

CHINA
ENERGY BALANCE TABLES

| 2002 | | | | | | | | | | Mtoe |
|---------------------------------|--------------|--------------|-------------|-------------|------------|--------------|--------------|-------------|-------|----------------|
| | Coal | Oil | Gas | Hydro | Nuclear | NRE | Electricity | Heat | Total | |
| Production | 664.4 | 170.8 | 35.0 | 23.6 | 7.0 | 218.1 | | | | 1 118.9 |
| Net Imports | - 45.7 | 48.6 | - 1.9 | | | | - 0.1 | | | 0.9 |
| TPED | 618.7 | 218.1 | 33.0 | 23.6 | 7.0 | 218.1 | - 0.1 | | | 1 118.6 |
| Electricity and Heat Generation | - 363.5 | - 20.8 | - 2.5 | - 23.6 | - 7.0 | - 2.0 | 110.5 | 27.0 | | - 282.1 |
| Petroleum Refineries | | - 13.7 | - 1.1 | | | | - 1.9 | - 6.3 | | - 23.0 |
| Others | - 28.1 | - 7.5 | - 6.3 | | | | - 6.3 | - 1.4 | | - 49.6 |
| TFED | 227.1 | 180.2 | 20.5 | | | 216.1 | 102.2 | 29.2 | | 775.3 |
| Industry | 173.7 | 74.7 | 13.4 | | | | 76.5 | 22.3 | | 360.8 |
| Transport | 5.4 | 73.2 | 0.1 | | | | 1.4 | | | 80.0 |
| Residential | 42.7 | 15.5 | 6.4 | | | 216.1 | 17.2 | 6.4 | | 304.3 |
| Commercial | 5.3 | 16.8 | 0.6 | | | | 7.0 | 0.6 | | 30.2 |

| 2010 | | | | | | | | | | Mtoe |
|---------------------------------|----------------|--------------|-------------|-------------|-------------|--------------|--------------|-------------|-------|----------------|
| | Coal | Oil | Gas | Hydro | Nuclear | NRE | Electricity | Heat | Total | |
| Production | 1 167.2 | 188.9 | 57.6 | 32.5 | 23.9 | 194.5 | | | | 1 664.7 |
| Net Imports | - 39.4 | 145.8 | 5.7 | | | | - 0.1 | | | 112.0 |
| TPED | 1 127.8 | 334.7 | 63.3 | 32.5 | 23.9 | 194.5 | - 0.1 | | | 1 776.7 |
| Electricity and Heat Generation | - 773.7 | - 18.9 | - 10.5 | - 32.5 | - 23.9 | - 4.0 | 227.3 | 57.4 | | - 578.8 |
| Petroleum Refineries | | - 20.5 | - 1.6 | | | | - 2.9 | - 9.3 | | - 34.3 |
| Others | - 17.3 | - 8.4 | - 7.4 | | | | - 9.1 | - 1.7 | | - 43.7 |
| TFED | 336.9 | 286.9 | 43.9 | | | 190.5 | 215.2 | 46.4 | | 1 119.8 |
| Industry | 285.1 | 111.1 | 22.4 | | | | 160.0 | 34.0 | | 612.7 |
| Transport | 3.8 | 131.1 | 0.3 | | | | 2.5 | | | 137.6 |
| Residential | 42.3 | 31.2 | 13.2 | | | 190.5 | 35.8 | 11.1 | | 324.1 |
| Commercial | 5.7 | 13.5 | 7.9 | | | | 17.0 | 1.2 | | 45.4 |

