

HONG KONG, CHINA
ENERGY BALANCE TABLES

2002	Mtoe								
	Coal	Oil	Gas	Hydro	Nuclear	NRE	Electricity	Heat	Total
Production									
Net Imports	4.8	8.1	2.5				0.5		15.9
TPED	4.8	8.1	2.5				0.5		15.9
Electricity and Heat Generation	- 5.2		- 2.3				2.8		- 4.8
Petroleum Refineries									
Others		- 0.5	0.5						- 0.1
TFED		7.5	0.6				3.3		11.4
Industry		0.9					0.4		1.3
Transport		6.2							6.2
Residential			0.3				0.8		1.2
Commercial		0.4	0.2				2.1		2.7

2010	Mtoe								
	Coal	Oil	Gas	Hydro	Nuclear	NRE	Electricity	Heat	Total
Production									
Net Imports	5.4	11.9	4.7				0.5		22.5
TPED	5.4	11.9	4.7				0.5		22.5
Electricity and Heat Generation	- 5.4		- 4.2				3.8		- 5.8
Petroleum Refineries									
Others		- 0.3	0.2						- 0.1
TFED		11.6	0.7				4.3		16.6
Industry		1.1					0.4		1.5
Transport		10.1							10.1
Residential			0.4				1.1		1.5
Commercial		0.4	0.2				2.8		3.5

2020	Mtoe								
	Coal	Oil	Gas	Hydro	Nuclear	NRE	Electricity	Heat	Total
Production									
Net Imports	6.4	16.0	6.6				0.5		29.6
TPED	6.4	16.0	6.6				0.5		29.6
Electricity and Heat Generation	- 6.4		- 5.9				5.2		- 7.1
Petroleum Refineries									
Others		- 0.3	0.2						- 0.1
TFED		15.7	0.9				5.7		22.4
Industry		1.5					0.5		2.0
Transport		13.7							13.7
Residential			0.6				1.3		2.0
Commercial		0.5	0.3				3.9		4.7

2030	Mtoe								
	Coal	Oil	Gas	Hydro	Nuclear	NRE	Electricity	Heat	Total
Production									
Net Imports	7.7	19.7	8.0				0.6		35.9
TPED	7.7	19.7	8.0				0.6		35.9
Electricity and Heat Generation	- 7.7		- 7.2				6.6		- 8.3
Petroleum Refineries									
Others		- 0.4	0.3						- 0.1
TFED		19.2	1.1				7.2		27.5
Industry		1.8					0.5		2.4
Transport		16.8							16.8
Residential			0.8				1.6		2.4
Commercial		0.6	0.3				5.0		5.9

HONG KONG, CHINA

MACRO ASSUMPTIONS

	1980	2002	2010	2020	2030	Growth Rate (% per annum)				
						80-02	02-10	10-20	20-30	02-30
GDP (2000 PPP US\$ billion)	66	197	291	421	554	5.1	5.0	3.8	2.8	3.8
Population (million)	5.06	6.79	7.03	7.42	7.81	1.3	0.4	0.5	0.5	0.5
GDP per capita (2000 PPP US\$)	12 957	29 074	41 386	56 737	70 912	3.7	4.5	3.2	2.3	3.2
GDP in Services (2000 PPP US\$ billion)	49	179	271	400	529	6.0	5.4	4.0	2.8	4.0
GDP in Industry (2000 PPP US\$ billion)	16	25	27	36	45	2.0	1.0	3.1	2.2	2.2
Urbanisation level (%)	91	100	100	100	100	0.4				

