1.9	1.2	1.6
Natural gas	29	72	145	376	556	668	32	51	53	7.3	7.0	2.5	1.9	2.2
Nuclear	-	-	-	1.2	25	30	-	0.2	2.4	n.a.	n.a.	21.1	1.9	13.3
Hydro	0.8	1.0	0.7	1.7	1.7	1.7	0.5	0.2	0.1	-3.9	6.8	0.0	0.0	0.0
Geothermal	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Solar, wind, etc.	-	0.4	0.7	1.4	3.5	5.4	0.2	0.2	0.4	4.8	5.7	5.7	4.4	5.2
Biomass and waste	0.3	0.4	0.4	0.9	1.1	1.2	0.2	0.1	0.1	-0.4	5.4	1.3	0.9	1.1

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	84	157	253	491	724	868	100	100	100	4.9	4.9	2.5	1.8	2.2
Industry	30	47	71	156	250	314	30	32	36	4.2	5.8	3.0	2.3	2.7
Transport	26	51	75	142	190	220	32	29	25	4.0	4.7	1.8	1.5	1.7
Buildings, etc.	22	40	75	125	190	229	25	25	26	6.5	3.7	2.7	1.9	2.4
Non-energy use	5.6	20	32	68	94	106	12	14	12	5.2	5.4	2.0	1.2	1.7
Coal	0.3	0.2	0.5	2.5	4.3	5.3	0.1	0.5	0.6	9.9	12.5	3.4	2.2	2.9
Oil	67	108	153	239	322	374	69	49	43	3.6	3.2	1.9	1.5	1.7
Natural gas	9.8	31	65	173	267	318	20	35	37	7.6	7.2	2.7	1.8	2.4
Electricity	6.5	17	33	74	127	166	11	15	19	6.7	6.1	3.4	2.7	3.1
Heat	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Renewables	0.2	0.7	1.0	2.1	3.3	4.3	0.5	0.4	0.5	3.1	5.2	2.9	2.8	2.9

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	95	244	472	1,051	1,771	2,280	100	100	100	6.8	5.9	3.3	2.6	3.0
Coal	0.1	11	30	31	58	81	4.3	2.9	3.5	11.0	0.2	4.1	3.3	3.8
Oil	47	108	188	351	505	578	44	33	25	5.7	4.6	2.3	1.4	1.9
Natural gas	39	114	246	642	1,077	1,461	47	61	64	8.0	7.1	3.3	3.1	3.2
Nuclear	-	-	-	4.5	95	115	-	0.4	5.0	n.a.	n.a.	21.1	1.9	13.3
Hydro	9.7	12	8.0	20	20	20	4.9	1.9	0.9	-3.9	6.8	0.0	0.0	0.0
Geothermal	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Solar, wind, etc.	-	0.0	0.0	1.5	14	25	0.0	0.1	1.1	44.6	29.6	14.8	6.0	11.3
Biomass and waste	-	-	-	0.1	0.3	0.4	-	0.0	0.0	n.a.	n.a.	6.0	2.6	4.6
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	875	971	1,461	2,556	4,126	5,331	4.2	4.1	3.0	2.6	2.9
Population (million)	92	132	168	232	302	340	2.5	2.3	1.7	1.2	1.5
CO_2 emissions[*2] (Mt)	332	572	945	1,810	2,560	2,991	5.1	4.7	2.2	1.6	2.0
GDP per capita ($2010 thousand)	9.5	7.4	8.7	11	14	16	1.7	1.7	1.4	1.4	1.4
Primary energy consump. per capita (toe)	1.3	1.7	2.2	3.2	3.6	3.7	2.7	2.7	0.7	0.4	0.6
Primary energy consumption per GDP[*3]	139	229	254	291	261	237	1.1	1.0	-0.7	-1.0	-0.8
CO_2 emissions per GDP[*2, *4]	380	589	647	708	621	561	0.9	0.6	-0.8	-1.0	-0.9
CO_2 per primary energy consumption[*2, *5]	2.7	2.6	2.5	2.4	2.4	2.4	-0.1	-0.3	-0.1	0.0	-0.1
Automobile ownership (million)	5.8	10	14	40	65	83	3.2	7.7	3.1	2.4	2.9
Automobile ownership rates[*6]	63	78	84	171	215	243	0.8	5.2	1.5	1.2	1.4

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A42 Oceania [Reference Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	79	99	125	146	163	168	100	100	100	2.4	1.1	0.7	0.3	0.5
Coal	28	36	49	43	45	43	37	29	25	3.1	-1.0	0.3	-0.5	0.0
Oil	34	35	40	50	58	60	35	34	36	1.4	1.7	0.9	0.4	0.7
Natural gas	8.3	19	24	36	37	38	19	25	22	2.7	2.9	0.2	0.1	0.2
Nuclear	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Hydro	2.7	3.2	3.5	3.7	4.0	4.4	3.2	2.5	2.6	0.9	0.3	0.6	1.0	0.7
Geothermal	1.0	1.5	1.9	4.8	7.5	7.9	1.5	3.3	4.7	2.8	6.6	2.9	0.5	2.0
Solar, wind, etc.	0.0	0.1	0.1	1.8	5.3	7.9	0.1	1.3	4.7	1.4	19.9	6.8	4.2	5.8
Biomass and waste	4.1	4.7	6.1	6.2	7.0	7.5	4.8	4.3	4.5	2.7	0.1	0.7	0.7	0.7

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	54	66	83	95	110	116	100	100	100	2.2	1.0	0.9	0.6	0.8
Industry	20	23	28	29	30	31	35	30	27	2.0	0.2	0.2	0.4	0.3
Transport	19	24	30	36	42	44	36	38	38	2.1	1.5	0.9	0.5	0.7
Buildings, etc.	11	15	19	23	30	33	22	24	28	2.3	1.6	1.5	1.0	1.3
Non-energy use	3.1	4.6	6.1	6.6	8.2	8.5	6.9	6.9	7.3	2.9	0.6	1.3	0.4	1.0
Coal	5.3	5.2	4.7	3.1	3.6	3.8	7.9	3.2	3.2	-1.0	-3.0	1.0	0.4	0.8
Oil	31	33	40	49	56	58	50	51	50	1.9	1.4	0.8	0.5	0.7
Natural gas	5.4	10	14	16	17	17	16	17	15	3.3	1.0	0.0	0.3	0.1
Electricity	8.5	14	18	21	27	31	20	22	26	2.8	1.3	1.6	1.1	1.4
Heat	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Hydrogen	-	-	-	-	0.0	0.0	-	-	0.0	n.a.	n.a.	n.a.	7.1	n.a.
Renewables	4.0	4.1	5.6	5.9	6.3	6.5	6.2	6.2	5.6	3.1	0.5	0.4	0.3	0.4