| 2020 | | | | | | | | | | Mtoe |
|---------------------------------|----------------|--------------|--------------|-------------|-------------|--------------|--------------|-------------|-------|----------------|
| | Coal | Oil | Gas | Hydro | Nuclear | NRE | Electricity | Heat | Total | |
| Production | 1 507.5 | 204.1 | 99.4 | 52.9 | 60.0 | 165.5 | | | | 2 089.3 |
| Net Imports | - 49.6 | 275.4 | 30.0 | | | | - 0.1 | | | 255.8 |
| TPED | 1 457.9 | 479.5 | 129.4 | 52.9 | 60.0 | 165.5 | - 0.1 | | | 2 345.1 |
| Electricity and Heat Generation | - 1 074.7 | - 20.0 | - 26.0 | - 52.9 | - 60.0 | - 9.8 | 368.6 | 86.5 | | - 788.3 |
| Petroleum Refineries | | - 24.8 | - 1.9 | | | | - 3.5 | - 11.2 | | - 41.4 |
| Others | - 22.3 | - 8.8 | - 8.7 | | | | - 10.6 | - 1.8 | | - 52.2 |
| TFED | 360.9 | 425.9 | 92.8 | | | 155.7 | 354.5 | 73.6 | | 1 463.3 |
| Industry | 314.3 | 166.0 | 36.6 | | | | 249.5 | 49.8 | | 816.1 |
| Transport | 2.4 | 197.4 | 0.6 | | | | 4.4 | | | 204.7 |
| Residential | 38.9 | 49.7 | 27.1 | | | 155.7 | 58.1 | 21.1 | | 350.5 |
| Commercial | 5.3 | 12.8 | 28.5 | | | | 42.6 | 2.7 | | 91.9 |

| 2030 | | | | | | | | | | Mtoe |
|---------------------------------|----------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|-------|----------------|
| | Coal | Oil | Gas | Hydro | Nuclear | NRE | Electricity | Heat | Total | |
| Production | 1 862.2 | 198.8 | 114.8 | 88.3 | 116.5 | 148.0 | | | | 2 528.5 |
| Net Imports | - 28.2 | 470.1 | 126.0 | | | | - 0.1 | | | 567.8 |
| TPED | 1 833.9 | 668.9 | 240.8 | 88.3 | 116.5 | 148.0 | - 0.1 | | | 3 096.4 |
| Electricity and Heat Generation | - 1 423.1 | - 25.0 | - 72.1 | - 88.3 | - 116.5 | - 20.8 | 581.7 | 115.3 | | - 1 048.8 |
| Petroleum Refineries | | - 28.6 | - 2.1 | | | | - 3.9 | - 12.8 | | - 47.4 |
| Others | - 27.5 | - 8.5 | - 8.6 | | | | - 11.7 | - 1.8 | | - 58.1 |
| TFED | 383.3 | 606.9 | 158.0 | | | 127.2 | 566.0 | 100.8 | | 1 942.1 |
| Industry | 343.4 | 222.7 | 54.2 | | | | 373.7 | 69.3 | | 1 063.3 |
| Transport | | 298.0 | 1.0 | | | | 6.9 | | | 306.0 |
| Residential | 35.1 | 70.1 | 52.8 | | | 127.2 | 87.8 | 26.4 | | 399.5 |
| Commercial | 4.7 | 16.1 | 49.9 | | | | 97.5 | 5.2 | | 173.4 |

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) | 744 | 5 494 | 9 940 | 17 935 | 31 108 | 9.5 | 7.7 | 6.1 | 5.7 | 6.4 |
| Population (million) | 981 | 1 285 | 1 343 | 1 404 | 1 436 | 1.2 | 0.6 | 0.4 | 0.2 | 0.4 |
| GDP per capita (2000 PPP US\$) | 758 | 4 277 | 7 399 | 12 773 | 21 664 | 8.2 | 7.1 | 5.6 | 5.4 | 6.0 |
| GDP in Services (2000 PPP US\$ billion) | 249 | 1 751 | 3 342 | 6 494 | 12 074 | 9.3 | 8.4 | 6.9 | 6.4 | 7.1 |
| GDP in Industry (2000 PPP US\$ billion) | 332 | 2 288 | 4 724 | 8 272 | 13 751 | 9.2 | 9.5 | 5.8 | 5.2 | 6.6 |
| Urbanisation level (%) | 20 | 38 | 45 | 56 | 60 | 3.0 | 2.3 | 2.2 | 0.7 | 1.7 |

