

Coal extraction data

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 Climate Mitigation Services
 File started: 11 January 2005
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China, Peoples' Republic

yellow column indicates original reported units

www. Beijing

Production / Extraction data

| Year | Lignite & Bituminous | | Anthracite & Metallurgical | | Total Coal | |
|------|----------------------|-----------------|----------------------------|-----------------|-------------------------------------|-------------------------------------|
| | Lignite | Bituminous | Anthracite | Metallurgical | Lignite, Bituminous, and Anthracite | Lignite, Bituminous, and Anthracite |
| | Million tons/yr | Million tons/yr | Million tons/yr | Million tons/yr | Million tons/yr | Million tons/yr |

Estimated CO2 from underground coal fires in China. These are non-anthropogenic and are not included below.

109 Mt coal /yr 276 MtCO2/yr

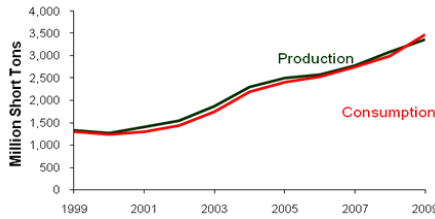
Reserves of lignite & subbituminous coal 52.3 Gt (revised up from 13.3 Gt in 1992)

Reserves of bituminous coal and anthracite 62.2 Gt (revised down from 152.8 Gt in 1992)

World Energy Council, as cited in Energy Watch Group (2007) *Coal: Resources and Future Production*, Jul07, 47 pp



China's Coal Production and Consumption, 1999-2009



EIA China Country Rpt, May11.

| China, Total million tonnes | China, Total million tonnes | Source |
|-----------------------------|-----------------------------|-------------------|
| 7 | 6 | China Mining Assn |
| 16 | 15 | interpolated |
| 26 | 23 | interpolated |
| 35 | 32 | Zimmermann's |
| 45 | 41 | interpolated |
| 54 | 49 | interpolated |
| 63 | 58 | interpolated |
| 73 | 66 | China Mining Assn |
| 121 | 110 | interpolated |
| 170 | 154 | interpolated |
| 218 | 198 | interpolated |
| 266 | 242 | interpolated |
| 315 | 313 | China Mining Assn |
| 363 | 329 | interpolated |
| 412 | 373 | interpolated |
| 460 | 417 | EIA dataset |
| 275 | 249 | EIA dataset |
| 275 | 249 | EIA dataset |
| 300 | 272 | EIA dataset |
| 320 | 290 | EIA dataset |
| 330 | 299 | EIA dataset |
| 360 | 327 | EIA dataset |
| 250 | 227 | EIA dataset |
| 330 | 299 | Zimmermann's |
| 398 | 361 | interpolated |
| 513 | 466 | EIA dataset |
| 517 | 469 | EIA dataset |
| 525 | 476 | EIA dataset |
| 520 | 472 | EIA dataset |
| 548 | 497 | EIA dataset |
| 570 | 517 | EIA dataset |
| 586 | 532 | EIA dataset |
| 606 | 550 | EIA dataset |
| 681 | 618 | EIA dataset |
| 698 | 633 | EIA dataset |
| 684 | 620 | EIA dataset |
| 685 | 622 | EIA dataset |
| 735 | 666 | EIA dataset |
| 788 | 715 | EIA dataset |
| 870 | 789 | EIA dataset |
| 962 | 872 | EIA dataset |
| 986 | 894 | EIA dataset |
| 1,023 | 928 | EIA dataset |
| 1,080 | 980 | EIA dataset |
| 1,162 | 1,054 | EIA dataset |
| 1,190 | 1,080 | EIA dataset |
| 1,195 | 1,084 | EIA dataset |
| 1,229 | 1,115 | EIA dataset |
| 1,311 | 1,189 | EIA dataset |
| 1,407 | 1,277 | EIA dataset |
| 1,531 | 1,389 | EIA dataset |
| 1,539 | 1,396 | EIA dataset |
| 1,499 | 1,360 | EIA dataset |
| 1,414 | 1,283 | EIA dataset |
| 1,328 | 1,204 | EIA dataset |
| 1,272 | 1,154 | EIA dataset |
| 1,406 | 1,275 | EIA dataset |
| 1,551 | 1,407 | EIA dataset |
| 1,864 | 1,691 | EIA dataset |
| 2,300 | 2,086 | EIA dataset |
| 2,501 | 2,269 | EIA dataset |
| 2,574 | 2,335 | EIA dataset |
| 2,781 | 2,523 | EIA dataset |
| 3,086 | 2,800 | EIA dataset |
| 3,362 | 3,050 | EIA dataset |
| 3,661 | 3,321 | EIA dataset |