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	118	187	249	292	374	416	100	100	100	2.9	1.1	1.6	1.1	1.4
Coal	70	122	176	154	174	173	65	53	42	3.7	-0.9	0.8	0.0	0.5
Oil	5.2	3.6	1.8	5.0	3.7	2.2	1.9	1.7	0.5	-6.7	7.7	-1.9	-5.0	-3.1
Natural gas	8.7	20	26	61	75	82	11	21	20	2.6	6.4	1.3	0.8	1.1
Nuclear	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Hydro	32	37	41	43	47	52	20	15	12	0.9	0.3	0.6	1.0	0.7
Geothermal	1.2	2.1	2.9	7.3	12	12	1.1	2.5	3.0	3.2	6.7	3.0	0.5	2.0
Solar, wind, etc.	-	0.1	0.3	17	57	88	0.0	6.0	21	15.5	34.2	7.7	4.4	6.4
Biomass and waste	0.7	1.3	1.7	4.1	6.2	7.6	0.7	1.4	1.8	3.2	6.5	2.5	2.1	2.4
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	525	720	994	1,485	2,170	2,588	3.3	2.9	2.4	1.8	2.2
Population (million)	18	20	23	28	34	36	1.2	1.4	1.1	0.8	1.0
CO_2 emissions[*2] (Mt)	227	281	357	390	418	417	2.4	0.6	0.4	0.0	0.3
GDP per capita ($2010 thousand)	30	35	43	53	65	71	2.0	1.5	1.2	0.9	1.1
Primary energy consump. per capita (toe)	4.4	4.9	5.4	5.2	4.9	4.6	1.1	-0.3	-0.4	-0.5	-0.5
Primary energy consumption per GDP[*3]	150	138	126	98	75	65	-0.9	-1.8	-1.6	-1.5	-1.6
CO_2 emissions per GDP[*2, *4]	432	390	359	263	193	161	-0.8	-2.2	-1.9	-1.8	-1.9
CO_2 per primary energy consumption[*2, *5]	2.9	2.8	2.9	2.7	2.6	2.5	0.1	-0.5	-0.3	-0.3	-0.3
Automobile ownership (million)	8.8	12	15	20	25	27	2.6	2.2	1.3	0.9	1.2
Automobile ownership rates[*6]	495	567	648	725	750	754	1.3	0.8	0.2	0.1	0.1

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A43 OECD [Reference Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	4,060	4,514	5,282	5,251	5,550	5,531	100	100	100	1.6	0.0	0.3	0.0	0.2
Coal	966	1,079	1,094	1,006	889	783	24	19	14	0.1	-0.6	-0.8	-1.3	-1.0
Oil	1,938	1,861	2,103	1,872	1,778	1,697	41	36	31	1.2	-0.8	-0.3	-0.5	-0.4
Natural gas	778	843	1,163	1,338	1,574	1,657	19	25	30	3.3	1.0	1.0	0.5	0.8
Nuclear	162	451	586	516	564	563	10	9.8	10	2.7	-0.9	0.5	0.0	0.3
Hydro	94	101	115	120	129	131	2.2	2.3	2.4	1.3	0.3	0.4	0.2	0.3
Geothermal	10	27	30	33	73	95	0.6	0.6	1.7	1.4	0.7	5.0	2.6	4.1
Solar, wind, etc.	0.1	2.1	5.9	63	130	165	0.0	1.2	3.0	10.7	18.4	4.6	2.4	3.7
Biomass and waste	111	149	183	300	412	438	3.3	5.7	7.9	2.1	3.6	2.0	0.6	1.5

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	2,937	3,090	3,621	3,614	3,827	3,827	100	100	100	1.6	0.0	0.4	0.0	0.2
Industry	940	835	913	806	868	877	27	22	23	0.9	-0.9	0.5	0.1	0.3
Transport	781	934	1,139	1,210	1,183	1,127	30	33	29	2.0	0.4	-0.1	-0.5	-0.3
Buildings, etc.	972	1,032	1,198	1,258	1,396	1,424	33	35	37	1.5	0.3	0.7	0.2	0.5
Non-energy use	243	289	370	341	380	400	9.4	9.4	10	2.5	-0.6	0.7	0.5	0.6
Coal	259	232	139	113	113	101	7.5	3.1	2.6	-5.0	-1.5	0.0	-1.0	-0.4
Oil	1,570	1,574	1,830	1,703	1,633	1,564	51	47	41	1.5	-0.5	-0.3	-0.4	-0.3
Natural gas	559	589	744	736	807	826	19	20	22	2.4	-0.1	0.6	0.2	0.4
Electricity	408	552	715	797	951	1,008	18	22	26	2.6	0.8	1.1	0.6	0.9
Heat	36	43	50	57	64	65	1.4	1.6	1.7	1.6	0.8	0.8	0.1	0.5
Hydrogen	-	-	-	-	0.3	0.5	-	-	0.0	n.a.	n.a.	n.a.	5.8	n.a.
Renewables	105	100	143	208	259	262	3.2	5.8	6.9	3.7	2.7	1.4	0.1	0.9

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	5,656	7,645	9,726	10,724	12,650	13,367	100	100	100	2.4	0.7	1.0	0.6	0.9
Coal	2,319	3,083	3,763	3,448	3,172	2,864	40	32	21	2.0	-0.6	-0.5	-1.0	-0.7
Oil	980	723	623	277	145	114	9.5	2.6	0.9	-1.5	-5.6	-4.0	-2.4	-3.4
Natural gas	618	774	1,543	2,586	3,594	4,093	10	24	31	7.1	3.8	2.1	1.3	1.8
Nuclear	621	1,729	2,249	1,981	2,162	2,161	23	18	16	2.7	-0.9	0.5	0.0	0.3
Hydro	1,093	1,179	1,339	1,401	1,495	1,527	15	13	11	1.3	0.3	0.4	0.2	0.3
Geothermal	11	29	33	48	106	137	0.4	0.5	1.0	1.4	2.8	5.0	2.6	4.1
Solar, wind, etc.	0.5	5.2	31	655	1,396	1,780	0.1	6.1	13	19.8	24.2	4.8	2.5	3.9
Biomass and waste	13	123	143	328	578	689	1.6	3.1	5.2	1.5	6.1	3.6	1.8	2.9
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	21,329	29,003	37,727	46,852	63,227	74,479	2.7	1.6	1.9	1.7	1.8
Population (million)	981	1,062	1,149	1,263	1,350	1,382	0.8	0.7	0.4	0.2	0.3
CO_2 emissions[*2] (Mt)	10,863	11,100	12,412	11,846	11,530	11,002	1.1	-0.3	-0.2	-0.5	-0.3
GDP per capita ($2010 thousand)	22	27	33	37	47	54	1.9	0.9	1.5	1.4	1.4
Primary energy consump. per capita (toe)	4.1	4.3	4.6	4.2	4.1	4.0	0.8	-0.7	-0.1	-0.3	-0.1
Primary energy consumption per GDP[*3]	190	156	140	112	88	74	-1.1	-1.6	-1.5	-1.7	-1.6
CO_2 emissions per GDP[*2, *4]	509	383	329	253	182	148	-1.5	-1.9	-2.0	-2.1	-2.0
CO_2 per primary energy consumption[*2, *5]	2.7	2.5	2.4	2.3	2.1	2.0	-0.5	-0.3	-0.5	-0.4	-0.5
Automobile ownership (million)	347	468	593	736	873	927	2.4	1.6	1.1	0.6	0.9
Automobile ownership rates[*6]	353	441	517	583	647	671	1.6	0.9	0.7	0.4	0.5

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A44 Non-OECD [Reference Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	2,967	4,056	4,482	8,085	11,035	12,818	100	100	100	1.0	4.3	2.0	1.5	1.8
Coal	817	1,142	1,222	2,913	3,431	3,743	28	36	29	0.7	6.4	1.0	0.9	1.0
Oil	986	1,169	1,283	2,050	2,832	3,290	29	25	26	0.9	3.4	2.0	1.5	1.8
Natural gas	454	820	909	1,563	2,419	3,004	20	19	23	1.0	4.0	2.8	2.2	2.5
Nuclear	24	74	89	145	427	573	1.8	1.8	4.5	1.9	3.5	7.0	3.0	5.4
Hydro	54	83	110	214	285	316	2.0	2.7	2.5	2.9	4.9	1.8	1.0	1.5
Geothermal	2.2	7.6	22	38	108	134	0.2	0.5	1.0	11.0	4.0	6.8	2.2	5.0
Solar, wind, etc.	-	0.5	2.1	46	118	184	0.0	0.6	1.4	15.9	24.8	6.0	4.6	5.4
Biomass and waste	631	760	844	1,113	1,411	1,570	19	14	12	1.1	2.0	1.5	1.1	1.3