ENERGY PROJECTIONS

| | Mtoe | | | | | Growth rate (% per annum) | | | | |
|--|----------------|-----------------|------------------|-------------------|-------------------|---------------------------|------------|------------|------------|------------|
| | 1980 | 2002 | 2010 | 2020 | 2030 | 80-02 | 02-10 | 10-20 | 20-30 | 02-30 |
| Production | 615.5 | 1 118.9 | 1 664.7 | 2 089.3 | 2 528.5 | 2.8 | 5.1 | 2.3 | 1.9 | 3.0 |
| Coal | 310.7 (50%) | 664.4 (59%) | 1 167.2 (70%) | 1 507.5 (72%) | 1 862.2 (74%) | 3.5 | 7.3 | 2.6 | 2.1 | 3.7 |
| Oil | 107.9 (18%) | 170.8 (15%) | 188.9 (11%) | 204.1 (10%) | 198.8 (8%) | 2.1 | 1.3 | 0.8 | -0.3 | 0.5 |
| Gas | 12.0 (2%) | 35.0 (3%) | 57.6 (3%) | 99.4 (5%) | 114.8 (5%) | 5.0 | 6.4 | 5.6 | 1.5 | 4.3 |
| Hydro | 5.0 (1%) | 23.6 (2%) | 32.5 (2%) | 52.9 (3%) | 88.3 (3%) | 7.3 | 4.1 | 5.0 | 5.3 | 4.8 |
| NRE | 179.9 (29%) | 218.1 (19%) | 194.5 (12%) | 165.5 (8%) | 148.0 (6%) | 0.9 | -1.4 | -1.6 | -1.1 | -1.4 |
| Nuclear | | 7.0 (1%) | 23.9 (1%) | 60.0 (3%) | 116.5 (5%) | | 16.5 | 9.6 | 6.9 | 10.5 |
| Net Imports | - 20.6 | 0.9 | 112.0 | 255.8 | 567.8 | | | 8.6 | 8.3 | |
| Coal | -3.2 | -45.7 | -39.4 | -49.6 | -28.2 | 12.9 | -1.8 | 2.3 | -5.5 | -1.7 |
| Oil | -17.4 | 48.6 | 145.8 | 275.4 | 470.1 | | 14.7 | 6.6 | 5.5 | 8.4 |
| Gas | | -1.9 | 5.7 | 30.0 | 126.0 | | | 18.1 | 15.4 | |
| Electricity | | -0.1 | -0.1 | -0.1 | -0.1 | | 0.2 | 1.7 | 2.2 | 1.4 |
| Total Primary Energy Demand | 598.5 | 1 118.6 | 1 776.7 | 2 345.1 | 3 096.4 | 2.9 | 6.0 | 2.8 | 2.8 | 3.7 |
| Coal | 312.6 (52%) | 618.7 (55%) | 1 127.8 (63%) | 1 457.9 (62%) | 1 833.9 (59%) | 3.2 | 7.8 | 2.6 | 2.3 | 4.0 |
| Oil | 89.1 (15%) | 218.1 (19%) | 334.7 (19%) | 479.5 (20%) | 668.9 (22%) | 4.2 | 5.5 | 3.7 | 3.4 | 4.1 |
| Gas | 12.0 (2%) | 33.0 (3%) | 63.3 (4%) | 129.4 (6%) | 240.8 (8%) | 4.7 | 8.5 | 7.4 | 6.4 | 7.4 |
| Hydro | 5.0 (1%) | 23.6 (2%) | 32.5 (2%) | 52.9 (2%) | 88.3 (3%) | 7.3 | 4.1 | 5.0 | 5.3 | 4.8 |
| NRE | 179.9 (30%) | 218.1 (19%) | 194.5 (11%) | 165.5 (7%) | 148.0 (5%) | 0.9 | -1.4 | -1.6 | -1.1 | -1.4 |
| Nuclear | | 7.0 (1%) | 23.9 (1%) | 60.0 (3%) | 116.5 (4%) | | 16.5 | 9.6 | 6.9 | 10.5 |
| Input for Electricity and Heat Generation | - 83.3 | - 419.5 | - 863.5 | -1 243.5 | -1 745.8 | 7.6 | 9.4 | 3.7 | 3.5 | 5.2 |
| Coal | -57.9 (70%) | -363.5 (87%) | -773.7 (90%) | -1 074.7 (86%) | -1 423.1 (82%) | 8.7 | 9.9 | 3.3 | 2.8 | 5.0 |
| Oil | -20.2 (24%) | -20.8 (5%) | -18.9 (2%) | -20.0 (2%) | -25.0 (1%) | 0.1 | -1.2 | 0.6 | 2.3 | 0.7 |
| Gas | -0.2 (0%) | -2.5 (1%) | -10.5 (1%) | -26.0 (2%) | -72.1 (4%) | 12.8 | 19.8 | 9.5 | 10.7 | 12.8 |
| Hydro | -5.0 (6%) | -23.6 (6%) | -32.5 (4%) | -52.9 (4%) | -88.3 (5%) | 7.3 | 4.1 | 5.0 | 5.3 | 4.8 |
| NRE | | -2.0 (0%) | -4.0 (0%) | -9.8 (1%) | -20.8 (1%) | | 9.2 | 9.4 | 7.8 | 8.8 |
| Nuclear | | -7.0 (2%) | -23.9 (3%) | -60.0 (5%) | -116.5 (7%) | | 16.5 | 9.6 | 6.9 | 10.5 |
| Other Transformation | - 18.0 | - 72.6 | - 78.0 | - 93.5 | - 105.5 | 6.6 | 0.9 | 1.8 | 1.2 | 1.3 |
| Coal | -3.2 (18%) | -28.1 (39%) | -17.3 (22%) | -22.3 (24%) | -27.5 (26%) | 10.4 | -5.9 | 2.6 | 2.1 | -0.1 |
| Oil | -8.7 (48%) | -21.2 (29%) | -28.9 (37%) | -33.6 (36%) | -37.0 (35%) | 4.1 | 3.9 | 1.5 | 1.0 | 2.0 |
| Gas | -5.4 (30%) | -7.4 (10%) | -8.9 (11%) | -10.6 (11%) | -10.8 (10%) | 1.5 | 2.4 | 1.7 | 0.2 | 1.4 |
| NRE | | | | | | | | | | |
| Electricity | -0.7 (4%) | -8.2 (11%) | -12.0 (15%) | -14.0 (15%) | -15.6 (15%) | 11.6 | 4.8 | 1.6 | 1.1 | 2.3 |
| Heat | | -7.7 (11%) | -11.0 (14%) | -13.0 (14%) | -14.5 (14%) | | 4.5 | 1.7 | 1.1 | 2.3 |