ENERGY PROJECTIONS

	1980	2002	2010	2020	2030	Growth rate (% per annum)				
						80-02	02-10	10-20	20-30	02-30
Production										0.6
Coal										
Oil										
Gas										
Hydro										
NRE										
Nuclear										
Net Imports	6.4	15.9	22.5	29.6	35.9	4.2	4.4	2.8	2.0	3.0
Coal		4.8	5.4	6.4	7.7		1.4	1.7	1.9	1.7
Oil	6.4	8.1	11.9	16.0	19.7	1.0	5.0	3.0	2.0	3.2
Gas		2.5	4.7	6.6	8.0		8.5	3.4	1.9	4.3
Electricity		0.5	0.5	0.5	0.6		-0.9	1.0	1.0	0.5
Total Primary Energy Demand	5.4	15.9	22.5	29.6	35.9	5.0	4.5	2.8	2.0	3.0
Coal		4.8	5.4	6.4	7.7		1.4	1.7	1.9	1.7
		(30%)	(24%)	(21%)	(21%)					
Oil	5.4	8.1	11.9	16.0	19.7	1.8	5.0	3.0	2.0	3.2
	(99%)	(51%)	(53%)	(54%)	(55%)					
Gas		2.5	4.7	6.6	8.0		8.5	3.4	1.9	4.3
		(16%)	(21%)	(22%)	(22%)					
Hydro										
NRE	0.05			0.016	0.017					0.6
	(1%)			(0%)	(0%)					
Nuclear										
Input for Electricity and Heat Generation	-2.8	-7.6	-9.6	-12.3	-14.9	4.7	2.9	2.6	1.9	2.4
Coal		-5.2	-5.4	-6.4	-7.7		0.3	1.7	1.9	1.4
		(69%)	(56%)	(52%)	(52%)					
Oil	-2.8	-0.04	-0.02	-0.01	-0.01	-18.0	-7.4	-7.2	1.1	-4.4
	(100%)	(0%)	(0%)	(0%)	(0%)					
Gas		-2.3	-4.2	-5.9	-7.2		7.5	3.5	1.9	4.1
		(31%)	(44%)	(48%)	(48%)					
Hydro										
NRE				-0.016	-0.017					0.6
				(0%)	(0%)					
Nuclear										
Other Transformation		-0.1	-0.1	-0.1	-0.1		2.9	2.4	1.9	2.4
Coal										
Oil		-0.5	-0.3	-0.3	-0.4		-8.2	2.5	1.9	-0.9
		(100%)	(100%)	(100%)	(100%)					
Gas		0.5	0.2	0.2	0.3		-11.1	2.5	1.9	-1.8
		(100%)	(100%)	(100%)	(100%)					
NRE										
Electricity										
Heat										

HONG KONG, CHINA

	1980	2002	Mtoe			Growth rate (% per annum)				
			2010	2020	2030	80-02	02-10	10-20	20-30	02-30
Total Final Energy Demand	3.6	11.4	16.6	22.4	27.5	5.3	4.8	3.0	2.1	3.2
Coal										
Oil	2.6 (71%)	7.5 (66%)	11.6 (70%)	15.7 (70%)	19.2 (70%)	5.0	5.7	3.0	2.0	3.4
Gas	0.1 (2%)	0.6 (5%)	0.7 (4%)	0.9 (4%)	1.1 (4%)	9.6	2.9	2.5	1.9	2.4
NRE										
Electricity	0.9 (26%)	3.3 (29%)	4.3 (26%)	5.7 (26%)	7.2 (26%)	5.9	3.2	3.0	2.3	2.8
Heat										
Industry	1.1	1.3	1.5	2.0	2.4	1.0	2.0	2.7	1.6	2.1
Coal										
Oil	0.7 (65%)	0.9 (69%)	1.1 (72%)	1.5 (75%)	1.8 (76%)	1.3	2.5	3.1	1.8	2.4
Gas	0.01 (0%)	0.02 (2%)	0.03 (2%)	0.04 (2%)	0.05 (2%)	6.7	2.7	3.3	2.3	2.8
NRE										
Electricity	0.4 (34%)	0.4 (29%)	0.4 (26%)	0.5 (23%)	0.5 (22%)	0.3	0.5	1.7	1.1	1.2
Heat										
Transport	1.6	6.2	10.1	13.7	16.8	6.3	6.3	3.1	2.1	3.6
Coal										
Oil	1.6 (100%)	6.2 (100%)	10.1 (100%)	13.7 (100%)	16.8 (100%)	6.3	6.3	3.1	2.1	3.6
Gas										
NRE										
Electricity										
Residential	0.4	1.2	1.5	2.0	2.4	4.7	3.3	2.7	2.1	2.6
Coal										
Oil	0.2 (35%)									
Gas		0.3 (27%)	0.4 (30%)	0.6 (32%)	0.8 (32%)	10.1	4.4	3.3	2.3	3.3
NRE										
Electricity	0.2 (47%)	0.8 (73%)	1.1 (70%)	1.3 (68%)	1.6 (68%)	6.8	2.9	2.4	2.0	2.4
Heat										
Commercial	0.5	2.7	3.5	4.7	5.9	7.6	3.3	3.0	2.3	2.9
Coal										
Oil	0.1 (23%)	0.4 (13%)	0.4 (12%)	0.5 (11%)	0.6 (10%)	5.0	2.4	2.0	1.6	2.0
Gas	0.03 (6%)	0.2 (9%)	0.2 (7%)	0.3 (6%)	0.3 (5%)	9.3	0.6	0.6	0.7	0.6
NRE										
Electricity	0.4 (71%)	2.1 (78%)	2.8 (81%)	3.9 (83%)	5.0 (85%)	8.1	3.7	3.4	2.5	3.2
Heat										