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	2,252	2,970	3,147	5,447	7,413	8,645	100	100	100	0.6	4.0	1.9	1.5	1.8
Industry	825	970	954	1,945	2,507	2,904	33	36	34	-0.2	5.2	1.6	1.5	1.6
Transport	289	436	549	1,054	1,589	1,890	15	19	22	2.3	4.8	2.6	1.8	2.3
Buildings, etc.	1,027	1,376	1,397	1,961	2,681	3,119	46	36	36	0.2	2.5	2.0	1.5	1.8
Non-energy use	111	187	247	486	637	732	6.3	8.9	8.5	2.8	5.0	1.7	1.4	1.6
Coal	444	521	409	963	986	1,001	18	18	12	-2.4	6.3	0.1	0.2	0.2
Oil	697	819	1,012	1,695	2,436	2,882	28	31	33	2.1	3.8	2.3	1.7	2.1
Natural gas	256	355	373	684	1,086	1,347	12	13	16	0.5	4.4	2.9	2.2	2.6
Electricity	178	283	377	909	1,482	1,888	9.5	17	22	2.9	6.5	3.1	2.5	2.9
Heat	85	292	198	217	234	238	9.8	4.0	2.8	-3.8	0.7	0.5	0.2	0.4
Hydrogen	-	-	-	-	0.0	0.0	-	-	0.0	n.a.	n.a.	n.a.	7.1	n.a.
Renewables	592	699	779	980	1,190	1,289	24	18	15	1.1	1.7	1.2	0.8	1.1

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	2,628	4,218	5,745	13,092	20,923	26,451	100	100	100	3.1	6.1	3.0	2.4	2.7
Coal	817	1,342	2,242	6,260	8,762	10,502	32	48	40	5.3	7.6	2.1	1.8	2.0
Oil	678	636	628	746	883	946	15	5.7	3.6	-0.1	1.2	1.1	0.7	0.9
Natural gas	381	979	1,210	2,569	4,952	6,934	23	20	26	2.1	5.5	4.2	3.4	3.9
Nuclear	93	283	341	555	1,637	2,196	6.7	4.2	8.3	1.9	3.5	7.0	3.0	5.4
Hydro	624	963	1,280	2,494	3,312	3,674	23	19	14	2.9	4.9	1.8	1.0	1.5
Geothermal	2.6	7.8	19	29	77	94	0.2	0.2	0.4	9.3	3.1	6.3	2.0	4.6
Solar, wind, etc.	-	0.0	3.1	273	913	1,561	0.0	2.1	5.9	53.2	37.6	7.8	5.5	6.9
Biomass and waste	31	7.7	21	165	387	543	0.2	1.3	2.1	10.7	15.7	5.5	3.4	4.7
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	6,475	8,575	11,828	26,082	52,987	77,073	3.3	5.8	4.5	3.8	4.3
Population (million)	3,453	4,214	4,958	5,986	7,143	7,775	1.6	1.4	1.1	0.9	1.0
CO_2 emissions[*2] (Mt)	6,998	9,482	10,181	20,049	26,098	29,842	0.7	5.0	1.7	1.3	1.5
GDP per capita ($2010 thousand)	1.9	2.0	2.4	4.4	7.4	9.9	1.6	4.4	3.4	2.9	3.2
Primary energy consump. per capita (toe)	0.9	1.0	0.9	1.4	1.5	1.6	-0.6	2.9	0.8	0.7	0.8
Primary energy consumption per GDP[*3]	458	473	379	310	208	166	-2.2	-1.4	-2.5	-2.2	-2.4
CO_2 emissions per GDP[*2, *4]	1,081	1,106	861	769	493	387	-2.5	-0.8	-2.7	-2.4	-2.6
CO_2 per primary energy consumption[*2, *5]	2.4	2.3	2.3	2.5	2.4	2.3	-0.3	0.6	-0.3	-0.2	-0.2
Automobile ownership (million)	69	109	173	507	980	1,245	4.8	8.0	4.2	2.4	3.5
Automobile ownership rates[*6]	20	26	35	85	137	160	3.1	6.5	3.1	1.6	2.5

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A45 World [Advanced Technologies Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	7,205	8,772	10,037	13,699	15,604	16,561	100	100	100	1.4	2.2	0.8	0.6	0.7
Coal	1,783	2,220	2,316	3,918	3,450	3,241	25	29	20	0.4	3.8	-0.8	-0.6	-0.7
Oil	3,102	3,233	3,660	4,285	4,609	4,656	37	31	28	1.2	1.1	0.5	0.1	0.3
Natural gas	1,232	1,663	2,071	2,901	3,374	3,617	19	21	22	2.2	2.4	0.9	0.7	0.9
Nuclear	186	526	676	661	1,250	1,569	6.0	4.8	9.5	2.5	-0.2	4.1	2.3	3.4
Hydro	148	184	225	335	423	459	2.1	2.4	2.8	2.0	2.9	1.5	0.8	1.2
Geothermal	12	34	52	71	269	382	0.4	0.5	2.3	4.3	2.3	8.7	3.6	6.7
Solar, wind, etc.	0.1	2.6	8.0	110	339	528	0.0	0.8	3.2	11.9	20.5	7.3	4.5	6.2
Biomass and waste	741	909	1,028	1,413	1,885	2,103	10	10	13	1.2	2.3	1.8	1.1	1.5

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	5,368	6,262	7,041	9,425	10,794	11,438	100	100	100	1.2	2.1	0.9	0.6	0.7
Industry	1,766	1,805	1,868	2,751	3,095	3,321	29	29	29	0.3	2.8	0.7	0.7	0.7
Transport	1,248	1,573	1,961	2,627	3,022	3,112	25	28	27	2.2	2.1	0.9	0.3	0.7
Buildings, etc.	2,000	2,408	2,596	3,219	3,660	3,873	38	34	34	0.8	1.5	0.8	0.6	0.7
Non-energy use	354	476	617	828	1,017	1,132	7.6	8.8	9.9	2.6	2.1	1.3	1.1	1.2
Coal	703	754	548	1,075	986	935	12	11	8.2	-3.1	4.9	-0.5	-0.5	-0.5
Oil	2,446	2,595	3,115	3,761	4,122	4,195	41	40	37	1.8	1.4	0.6	0.2	0.4
Natural gas	814	944	1,117	1,420	1,764	1,925	15	15	17	1.7	1.7	1.4	0.9	1.2
Electricity	586	836	1,092	1,706	2,188	2,529	13	18	22	2.7	3.2	1.6	1.5	1.5
Heat	121	335	248	274	270	259	5.4	2.9	2.3	-3.0	0.7	-0.1	-0.4	-0.2
Hydrogen	-	-	-	-	4.7	8.6	-	-	0.1	n.a.	n.a.	n.a.	6.2	n.a.
Renewables	698	799	921	1,188	1,459	1,587	13	13	14	1.4	1.8	1.3	0.8	1.1