CHINA

| | Mtoe | | | | | Growth rate (% per annum) | | | | |
|----------------------------------|----------------|----------------|----------------|----------------|----------------|---------------------------|------------|------------|------------|------------|
| | 1980 | 2002 | 2010 | 2020 | 2030 | 80-02 | 02-10 | 10-20 | 20-30 | 02-30 |
| Total Final Energy Demand | 474.0 | 775.3 | 1 119.8 | 1 463.3 | 1 942.1 | 2.3 | 4.7 | 2.7 | 2.9 | 3.3 |
| Coal | 212.4 (45%) | 227.1 (29%) | 336.9 (30%) | 360.9 (25%) | 383.3 (20%) | 0.3 | 5.1 | 0.7 | 0.6 | 1.9 |
| Oil | 47.0 (10%) | 180.2 (23%) | 286.9 (26%) | 425.9 (29%) | 606.9 (31%) | 6.3 | 6.0 | 4.0 | 3.6 | 4.4 |
| Gas | 6.7 (1%) | 20.5 (3%) | 43.9 (4%) | 92.8 (6%) | 158.0 (8%) | 5.2 | 10.0 | 7.8 | 5.5 | 7.6 |
| NRE | 179.9 (38%) | 216.1 (28%) | 190.5 (17%) | 155.7 (11%) | 127.2 (7%) | 0.8 | -1.6 | -2.0 | -2.0 | -1.9 |
| Electricity | 20.6 (4%) | 102.2 (13%) | 215.2 (19%) | 354.5 (24%) | 566.0 (29%) | 7.6 | 9.8 | 5.1 | 4.8 | 6.3 |
| Heat | 7.3 (2%) | 29.2 (4%) | 46.4 (4%) | 73.6 (5%) | 100.8 (5%) | 6.5 | 5.9 | 4.7 | 3.2 | 4.5 |
| Industry | 206.9 | 360.8 | 612.7 | 816.1 | 1 063.3 | 2.6 | 6.8 | 2.9 | 2.7 | 3.9 |
| Coal | 144.0 (70%) | 173.7 (48%) | 285.1 (47%) | 314.3 (39%) | 343.4 (32%) | 0.9 | 6.4 | 1.0 | 0.9 | 2.5 |
| Oil | 31.4 (15%) | 74.7 (21%) | 111.1 (18%) | 166.0 (20%) | 222.7 (21%) | 4.0 | 5.1 | 4.1 | 3.0 | 4.0 |
| Gas | 6.3 (3%) | 13.4 (4%) | 22.4 (4%) | 36.6 (4%) | 54.2 (5%) | 3.5 | 6.6 | 5.0 | 4.0 | 5.1 |
| NRE | | | | | | | | | | |
| Electricity | 19.4 (9%) | 76.5 (21%) | 160.0 (26%) | 249.5 (31%) | 373.7 (35%) | 6.4 | 9.7 | 4.5 | 4.1 | 5.8 |
| Heat | 5.8 (3%) | 22.3 (6%) | 34.0 (6%) | 49.8 (6%) | 69.3 (7%) | 6.3 | 5.4 | 3.9 | 3.4 | 4.1 |
| Transport | 20.7 | 80.0 | 137.6 | 204.7 | 306.0 | 6.3 | 7.0 | 4.1 | 4.1 | 4.9 |