ENERGY SECURITY

	1980	2002	2010	2020	2030
Diversity of Primary Energy Demand (Rated between 1 and 100)	1	70	69	68	67
Net Energy Import Ratio (%)	99	100	100	100	100
Net Oil Import Dependency (%)	100	100	100	100	100

HONG KONG, CHINA
ELECTRICITY GENERATION

	1980	2002	2010	2020	2030	Growth rate (% per annum)				
						80-02	02-10	10-20	20-30	02-30
Total Electricity Generation (TWh)	13	34	46	63	80	4.6	3.8	3.2	2.4	3.1
Coal		22 (64%)	24 (51%)	30 (47%)	38 (47%)		1.0	2.3	2.4	2.0
Oil	13 (100%)	0.1 (0%)	0.1 (0%)	0.04 (0%)	0.04 (0%)	-18.3	-7.0	-6.9	0.8	-4.3
Gas		12 (36%)	23 (49%)	33 (53%)	42 (52%)		7.9	3.9	2.3	4.5
Hydro										
NRE				0.18 (0%)	0.20 (1%)			50.5	0.8	
Nuclear										
Total Installed Generation Capacity (GW)	3	10	12	13	14	5.0	2.5	1.3	0.7	1.4
Thermal	3 (100%)	10 (100%)	12 (100%)	13 (99%)	14 (99%)	5.0	2.5	1.2	0.7	1.4
Coal		7 (69%)	7 (57%)	7 (50%)	7 (47%)					
Oil		1 (12%)	1 (5%)	0.3 (2%)	0.3 (2%)		-7.3	-7.2		-4.7
Gas		2 (19%)	4 (38%)	6 (47%)	7 (51%)		11.6	3.5	1.4	5.0
Hydro										
NRE				0.09 (1%)	0.09 (1%)			49.9		
Nuclear										

ENERGY INTENSITY & CO₂ EMISSIONS

	1980	2002	2010	2020	2030	Growth Rates (% per annum)				
						80-02	02-10	10-20	20-30	02-30
Energy Intensity (toe per US\$ million GDP)	83	80	77	70	65	-0.1	-0.5	-1.0	-0.8	-0.8
Industry (toe per US\$ million GDP in Industry)	67	54	58	56	53	-1.0	0.9	-0.4	-0.6	-0.1
Commercial (toe per US\$ million GDP in Services)	11	15	13	12	11	1.5	-1.9	-0.9	-0.5	-1.1
Energy Intensity (kgoe per capita)	1 075	2 336	3 203	3 989	4 602	3.6	4.0	2.2	1.4	2.5
Industry	208	195	220	273	305	-0.3	1.5	2.2	1.1	1.6
Transport	319	914	1 434	1 841	2 154	4.9	5.8	2.5	1.6	3.1
Residential	85	172	215	265	310	3.3	2.9	2.1	1.6	2.1
Commercial	105	394	495	632	755	6.2	2.9	2.5	1.8	2.3
CO₂ Emissions (million tonnes)	16.9	49.9	67.4	88.1	107.0	5.1	3.8	2.7	2.0	2.8
Electricity Generation	8.9	25.9	30.3	38.2	46.1	5.0	2.0	2.3	1.9	2.1
Transformation other than Electricity Generation										
Industry	2.2	2.8	3.5	4.7	5.6	1.1	2.8	3.0	1.8	2.5
Transport	4.8	18.8	30.6	41.5	51.0	6.4	6.3	3.1	2.1	3.6
Residential	0.5	0.8	1.1	1.5	1.8	1.8	4.1	3.2	1.8	2.9
Commercial	0.4	1.6	1.9	2.2	2.5	6.6	2.2	1.5	1.3	1.6
CO₂ Emissions Intensity										
CO ₂ emissions per GDP (tonnes per US\$ million)	257.5	252.9	231.7	209.3	193.2	-0.1	-1.1	-1.0	-0.8	-1.0
CO ₂ emissions per capita (tonnes per capita)	3.3	7.4	9.6	11.9	13.7	3.7	3.4	2.2	1.4	2.2

ENERGY INVESTMENT REQUIREMENTS

(Cumulative from 2003 -)	2010	2020	2030
Total (2000 US\$ billion)	4.3 - 5.9	8.7 - 12.0	11.8 - 16.5
Coal Production & Transportation			
Oil & Gas Production & Processing			
Oil & Gas International Trade	1.83 - 2.77	3.71 - 5.69	5.00 - 7.82
Oil & Gas Domestic Pipeline	0.76 - 1.09	1.40 - 1.99	1.86 - 2.65
Electricity Generation & Transmission	1.72 - 2.03	3.59 - 4.32	4.95 - 6.04