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	8,283	11,864	15,471	23,816	30,201	34,730	100	100	100	2.7	3.1	1.5	1.4	1.5
Coal	3,137	4,425	6,005	9,707	8,712	8,444	37	41	24	3.1	3.5	-0.7	-0.3	-0.5
Oil	1,659	1,358	1,251	1,023	865	855	11	4.3	2.5	-0.8	-1.4	-1.0	-0.1	-0.7
Natural gas	999	1,753	2,753	5,155	6,118	6,840	15	22	20	4.6	4.6	1.1	1.1	1.1
Nuclear	713	2,013	2,591	2,535	4,793	6,018	17	11	17	2.6	-0.2	4.1	2.3	3.4
Hydro	1,717	2,143	2,619	3,895	4,919	5,332	18	16	15	2.0	2.9	1.5	0.8	1.2
Geothermal	14	36	52	77	287	398	0.3	0.3	1.1	3.6	2.9	8.5	3.3	6.5
Solar, wind, etc.	0.5	5.2	35	928	3,393	5,456	0.0	3.9	16	20.8	26.5	8.4	4.9	7.1
Biomass and waste	44	131	164	493	1,111	1,385	1.1	2.1	4.0	2.3	8.2	5.2	2.2	4.1
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	27,804	37,578	49,555	72,934	116,213	151,552	2.8	2.8	3.0	2.7	2.9
Population (million)	4,434	5,276	6,107	7,249	8,493	9,157	1.5	1.2	1.0	0.8	0.9
CO_2 emissions[*2] (Mt)	18,409	21,202	23,433	33,009	32,724	32,285	1.0	2.5	-0.1	-0.1	-0.1
GDP per capita ($2010 thousand)	6.3	7.1	8.1	10	14	17	1.3	1.5	1.9	1.9	1.9
Primary energy consump. per capita (toe)	1.6	1.7	1.6	1.9	1.8	1.8	-0.1	1.0	-0.2	-0.2	-0.2
Primary energy consumption per GDP[*3]	259	233	203	188	134	109	-1.4	-0.5	-2.1	-2.0	-2.1
CO_2 emissions per GDP[*2, *4]	662	564	473	453	282	213	-1.8	-0.3	-2.9	-2.8	-2.9
CO_2 per primary energy consumption[*2, *5]	2.6	2.4	2.3	2.4	2.1	1.9	-0.3	0.2	-0.9	-0.7	-0.8
Automobile ownership (million)	416	577	767	1,243	1,853	2,172	2.9	3.5	2.5	1.6	2.2
Automobile ownership rates[*6]	94	109	126	171	218	237	1.4	2.3	1.5	0.8	1.3

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A46 Asia [Advanced Technologies Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	1,439	2,108	2,893	5,517	6,840	7,577	100	100	100	3.2	4.7	1.4	1.0	1.2
Coal	466	785	1,037	2,758	2,665	2,620	37	50	35	2.8	7.2	-0.2	-0.2	-0.2
Oil	477	618	917	1,291	1,643	1,798	29	23	24	4.0	2.5	1.5	0.9	1.3
Natural gas	51	116	232	549	854	1,032	5.5	10.0	14	7.2	6.3	2.8	1.9	2.5
Nuclear	25	77	132	97	476	710	3.6	1.8	9.4	5.5	-2.2	10.4	4.1	8.0
Hydro	20	32	41	125	186	207	1.5	2.3	2.7	2.7	8.3	2.5	1.1	2.0
Geothermal	2.6	8.2	23	33	131	194	0.4	0.6	2.6	10.9	2.7	8.9	4.0	7.0
Solar, wind, etc.	-	1.5	2.2	44	152	245	0.1	0.8	3.2	4.4	23.7	8.1	4.9	6.8
Biomass and waste	397	471	508	617	730	767	22	11	10	0.8	1.4	1.1	0.5	0.8

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	1,129	1,551	1,995	3,677	4,519	4,963	100	100	100	2.5	4.5	1.3	0.9	1.2
Industry	383	517	645	1,494	1,661	1,779	33	41	36	2.2	6.2	0.7	0.7	0.7
Transport	126	186	321	612	899	1,012	12	17	20	5.6	4.7	2.4	1.2	2.0
Buildings, etc.	567	733	842	1,215	1,489	1,636	47	33	33	1.4	2.7	1.3	0.9	1.2
Non-energy use	54	115	188	356	469	536	7.4	9.7	11	5.0	4.7	1.7	1.3	1.6
Coal	301	424	378	926	835	789	27	25	16	-1.1	6.6	-0.6	-0.6	-0.6
Oil	327	453	727	1,120	1,491	1,648	29	30	33	4.9	3.1	1.8	1.0	1.5
Natural gas	21	47	88	255	422	520	3.0	6.9	10	6.4	7.9	3.2	2.1	2.8
Electricity	88	158	280	716	1,042	1,276	10	19	26	5.9	6.9	2.4	2.0	2.2
Heat	7.5	14	30	84	102	105	0.9	2.3	2.1	7.7	7.7	1.2	0.3	0.9
Hydrogen	-	-	-	-	0.4	0.5	-	-	0.0	n.a.	n.a.	n.a.	2.5	n.a.
Renewables	386	456	493	575	627	626	29	16	13	0.8	1.1	0.5	0.0	0.3

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	1,196	2,252	4,013	9,895	14,184	17,264	100	100	100	5.9	6.7	2.3	2.0	2.2
Coal	298	863	1,994	6,116	6,393	6,729	38	62	39	8.7	8.3	0.3	0.5	0.4
Oil	476	469	430	275	171	157	21	2.8	0.9	-0.9	-3.2	-2.9	-0.8	-2.1
Natural gas	90	240	565	1,252	1,861	2,332	11	13	14	9.0	5.9	2.5	2.3	2.4
Nuclear	97	294	505	373	1,825	2,724	13	3.8	16	5.5	-2.2	10.4	4.1	8.0
Hydro	232	367	479	1,453	2,161	2,408	16	15	14	2.7	8.3	2.5	1.1	2.0
Geothermal	3.0	8.4	20	23	87	127	0.4	0.2	0.7	9.0	1.0	8.6	3.9	6.8
Solar, wind, etc.	-	0.0	3.0	268	1,350	2,320	0.0	2.7	13	52.3	37.8	10.6	5.6	8.7
Biomass and waste	0.0	10	17	136	337	467	0.5	1.4	2.7	5.1	16.2	5.8	3.3	4.8
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	4,340	7,433	10,786	21,055	42,319	60,826	3.8	4.9	4.5	3.7	4.2
Population (million)	2,440	2,932	3,408	3,956	4,445	4,624	1.5	1.1	0.7	0.4	0.6
CO_2 emissions[*2] (Mt)	3,267	4,918	6,893	15,067	16,176	16,701	3.4	5.7	0.4	0.3	0.4
GDP per capita ($2010 thousand)	1.8	2.5	3.2	5.3	9.5	13	2.2	3.8	3.7	3.3	3.5
Primary energy consump. per capita (toe)	0.6	0.7	0.8	1.4	1.5	1.6	1.7	3.6	0.6	0.6	0.6
Primary energy consumption per GDP[*3]	332	284	268	262	162	125	-0.6	-0.2	-3.0	-2.6	-2.8
CO_2 emissions per GDP[*2, *4]	753	662	639	716	382	275	-0.3	0.8	-3.8	-3.3	-3.6
CO_2 per primary energy consumption[*2, *5]	2.3	2.3	2.4	2.7	2.4	2.2	0.2	1.0	-0.9	-0.7	-0.8
Automobile ownership (million)	48	86	139	351	709	900	5.0	6.8	4.5	2.4	3.7
Automobile ownership rates[*6]	20	29	41	89	160	195	3.4	5.7	3.7	2.0	3.1

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A47 China [Advanced Technologies Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	598	871	1,135	3,052	3,508	3,690	100	100	100	2.7	7.3	0.9	0.5	0.7
Coal	313	528	665	2,012	1,793	1,656	61	66	45	2.3	8.2	-0.7	-0.8	-0.7
Oil	89	119	221	504	643	663	14	17	18	6.4	6.1	1.5	0.3	1.1
Natural gas	12	13	21	154	364	462	1.5	5.0	13	4.9	15.4	5.5	2.4	4.3
Nuclear	-	-	4.4	35	229	355	-	1.1	9.6	n.a.	15.9	12.6	4.5	9.4
Hydro	5.0	11	19	90	131	138	1.3	3.0	3.7	5.8	11.7	2.3	0.6	1.6
Geothermal	-	-	1.7	4.8	10	12	-	0.2	0.3	n.a.	7.9	4.8	1.9	3.7
Solar, wind, etc.	-	0.0	1.0	36	99	152	0.0	1.2	4.1	40.4	29.3	6.6	4.3	5.7
Biomass and waste	180	200	203	217	239	254	23	7.1	6.9	0.1	0.5	0.6	0.6	0.6