| Coal | 9.5 (46%) | 5.4 (7%) | 3.8 (3%) | 2.4 (1%) | 0.03 | -2.6 | -4.3 | -4.5 | -35.4 | -16.9 |
| Oil | 11.0 (53%) | 73.2 (91%) | 131.1 (95%) | 197.4 (96%) | 298.0 (97%) | 9.0 | 7.6 | 4.2 | 4.2 | 5.1 |
| Gas | | 0.1 (0%) | 0.3 (0%) | 0.6 (0%) | 1.0 (0%) | | 21.8 | 6.7 | 5.1 | 10.2 |
| NRE | | | | | | | | | | |
| Electricity | 0.2 (1%) | 1.4 (2%) | 2.5 (2%) | 4.4 (2%) | 6.9 (2%) | 8.7 | 7.0 | 5.9 | 4.7 | 5.8 |
| Residential | 240.6 | 304.3 | 324.1 | 350.5 | 399.5 | 1.1 | 0.8 | 0.8 | 1.3 | 1.0 |
| Coal | 56.7 (24%) | 42.7 (14%) | 42.3 (13%) | 38.9 (11%) | 35.1 (9%) | -1.3 | -0.1 | -0.8 | -1.0 | -0.7 |
| Oil | 1.5 (1%) | 15.5 (5%) | 31.2 (10%) | 49.7 (14%) | 70.1 (18%) | 11.1 | 9.1 | 4.8 | 3.5 | 5.5 |
| Gas ¹ | 0.4 (0%) | 6.4 (2%) | 13.2 (4%) | 27.1 (8%) | 52.8 (13%) | 14.0 | 9.5 | 7.4 | 6.9 | 7.8 |
| NRE | 179.9 (75%) | 216.1 (71%) | 190.5 (59%) | 155.7 (44%) | 127.2 (32%) | 0.8 | -1.6 | -2.0 | -2.0 | -1.9 |
| Electricity ¹ | 0.9 (0%) | 17.2 (6%) | 35.8 (11%) | 58.1 (17%) | 87.8 (22%) | 14.1 | 9.6 | 5.0 | 4.2 | 6.0 |
| Heat | 1.1 (0%) | 6.4 (2%) | 11.1 (3%) | 21.1 (6%) | 26.4 (7%) | 8.3 | 7.3 | 6.6 | 2.3 | 5.2 |
| Commercial | 5.8 | 30.2 | 45.4 | 91.9 | 173.4 | 7.8 | 5.2 | 7.3 | 6.5 | 6.4 |
| Coal | 2.3 (39%) | 5.3 (18%) | 5.7 (13%) | 5.3 (6%) | 4.7 (3%) | 3.9 | 1.0 | -0.7 | -1.3 | -0.4 |
| Oil | 3.0 (53%) | 16.8 (55%) | 13.5 (30%) | 12.8 (14%) | 16.1 (9%) | 8.1 | -2.6 | -0.5 | 2.3 | -0.2 |
| Gas | 0.1 (1%) | 0.6 (2%) | 7.9 (17%) | 28.5 (31%) | 49.9 (29%) | 11.7 | 37.3 | 13.7 | 5.8 | 16.9 |
| NRE | | | | | | | | | | |
| Electricity | | 7.0 (23%) | 17.0 (37%) | 42.6 (46%) | 97.5 (56%) | | 11.8 | 9.6 | 8.6 | 9.9 |
| Heat | 0.4 (7%) | 0.6 (2%) | 1.2 (3%) | 2.7 (3%) | 5.2 (3%) | 1.4 | 10.5 | 8.0 | 6.9 | 8.3 |