metallurgical coal not included in total

EIA coal production data (from page 2)

| Lignite | Bituminous | Anthracite | Metallurgical |
|-----------------|-----------------|-----------------|-----------------|
| EIA coal stats: | EIA coal stats: | EIA coal stats: | EIA coal stats: |
| million tons | million tons | million tons | million tons |
| 26.8 | 514.6 | 142.2 | 38 |
| 25.8 | 514.9 | 144.5 | 35 |
| 27.5 | 553.7 | 153.3 | 44 |
| 29.7 | 590.6 | 167.4 | 47 |
| 33.2 | 649.7 | 187.1 | 50 |
| 35.5 | 725.1 | 200.9 | 53 |
| 35.3 | 746.6 | 203.7 | 58 |
| 36.6 | 774.3 | 212.0 | 64 |
| 40.5 | 816.3 | 223.3 | 67 |
| 47.2 | 874.6 | 240.3 | 73 |
| 50.2 | 905.6 | 234.6 | 81 |
| 49.4 | 909.5 | 236.3 | 81 |
| 52.1 | 932.9 | 243.6 | 88 |
| 63.2 | 989.3 | 258.1 | 103 |
| 67.0 | 1,066.0 | 274.1 | 108 |
| 70.2 | 1,169.9 | 291.4 | 15 |
| 61.3 | 1,162.7 | 314.9 | 150 |
| 65.0 | 1,167.4 | 266.3 | 150 |
| 59.3 | 1,102.8 | 252.0 | 142 |
| 59.6 | 1,067.6 | 200.4 | 133 |
| 52.6 | 1,025.3 | 193.7 | 134 |
| 58.3 | 1,138.0 | 209.2 | 145 |
| 69.3 | 1,206.8 | 275.1 | 157 |
| 74.5 | 1,454.0 | 335.2 | 196 |
| 87.3 | 1,701.2 | 511.3 | 220 |
| 97.7 | 1,866.4 | 536.8 | 277 |
| 100.7 | 1,986.0 | 487.3 | 325 |
| 107.4 | 2,147.3 | 526.5 | 361 |
| 118.6 | 2,383.6 | 584.3 | 353 |
| 129.1 | 2,596.4 | 636.5 | 353 |
| est. 140.6 | 2,827.5 | 693.1 | 353 |

| | | | | | | |
|--------------|--------------|---------------|--------------|--------------|---------------|---------------|
| Total | 1,971 | 37,567 | 9,435 | 4,453 | 60,219 | 54,476 |
|--------------|--------------|---------------|--------------|--------------|---------------|---------------|

excludes metallurgical

1980-2010 total: 48,973 31,007

| | | | | | | | |
|--------------------|---------|-------|----------------|--------|------------|--------|---------|
| Coal Types: | Lignite | 4.03% | Sub-Bituminous | 76.71% | Anthracite | 19.27% | 100.00% |
|--------------------|---------|-------|----------------|--------|------------|--------|---------|