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	487	654	786	1,988	2,245	2,333	100	100	100	1.9	6.9	0.8	0.4	0.6
Industry	181	234	299	983	915	878	36	49	38	2.5	8.9	-0.4	-0.4	-0.4
Transport	24	33	87	268	402	434	5.1	13	19	10.1	8.4	2.6	0.8	1.9
Buildings, etc.	272	344	340	577	716	781	53	29	33	-0.1	3.9	1.4	0.9	1.2
Non-energy use	10	43	60	160	212	240	6.6	8.0	10	3.4	7.2	1.8	1.3	1.6
Coal	214	308	274	726	551	463	47	37	20	-1.2	7.2	-1.7	-1.7	-1.7
Oil	59	85	180	451	590	611	13	23	26	7.8	6.8	1.7	0.3	1.2
Natural gas	6.4	8.9	12	106	205	258	1.4	5.3	11	3.4	16.6	4.2	2.3	3.5
Electricity	21	39	89	406	578	679	6.0	20	29	8.6	11.4	2.2	1.6	2.0
Heat	7.4	13	25	78	92	93	2.0	3.9	4.0	6.8	8.3	1.0	0.2	0.7
Hydrogen	-	-	-	-	0.1	0.1	-	-	0.0	n.a.	n.a.	n.a.	7.2	n.a.
Renewables	180	200	205	221	228	229	31	11	9.8	0.2	0.5	0.2	0.0	0.1

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	301	621	1,356	5,666	7,876	9,136	100	100	100	8.1	10.8	2.1	1.5	1.9
Coal	159	441	1,060	4,115	4,054	4,016	71	73	44	9.2	10.2	-0.1	-0.1	-0.1
Oil	82	50	47	9.5	9.2	9.1	8.1	0.2	0.1	-0.6	-10.8	-0.2	-0.2	-0.2
Natural gas	0.7	2.8	5.8	115	505	658	0.4	2.0	7.2	7.6	23.8	9.7	2.7	7.0
Nuclear	-	-	17	133	880	1,361	-	2.3	15	n.a.	15.9	12.6	4.5	9.4
Hydro	58	127	222	1,051	1,521	1,607	20	19	18	5.8	11.7	2.3	0.6	1.6
Geothermal	-	0.1	0.1	0.1	0.5	0.6	0.0	0.0	0.0	6.7	1.0	8.8	2.6	6.3
Solar, wind, etc.	-	0.0	0.6	185	754	1,259	0.0	3.3	14	50.2	49.8	9.2	5.3	7.6
Biomass and waste	-	-	2.4	57	152	225	-	1.0	2.5	n.a.	25.4	6.3	4.0	5.4
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	338	824	2,224	8,230	20,185	29,970	10.4	9.8	5.8	4.0	5.1
Population (million)	981	1,135	1,263	1,364	1,414	1,395	1.1	0.6	0.2	-0.1	0.1
CO_2 emissions[*2] (Mt)	1,505	2,339	3,164	9,347	9,257	8,922	3.1	8.0	-0.1	-0.4	-0.2
GDP per capita ($2010 thousand)	0.3	0.7	1.8	6.0	14	21	9.3	9.2	5.5	4.2	5.0
Primary energy consump. per capita (toe)	0.6	0.8	0.9	2.2	2.5	2.6	1.6	6.7	0.7	0.6	0.6
Primary energy consumption per GDP[*3]	1,768	1,056	510	371	174	123	-7.0	-2.3	-4.6	-3.4	-4.2
CO_2 emissions per GDP[*2, *4]	4,452	2,838	1,423	1,136	459	298	-6.7	-1.6	-5.5	-4.2	-5.0
CO_2 per primary energy consumption[*2, *5]	2.5	2.7	2.8	3.1	2.6	2.4	0.4	0.7	-0.9	-0.9	-0.9
Automobile ownership (million)	1.2	5.3	16	146	353	417	11.5	17.3	5.7	1.7	4.1
Automobile ownership rates[*6]	1.2	4.7	12	107	250	299	10.3	16.6	5.4	1.8	4.0

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A48 India [Advanced Technologies Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	200	306	441	825	1,225	1,497	100	100	100	3.7	4.6	2.5	2.0	2.3
Coal	44	93	146	378	440	487	30	46	33	4.6	7.0	1.0	1.0	1.0
Oil	33	61	112	185	335	424	20	22	28	6.2	3.6	3.8	2.4	3.2
Natural gas	1.3	11	23	43	91	124	3.5	5.2	8.3	8.1	4.6	4.7	3.2	4.1
Nuclear	0.8	1.6	4.4	9.4	57	108	0.5	1.1	7.2	10.7	5.6	12.0	6.5	9.8
Hydro	4.0	6.2	6.4	11	21	29	2.0	1.4	1.9	0.4	4.2	3.8	3.4	3.6
Geothermal	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Solar, wind, etc.	-	0.0	0.2	4.2	40	69	0.0	0.5	4.6	33.0	25.2	15.1	5.8	11.4
Biomass and waste	116	133	149	194	242	256	44	23	17	1.1	1.9	1.4	0.6	1.1

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	174	243	315	556	873	1,068	100	100	100	2.6	4.1	2.9	2.0	2.5
Industry	41	67	83	191	308	398	27	34	37	2.3	6.1	3.1	2.6	2.9
Transport	17	21	32	78	176	223	8.6	14	21	4.4	6.6	5.2	2.4	4.1
Buildings, etc.	110	142	173	246	325	366	59	44	34	2.0	2.5	1.8	1.2	1.5
Non-energy use	5.7	13	27	41	63	81	5.5	7.4	7.6	7.3	3.1	2.7	2.5	2.6
Coal	25	39	35	114	169	204	16	20	19	-1.1	8.9	2.5	1.9	2.3
Oil	27	50	94	156	310	398	21	28	37	6.5	3.7	4.4	2.5	3.7
Natural gas	0.7	5.6	9.7	29	50	67	2.3	5.2	6.3	5.5	8.1	3.5	2.9	3.3
Electricity	7.8	18	32	81	149	210	7.6	15	20	5.8	6.8	3.8	3.5	3.7
Heat	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Hydrogen	-	-	-	-	0.0	0.0	-	-	0.0	n.a.	n.a.	n.a.	8.7	n.a.
Renewables	114	130	144	176	196	190	54	32	18	1.0	1.4	0.7	-0.3	0.3