Note: 1 Historical data prior to 2002 are from national sources.

ENERGY SECURITY

| | 1980 | 2002 | 2010 | 2020 | 2030 |
|--|------|------|------|------|------|
| Diversity of Primary Energy Demand (Rated between 1 and 100) | 68 | 68 | 59 | 61 | 65 |
| Net Energy Import Ratio (%) | -3 | 0 | 6 | 11 | 18 |
| Net Oil Import Dependency (%) | -20 | 22 | 44 | 57 | 70 |

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) | 301 | 1 416 | 2 869 | 4 585 | 7 162 | 7.3 | 9.2 | 4.8 | 4.6 | 6.0 |
| Coal | 164 (55%) | 1 056 (75%) | 2 324 (81%) | 3 567 (78%) | 5 202 (73%) | 8.8 | 10.4 | 4.4 | 3.8 | 5.9 |
| Oil | 78 (26%) | 49 (3%) | 32 (1%) | 24 (1%) | 28 (5%) | -2.0 | -5.2 | -2.8 | 1.4 | -2.0 |
| Gas | 1 | 5 | 33 (1%) | 106 (2%) | 360 (5%) | 9.1 | 27.9 | 12.3 | 13.0 | 16.8 |
| Hydro | 58 (19%) | 275 (19%) | 378 (13%) | 616 (13%) | 1 027 (14%) | 7.3 | 4.1 | 5.0 | 5.3 | 4.8 |
| NRE | | 4 | 10 | 42 (1%) | 98 (1%) | | 14.1 | 15.1 | 8.9 | 12.6 |
| Nuclear | | 27 (2%) | 92 (3%) | 230 (5%) | 447 (6%) | | 16.5 | 9.6 | 6.9 | 10.5 |
| Total Installed Generation Capacity (GW) | 66 | 355 | 670 | 973 | 1 278 | 8.0 | 8.3 | 3.8 | 2.8 | 4.7 |
| Thermal | 46 (69%) | 262 (74%) | 503 (75%) | 707 (73%) | 888 (69%) | 8.3 | 8.5 | 3.5 | 2.3 | 4.5 |
| Coal | 40 (61%) | 244 (69%) | 462 (69%) | 643 (66%) | 769 (60%) | 8.6 | 8.3 | 3.4 | 1.8 | 4.2 |
| Oil | 6 (8%) | 11 (3%) | 15 (2%) | 15 (2%) | 15 (1%) | 3.2 | 3.7 | | | 1.0 |
| Gas | | 6 (2%) | 26 (4%) | 49 (5%) | 104 (8%) | 20.9 | 18.9 | 6.5 | 7.8 | 10.4 |
| Hydro | 20 (31%) | 86 (24%) | 150 (22%) | 219 (23%) | 297 (23%) | 6.8 | 7.2 | 3.9 | 3.1 | 4.5 |
| NRE | | 2 (1%) | 5 (1%) | 17 (2%) | 35 (3%) | | 9.7 | 13.1 | 7.5 | 10.1 |
| Nuclear | | 4 (1%) | 12 (2%) | 30 (3%) | 58 (5%) | | 13.1 | 9.6 | 6.8 | 9.6 |