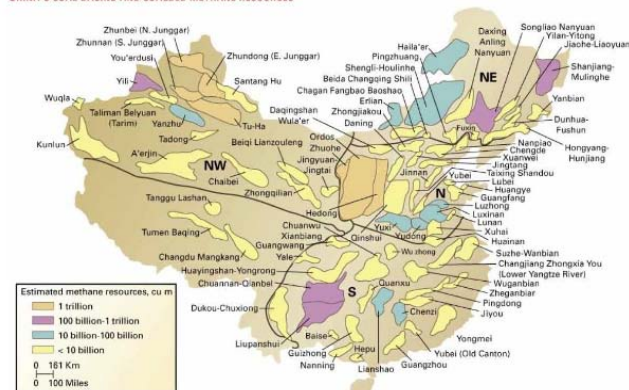
CMS: re-classify to sub-bituminous

China Mining Association: Coal

www.chinamining.org/Facts/2006-09-26/1159249580d1319.html

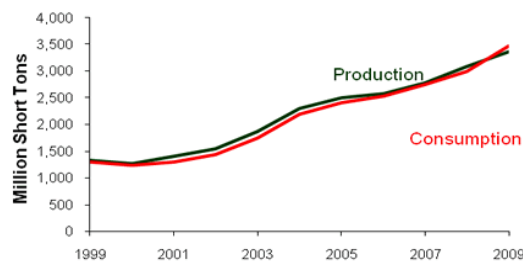
Non-fuel use: According to the statistics of 1995, 444.4 million tons were used for power generation; 183.96 million tons were used for coking, 135.3 million tons for civil use and 108.04 million tons as raw material for chemical industry and its products. Metallurgical and chemical industries have been given the priority to use better coal, so power plants often use coal of poor quality with ash(Ag)>30% and its mixture with coal gangue.

CHINA'S COAL BASINS AND COALBED METHANE RESOURCES



Global Methane Initiative (2010) *Coal Mine Methane Country Profiles*, China, chapter 7, www.globalmethane.org/tools-resources/coal_overview.aspx

China's Coal Production and Consumption, 1999-2009



EIA (2011) *Country Analysis Brief: China*, May11.

China Mining Association (2006) Coal.

After liberation in 1949, coal production was resumed in an all-round way in the years of 1949~1952, and the national output of coal reached 66 million tons in 1952

With these efforts the national output of coal reached 131 million tons in 1957. the output of coal reduced from 397 million tons in 1960 to 215 million tons in 1964 but rose again to 232 million tons in 1965

During the ten-year turmoil, coal production rose and fell repeatedly from 252 million tons in 1966 to

During the ten-year turmoil, coal production rose and fell repeatedly from 252 million tons in 1966 to 220 million tons in 1968 and then reached 483 million tons in 1976 through arduous efforts.

EIA China Country Rpt, May11.

According to the World Energy Council, China held an estimated 114.5 billion short tons of recoverable coal reserves in 2009, the third-largest in the world behind the United States and Russia, and equivalent to about 14 percent of the world's total reserves. Coal production rose to almost 3.4 billion short tons in 2009, making China the largest coal producer in the world. There are 27 provinces in China that produce coal, and slightly greater than half of China's coal is used for power generation. Northern China, especially the Shanxi and Inner Mongolia Provinces, contains most of China's easily accessible coal and virtually all of the large state-owned mines. Coal makes up 71 percent of China's total primary energy consumption, and in 2009, China consumed an estimated 3.5 billion short tons of coal, representing over 46 percent of the world total and a 180 percent increase since 2000. Coal consumption has been on the rise in China over the last nine years, reversing the decline seen from 1996 to 2000. China's coal imports started growing after 2002 because the cost of importing coal became competitive with domestic production. China, typically a net coal exporter, became a net coal importer in 2009, importing from Indonesia, Australia, Vietnam, and Russia. In September 2009, the China Coal Transportation and Distribution Association stated that China signed a \$6 billion loan-for-coal agreement with Russia for 15 to 20 million tons of coal for 25 years.

McCloskey Group (2007) China's Coal Industry 2007.