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	120	293	570	1,287	2,279	3,167	100	100	100	6.9	6.0	3.6	3.3	3.5
Coal	61	192	390	967	1,101	1,218	65	75	38	7.4	6.7	0.8	1.0	0.9
Oil	8.8	13	29	23	12	8.6	4.5	1.8	0.3	8.2	-1.8	-3.8	-3.5	-3.7
Natural gas	0.6	10.0	56	63	181	287	3.4	4.9	9.1	18.8	0.8	6.8	4.7	6.0
Nuclear	3.0	6.1	17	36	220	414	2.1	2.8	13	10.7	5.6	12.0	6.5	9.8
Hydro	47	72	74	132	239	334	24	10	11	0.4	4.2	3.8	3.4	3.6
Geothermal	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Solar, wind, etc.	-	0.0	1.7	42	450	793	0.0	3.3	25	48.7	25.8	16.0	5.8	12.0
Biomass and waste	-	-	1.3	25	76	113	-	2.0	3.6	n.a.	23.8	7.1	4.1	5.9
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	279	479	825	2,188	6,281	10,573	5.6	7.2	6.8	5.3	6.2
Population (million)	697	871	1,053	1,295	1,528	1,634	1.9	1.5	1.0	0.7	0.9
CO_2 emissions[*2] (Mt)	263	542	899	2,053	2,808	3,296	5.2	6.1	2.0	1.6	1.8
GDP per capita ($2010 thousand)	0.4	0.6	0.8	1.7	4.1	6.5	3.6	5.6	5.7	4.6	5.3
Primary energy consump. per capita (toe)	0.3	0.4	0.4	0.6	0.8	0.9	1.8	3.0	1.5	1.3	1.4
Primary energy consumption per GDP[*3]	716	638	534	377	195	142	-1.8	-2.5	-4.0	-3.2	-3.7
CO_2 emissions per GDP[*2, *4]	943	1,131	1,090	938	447	312	-0.4	-1.1	-4.5	-3.5	-4.1
CO_2 per primary energy consumption[*2, *5]	1.3	1.8	2.0	2.5	2.3	2.2	1.4	1.4	-0.5	-0.4	-0.5
Automobile ownership (million)	1.7	4.3	9.4	38	126	207	8.1	10.5	7.8	5.1	6.7
Automobile ownership rates[*6]	2.4	5.0	8.9	29	83	127	6.1	8.9	6.7	4.4	5.8

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A49 Japan [Advanced Technologies Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	345	439	518	442	426	395	100	100	100	1.7	-1.1	-0.2	-0.8	-0.4
Coal	60	76	97	118	102	92	17	27	23	2.4	1.4	-0.9	-1.0	-0.9
Oil	234	250	255	192	145	122	57	43	31	0.2	-2.0	-1.8	-1.7	-1.7
Natural gas	21	44	66	108	77	73	10	24	19	4.0	3.6	-2.0	-0.5	-1.5
Nuclear	22	53	84	-	61	56	12	-	14	4.8	-100	n.a.	-0.7	n.a.
Hydro	7.6	7.5	7.3	7.0	8.3	8.3	1.7	1.6	2.1	-0.2	-0.3	1.0	0.0	0.6
Geothermal	0.8	1.6	3.1	2.4	10	15	0.4	0.5	3.9	7.0	-1.8	9.5	4.1	7.4
Solar, wind, etc.	-	1.4	0.9	2.9	7.4	10	0.3	0.7	2.6	-3.7	8.4	6.0	3.1	4.9
Biomass and waste	-	4.5	4.7	11	16	16	1.0	2.5	4.2	0.4	6.3	2.1	0.6	1.5

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	232	287	328	296	271	248	100	100	100	1.4	-0.7	-0.5	-0.9	-0.7
Industry	91	110	100	88	92	87	38	30	35	-0.9	-0.9	0.3	-0.5	0.0
Transport	54	68	84	72	57	48	24	24	19	2.2	-1.2	-1.4	-1.7	-1.6
Buildings, etc.	58	76	103	100	88	81	26	34	32	3.1	-0.2	-0.8	-0.9	-0.8
Non-energy use	28	34	41	36	35	33	12	12	13	2.1	-1.0	-0.2	-0.6	-0.3
Coal	25	30	24	24	25	23	11	8.0	9.1	-2.2	-0.2	0.3	-1.1	-0.2
Oil	157	171	194	156	120	98	59	53	39	1.3	-1.6	-1.6	-2.0	-1.8
Natural gas	5.8	15	22	30	31	30	5.3	10	12	3.6	2.3	0.2	-0.4	0.0
Electricity	44	66	83	82	85	85	23	28	34	2.3	-0.1	0.2	0.0	0.2
Heat	0.1	0.2	0.5	0.5	5.1	7.2	0.1	0.2	2.9	10.5	0.1	15.0	3.5	10.4
Hydrogen	-	-	-	-	0.4	0.4	-	-	0.2	n.a.	n.a.	n.a.	1.5	n.a.
Renewables	-	4.1	3.8	3.9	4.7	4.9	1.4	1.3	2.0	-0.7	0.1	1.2	0.5	0.9

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	573	873	1,088	1,036	1,064	1,059	100	100	100	2.2	-0.4	0.2	-0.1	0.1
Coal	55	118	234	349	262	236	13	34	22	7.1	2.9	-1.8	-1.1	-1.5
Oil	265	284	179	116	55	51	33	11	4.8	-4.5	-3.0	-4.6	-0.7	-3.1
Natural gas	81	171	254	421	274	273	20	41	26	4.0	3.7	-2.6	0.0	-1.6
Nuclear	83	202	322	-	233	216	23	-	20	4.8	-100	n.a.	-0.7	n.a.
Hydro	88	87	85	82	96	96	10.0	7.9	9.1	-0.2	-0.3	1.0	0.0	0.6
Geothermal	0.9	1.7	3.3	2.6	12	18	0.2	0.2	1.7	6.8	-1.9	9.9	4.2	7.6
Solar, wind, etc.	-	0.0	0.5	30	76	105	0.0	2.9	9.9	84.4	34.7	6.1	3.3	5.0
Biomass and waste	-	9.6	10	36	57	64	1.1	3.4	6.1	0.7	9.3	3.0	1.2	2.3
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	2,894	4,553	5,093	5,650	6,582	7,354	1.1	0.7	1.0	1.1	1.0
Population (million)	117	124	127	127	120	114	0.3	0.0	-0.3	-0.6	-0.4
CO_2 emissions[*2] (Mt)	916	1,071	1,195	1,201	922	812	1.1	0.0	-1.6	-1.3	-1.5
GDP per capita ($2010 thousand)	25	37	40	44	55	65	0.9	0.7	1.3	1.7	1.5
Primary energy consump. per capita (toe)	3.0	3.6	4.1	3.5	3.5	3.5	1.4	-1.1	0.1	-0.2	0.0
Primary energy consumption per GDP[*3]	119	96	102	78	65	54	0.5	-1.9	-1.2	-1.9	-1.4
CO_2 emissions per GDP[*2, *4]	317	235	235	213	140	110	0.0	-0.7	-2.6	-2.4	-2.5
CO_2 per primary energy consumption[*2, *5]	2.7	2.4	2.3	2.7	2.2	2.1	-0.6	1.2	-1.4	-0.5	-1.1
Automobile ownership (million)	38	58	72	77	74	71	2.3	0.4	-0.2	-0.4	-0.3
Automobile ownership rates[*6]	325	467	571	604	615	628	2.0	0.4	0.1	0.2	0.1

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A50 ASEAN [Advanced Technologies Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	n.a.	n.a.	385	624	992	1,275	n.a.	100	100	n.a.	3.5	2.9	2.5	2.8
Coal	n.a.	n.a.	32	99	191	262	n.a.	16	21	n.a.	8.4	4.2	3.2	3.8
Oil	n.a.	n.a.	154	221	311	369	n.a.	35	29	n.a.	2.6	2.2	1.7	2.0
Natural gas	n.a.	n.a.	74	139	184	224	n.a.	22	18	n.a.	4.6	1.8	1.9	1.8
Nuclear	n.a.	n.a.	-	-	27	73	n.a.	-	5.7	n.a.	n.a.	n.a.	10.5	n.a.
Hydro	n.a.	n.a.	4.4	11	19	24	n.a.	1.8	1.9	n.a.	6.8	3.5	2.5	3.1
Geothermal	n.a.	n.a.	18	26	110	166	n.a.	4.2	13	n.a.	2.5	9.4	4.2	7.4
Solar, wind, etc.	n.a.	n.a.	0.0	0.2	2.3	5.5	n.a.	0.0	0.4	n.a.	72.9	16.7	9.4	13.8
Biomass and waste	n.a.	n.a.	102	127	149	152	n.a.	20	12	n.a.	1.6	1.0	0.2	0.7