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) | 805 | 204 | 179 | 131 | 100 | -6.1 | -1.6 | -3.1 | -2.7 | -2.5 |
| Industry (toe per US\$ million GDP in Industry) | 622 | 158 | 130 | 99 | 77 | -6.1 | -2.4 | -2.7 | -2.4 | -2.5 |
| Commercial (toe per US\$ million GDP in Services) | 23 | 17 | 14 | 14 | 14 | -1.3 | -3.0 | 0.4 | 0.1 | -0.7 |
| Energy Intensity (kgoe per capita) | 610 | 871 | 1 322 | 1 670 | 2 156 | 1.6 | 5.4 | 2.4 | 2.6 | 3.3 |
| Industry | 211 | 281 | 456 | 581 | 741 | 1.3 | 6.2 | 2.5 | 2.5 | 3.5 |
| Transport | 21 | 62 | 102 | 146 | 213 | 5.0 | 6.4 | 3.6 | 3.9 | 4.5 |
| Residential | 245 | 237 | 241 | 250 | 278 | -0.2 | 0.2 | 0.3 | 1.1 | 0.6 |
| Commercial | 6 | 24 | 34 | 65 | 121 | 6.5 | 4.6 | 6.8 | 6.3 | 6.0 |
| CO₂ Emissions (million tonnes) | 1 324 | 3 128 | 5 508 | 7 370 | 9 648 | 4.0 | 7.3 | 3.0 | 2.7 | 4.1 |
| Electricity Generation | 238 | 1 479 | 3 083 | 4 290 | 5 764 | 8.7 | 9.6 | 3.4 | 3.0 | 5.0 |
| Transformation other than Electricity Generation | 76 | 183 | 164 | 199 | 227 | 4.0 | -1.4 | 2.0 | 1.3 | 0.8 |
| Industry | 698 | 928 | 1 487 | 1 795 | 2 115 | 1.3 | 6.1 | 1.9 | 1.7 | 3.0 |
| Transport | 69 | 237 | 402 | 595 | 886 | 5.8 | 6.8 | 4.0 | 4.1 | 4.8 |
| Residential | 225 | 228 | 290 | 365 | 473 | | 3.1 | 2.3 | 2.6 | 2.6 |
| Commercial | 18 | 73 | 82 | 126 | 184 | 6.5 | 1.4 | 4.4 | 3.8 | 3.4 |
| CO₂ Emissions Intensity | | | | | | | | | | |
| CO ₂ emissions per GDP (tonnes per US\$ million) | 1 781 | 569 | 554 | 411 | 310 | -5.1 | -0.3 | -2.9 | -2.8 | -2.1 |
| CO ₂ emissions per capita (tonnes per capita) | 1.3 | 2.4 | 4.1 | 5.2 | 6.7 | 2.7 | 6.7 | 2.5 | 2.5 | 3.7 |

ENERGY INVESTMENT REQUIREMENTS

| (Cumulative from 2003 -) | 2010 | 2020 | 2030 |
|---------------------------------------|------------------|----------------------|----------------------|
| Total (2000 US\$ billion) | 522 - 630 | 1 136 - 1 382 | 1 876 - 2 307 |
| Coal Production & Transportation | 67 - 84 | 124 - 154 | 188 - 232 |
| Oil & Gas Production & Processing | 47 - 67 | 98 - 145 | 146 - 216 |
| Oil & Gas International Trade | 12 - 18 | 40 - 55 | 66 - 92 |
| Oil & Gas Domestic Pipeline | 20 - 28 | 56 - 79 | 113 - 161 |
| Electricity Generation & Transmission | 377 - 434 | 818 - 948 | 1 362 - 1 606 |