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	n.a.	n.a.	274	441	649	805	n.a.	100	100	n.a.	3.4	2.4	2.2	2.3
Industry	n.a.	n.a.	76	121	205	269	n.a.	28	33	n.a.	3.4	3.3	2.8	3.1
Transport	n.a.	n.a.	62	118	172	204	n.a.	27	25	n.a.	4.7	2.4	1.7	2.1
Buildings, etc.	n.a.	n.a.	116	154	199	240	n.a.	35	30	n.a.	2.0	1.6	1.9	1.7
Non-energy use	n.a.	n.a.	21	48	72	91	n.a.	11	11	n.a.	6.0	2.6	2.4	2.5
Coal	n.a.	n.a.	13	29	50	61	n.a.	6.6	7.6	n.a.	5.7	3.4	2.0	2.9
Oil	n.a.	n.a.	123	197	286	345	n.a.	45	43	n.a.	3.4	2.4	1.9	2.2
Natural gas	n.a.	n.a.	17	38	69	94	n.a.	8.5	12	n.a.	5.9	3.8	3.3	3.6
Electricity	n.a.	n.a.	28	65	124	184	n.a.	15	23	n.a.	6.4	4.1	4.0	4.0
Heat	n.a.	n.a.	-	-	-	-	n.a.	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
Hydrogen	n.a.	n.a.	-	-	0.0	0.0	n.a.	-	0.0	n.a.	n.a.	n.a.	6.0	n.a.
Renewables	n.a.	n.a.	93	112	120	121	n.a.	25	15	n.a.	1.3	0.5	0.0	0.3

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	n.a.	n.a.	374	854	1,632	2,412	n.a.	100	100	n.a.	6.1	4.1	4.0	4.1
Coal	n.a.	n.a.	79	283	628	954	n.a.	33	40	n.a.	9.5	5.1	4.3	4.8
Oil	n.a.	n.a.	72	38	29	25	n.a.	4.4	1.0	n.a.	-4.5	-1.7	-1.3	-1.6
Natural gas	n.a.	n.a.	154	371	512	648	n.a.	43	27	n.a.	6.5	2.0	2.4	2.2
Nuclear	n.a.	n.a.	-	-	104	280	n.a.	-	12	n.a.	n.a.	n.a.	10.5	n.a.
Hydro	n.a.	n.a.	51	128	222	284	n.a.	15	12	n.a.	6.8	3.5	2.5	3.1
Geothermal	n.a.	n.a.	16	20	74	107	n.a.	2.4	4.5	n.a.	1.5	8.4	3.8	6.6
Solar, wind, etc.	n.a.	n.a.	0.0	2.2	26	64	n.a.	0.3	2.7	n.a.	73.4	16.7	9.4	13.8
Biomass and waste	n.a.	n.a.	1.0	12	38	48	n.a.	1.4	2.0	n.a.	19.3	7.6	2.3	5.5
Hydrogen	n.a.	n.a.	-	-	-	-	n.a.	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	n.a.	n.a.	1,188	2,407	5,071	7,488	n.a.	5.2	4.8	4.0	4.5
Population (million)	n.a.	n.a.	523	623	723	765	n.a.	1.3	0.9	0.6	0.8
CO_2 emissions[*2] (Mt)	n.a.	n.a.	713	1,258	1,979	2,493	n.a.	4.1	2.9	2.3	2.7
GDP per capita ($2010 thousand)	n.a.	n.a.	2.3	3.9	7.0	9.8	n.a.	3.9	3.8	3.4	3.6
Primary energy consump. per capita (toe)	n.a.	n.a.	0.7	1.0	1.4	1.7	n.a.	2.2	2.0	2.0	2.0
Primary energy consumption per GDP[*3]	n.a.	n.a.	324	259	196	170	n.a.	-1.6	-1.7	-1.4	-1.6
CO_2 emissions per GDP[*2, *4]	n.a.	n.a.	601	523	390	333	n.a.	-1.0	-1.8	-1.6	-1.7
CO_2 per primary energy consumption[*2, *5]	n.a.	n.a.	1.9	2.0	2.0	2.0	n.a.	0.6	-0.1	-0.2	-0.1
Automobile ownership (million)	n.a.	n.a.	21	55	106	145	n.a.	7.2	4.3	3.1	3.8
Automobile ownership rates[*6]	n.a.	n.a.	40	88	147	189	n.a.	5.8	3.3	2.5	3.0

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A51 United States [Advanced Technologies Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	1,805	1,915	2,273	2,216	2,001	1,812	100	100	100	1.7	-0.2	-0.6	-1.0	-0.8
Coal	376	460	534	432	231	131	24	19	7.2	1.5	-1.5	-3.8	-5.6	-4.5
Oil	797	757	871	782	631	514	40	35	28	1.4	-0.8	-1.3	-2.0	-1.6
Natural gas	477	438	548	624	624	573	23	28	32	2.3	0.9	0.0	-0.8	-0.3
Nuclear	69	159	208	216	214	214	8.3	9.8	12	2.7	0.3	-0.1	0.0	-0.1
Hydro	24	23	22	22	24	24	1.2	1.0	1.3	-0.8	0.2	0.4	0.1	0.3
Geothermal	4.6	14	13	9.0	39	50	0.7	0.4	2.7	-0.7	-2.7	9.6	2.4	6.8
Solar, wind, etc.	-	0.3	2.1	20	81	133	0.0	0.9	7.3	20.5	17.8	8.9	5.1	7.5
Biomass and waste	54	62	73	105	153	169	3.3	4.7	9.3	1.6	2.6	2.4	1.0	1.8

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	1,311	1,294	1,546	1,538	1,403	1,295	100	100	100	1.8	0.0	-0.6	-0.8	-0.7
Industry	387	284	332	269	249	233	22	17	18	1.6	-1.5	-0.5	-0.6	-0.5
Transport	425	488	588	623	532	455	38	41	35	1.9	0.4	-1.0	-1.5	-1.2
Buildings, etc.	397	403	473	526	495	465	31	34	36	1.6	0.8	-0.4	-0.6	-0.5
Non-energy use	102	119	153	119	127	141	9.2	7.8	11	2.5	-1.8	0.4	1.0	0.6
Coal	56	56	33	22	19	16	4.3	1.4	1.2	-5.2	-2.7	-0.9	-1.7	-1.2
Oil	689	683	793	744	589	481	53	48	37	1.5	-0.5	-1.5	-2.0	-1.7
Natural gas	337	303	360	355	338	326	23	23	25	1.7	-0.1	-0.3	-0.3	-0.3
Electricity	174	226	301	326	336	335	18	21	26	2.9	0.6	0.2	0.0	0.1
Heat	-	2.2	5.3	5.6	5.5	5.1	0.2	0.4	0.4	9.4	0.4	0.0	-0.8	-0.3
Hydrogen	-	-	-	-	3.4	6.4	-	-	0.5	n.a.	n.a.	n.a.	6.5	n.a.
Renewables	54	23	54	84	112	124	1.8	5.5	9.6	9.0	3.2	1.8	1.0	1.5

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	2,427	3,203	4,026	4,319	4,429	4,422	100	100	100	2.3	0.5	0.2	0.0	0.1
Coal	1,243	1,700	2,129	1,713	923	488	53	40	11	2.3	-1.5	-3.8	-6.2	-4.7
Oil	263	131	118	40	19	9.0	4.1	0.9	0.2	-1.0	-7.5	-4.4	-7.4	-5.6
Natural gas	370	382	634	1,161	1,240	1,029	12	27	23	5.2	4.4	0.4	-1.8	-0.5
Nuclear	266	612	798	831	820	820	19	19	19	2.7	0.3	-0.1	0.0	-0.1
Hydro	279	273	253	261	278	281	8.5	6.1	6.4	-0.8	0.2	0.4	0.1	0.3
Geothermal	5.4	16	15	19	84	106	0.5	0.4	2.4	-0.9	1.8	9.8	2.4	6.9
Solar, wind, etc.	-	3.7	6.4	213	900	1,499	0.1	4.9	34	5.5	28.5	9.4	5.2	7.8
Biomass and waste	0.5	86	72	82	165	190	2.7	1.9	4.3	-1.8	0.9	4.5	1.4	3.3
Hydrogen	-	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	6,529	9,064	12,713	16,282	23,132	28,154	3.4	1.8	2.2	2.0	2.1
Population (million)	227	250	282	319	356	374	1.2	0.9	0.7	0.5	0.6
CO_2 emissions[*2] (Mt)	4,743	4,820	5,617	5,221	3,940	3,024	1.5	-0.5	-1.7	-2.6	-2.1
GDP per capita ($2010 thousand)	29	36	45	51	65	75	2.2	0.9	1.5	1.5	1.5
Primary energy consump. per capita (toe)	7.9	7.7	8.1	7.0	5.6	4.8	0.5	-1.0	-1.3	-1.5	-1.4
Primary energy consumption per GDP[*3]	276	211	179	136	86	64	-1.7	-1.9	-2.8	-2.9	-2.8
CO_2 emissions per GDP[*2, *4]	726	532	442	321	170	107	-1.8	-2.3	-3.9	-4.5	-4.1
CO_2 per primary energy consumption[*2, *5]	2.6	2.5	2.5	2.4	2.0	1.7	-0.2	-0.3	-1.1	-1.6	-1.3
Automobile ownership (million)	156	189	221	252	300	323	1.6	0.9	1.1	0.7	1.0
Automobile ownership rates[*6]	686	756	785	790	843	863	0.4	0.0	0.4	0.2	0.3

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people

Table A52 European Union [Advanced Technologies Scenario]

Primary energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total[*1]	n.a.	1,645	1,695	1,565	1,486	1,372	100	100	100	0.3	-0.6	-0.3	-0.8	-0.5
Coal	n.a.	456	321	268	169	119	28	17	8.6	-3.4	-1.3	-2.9	-3.5	-3.1
Oil	n.a.	605	625	509	412	341	37	33	25	0.3	-1.5	-1.3	-1.9	-1.5
Natural gas	n.a.	297	396	343	327	290	18	22	21	2.9	-1.0	-0.3	-1.2	-0.6
Nuclear	n.a.	207	246	228	264	280	13	15	20	1.7	-0.5	0.9	0.6	0.8
Hydro	n.a.	25	31	32	33	33	1.5	2.1	2.4	2.1	0.4	0.2	0.0	0.1
Geothermal	n.a.	3.2	4.6	6.2	10	12	0.2	0.4	0.8	3.7	2.2	3.1	1.4	2.4
Solar, wind, etc.	n.a.	0.3	2.4	34	66	82	0.0	2.2	5.9	25.3	20.8	4.3	2.1	3.4
Biomass and waste	n.a.	47	67	142	203	214	2.9	9.1	16	3.5	5.5	2.3	0.5	1.6

Final energy consumption

	Mtoe						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	n.a.	1,130	1,180	1,095	1,051	966	100	100	100	0.4	-0.5	-0.3	-0.8	-0.5
Industry	n.a.	343	310	255	246	231	30	23	24	-1.0	-1.4	-0.2	-0.6	-0.4
Transport	n.a.	259	304	307	264	225	23	28	23	1.6	0.1	-0.9	-1.6	-1.2
Buildings, etc.	n.a.	429	454	433	430	397	38	40	41	0.6	-0.3	-0.1	-0.8	-0.3
Non-energy use	n.a.	99	113	100	111	114	8.7	9.1	12	1.4	-0.9	0.7	0.2	0.5
Coal	n.a.	122	53	37	33	28	11	3.4	2.9	-8.1	-2.5	-0.7	-1.6	-1.1
Oil	n.a.	503	543	460	380	318	44	42	33	0.8	-1.2	-1.2	-1.8	-1.4
Natural gas	n.a.	226	272	235	250	240	20	21	25	1.9	-1.0	0.4	-0.4	0.1
Electricity	n.a.	186	217	233	241	236	16	21	24	1.6	0.5	0.2	-0.2	0.1
Heat	n.a.	54	45	46	46	43	4.8	4.2	4.5	-1.8	0.0	0.0	-0.6	-0.2
Hydrogen	n.a.	-	-	-	0.5	0.9	-	-	0.1	n.a.	n.a.	n.a.	6.2	n.a.
Renewables	n.a.	40	50	85	101	100	3.5	7.7	10	2.3	3.8	1.1	0.0	0.7

Electricity generation

	(TWh)						Shares (%)			CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990	2014	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
Total	n.a.	2,577	3,006	3,159	3,323	3,299	100	100	100	1.6	0.4	0.3	-0.1	0.2
Coal	n.a.	1,050	968	841	474	277	41	27	8.4	-0.8	-1.0	-3.5	-5.2	-4.2
Oil	n.a.	224	181	57	21	14	8.7	1.8	0.4	-2.1	-7.9	-6.0	-3.9	-5.2
Natural gas	n.a.	193	480	457	313	189	7.5	14	5.7	9.5	-0.3	-2.3	-4.9	-3.3
Nuclear	n.a.	795	945	876	1,012	1,074	31	28	33	1.7	-0.5	0.9	0.6	0.8
Hydro	n.a.	290	357	375	385	385	11	12	12	2.1	0.4	0.2	0.0	0.1
Geothermal	n.a.	3.2	4.8	6.2	10	12	0.1	0.2	0.4	4.0	1.9	3.3	1.3	2.5
Solar, wind, etc.	n.a.	1.3	24	355	736	916	0.1	11	28	33.9	21.2	4.7	2.2	3.7
Biomass and waste	n.a.	20	46	189	371	431	0.8	6.0	13	8.9	10.6	4.3	1.5	3.2
Hydrogen	n.a.	-	-	-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.	n.a.

Energy and economic indicators

							CAGR (%)				
	1980	1990	2000	2014	2030	2040	1990/ 2000	2000/ 2014	2014/ 2030	2030/ 2040	2014/ 2040
GDP ($2010 billion)	n.a.	11,801	14,729	17,396	22,607	25,741	2.2	1.2	1.7	1.3	1.5
Population (million)	n.a.	478	488	508	521	522	0.2	0.3	0.2	0.0	0.1
CO_2 emissions[*2] (Mt)	n.a.	4,067	3,783	3,134	2,370	1,860	-0.7	-1.3	-1.7	-2.4	-2.0
GDP per capita ($2010 thousand)	n.a.	25	30	34	43	49	2.0	0.9	1.5	1.3	1.4
Primary energy consump. per capita (toe)	n.a.	3.4	3.5	3.1	2.9	2.6	0.1	-0.9	-0.5	-0.8	-0.6
Primary energy consumption per GDP[*3]	n.a.	139	115	90	66	53	-1.9	-1.7	-1.9	-2.1	-2.0
CO_2 emissions per GDP[*2, *4]	n.a.	345	257	180	105	72	-2.9	-2.5	-3.3	-3.6	-3.5
CO_2 per primary energy consumption[*2, *5]	n.a.	2.5	2.2	2.0	1.6	1.4	-1.0	-0.8	-1.4	-1.6	-1.5
Automobile ownership (million)	n.a.	177	235	298	346	359	2.9	1.7	0.9	0.4	0.7
Automobile ownership rates[*6]	n.a.	371	482	587	665	687	2.7	1.4	0.8	0.3	0.6

*1 Trade of electricity, heat and hydrogen are not shown, *2 Excludes emission reduction by CCS, *3 toe/$2010 million,
*4 t/$2010 million, *5 t/toe, *6 Vehicles per 1,000 people