On the demand side it is not just the electricity sector which is soaring with 90GW added to China's power station fleet in 2006. The iron and steel producers consumed 390mt last year double their demand as recently in 2001. Cement and construction consumed almost as much 325mt. All these sectors expect to see large-scale, sustained growth; the steel producers alone adding a further 70mt by 2009. Chapter Eight: Coal Company Profiles 8.1 China Coal 2006/2005 coal production 8.2 China Coal's mine development and production history 8.3 China Coal specs 8.4 China Coal exports by type and destination 8.5 Datong Coalmine Group 06/05 Coal Production 8.6 Datong Coalmine Group Specs 8.7 Shanxi Companies and production 2005/2006 8.8 Shanxi Coal fields 8.9 Shanxi Coking Coal specs 8.10 Shenhua 06/05 coal production 8.11 Shenhua specs 8.12 Shenhua exports by type and destination 2005/2006 8.13 Yanzhou Coal 2006/2005 Coal Production 8.14 Yanzhou's mine development and production history 8.15 Yanzhou Coal specs

Table 7-3. China's Mines by Category and Percent of Total Production (2004)

| Mine Category | Number of Mines | % of Total Production |
|----------------------------------------|-----------------|-----------------------|
| Local State-owned Key Coal Mine Groups | 1,190 | 12 |
| Other State-owned Key Coal Mine Groups | 869 | 49.7 |
| Mines Belonging to Villages and Towns | 10,067 | 38.2 |

Source: Guoquan (2010)

Guoquan (2010): Information provided via personal communication with Guoquan Zhao from China Coal Information Institute, July, 2010.
Global Methane Initiative (2010) *Coal Mine Methane Country Profiles*, China, chapter 7, www.globalmethane.org/tools-resources/coal_overview.aspx

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N |
|-----|---|-----------------|---|----------------------------------------------------------------------|---------------------|---------------------|---------------------------|-----|---|--------------------------------|-----------------------------|---|---|---|
| 105 | | | | | | | | | | | | | | |
| 106 | | | | | | | | | | | | | | |
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| 114 | | | | | | | | | | | | | | |
| 115 | | | | EIA statistics, "International Energy Statistics" 1980 - 2010 | | | | | | | | | | |
| 116 | | | | China, Peoples' Republic | | | | | | | | | | |
| 117 | | | | Lignite | Bituminous | anthracite | metallurgical coke | | | total primary coal prod | Lig, Bit, Anthr only | | | |
| 118 | | | | thousand short tons | thousand short tons | thousand short tons | thousand short tons | | | thousand short tons | thousand short tons | | | |
| 119 | | 1980 | | 26,797 | 514,625 | 142,165 | 37,530 | | | 683,587 | 683,587 | | | |
| 120 | | 1981 | | 25,783 | 514,934 | 144,524 | 34,963 | | | 685,241 | 685,241 | | | |
| 121 | | 1982 | | 27,525 | 553,702 | 153,276 | 44,302 | | | 734,503 | 734,503 | | | |
| 122 | | 1983 | | 29,652 | 590,585 | 167,397 | 46,518 | | | 787,635 | 787,635 | | | |
| 123 | | 1984 | | 33,191 | 649,702 | 187,084 | 50,235 | | | 869,977 | 869,977 | | | |
| 124 | | 1985 | | 35,516 | 725,078 | 200,929 | 52,934 | | | 961,524 | 961,524 | | | |
| 125 | | 1986 | | 35,296 | 746,562 | 203,652 | 58,152 | | | 985,510 | 985,510 | | | |
| 126 | | 1987 | | 36,597 | 774,286 | 212,019 | 63,880 | | | 1,022,901 | 1,022,901 | | | |
| 127 | | 1988 | | 40,455 | 816,328 | 223,339 | 67,329 | | | 1,080,122 | 1,080,122 | | | |
| 128 | | 1989 | | 47,157 | 874,563 | 240,282 | 73,017 | | | 1,162,002 | 1,162,002 | | | |
| 129 | | 1990 | | 50,166 | 905,582 | 234,627 | 80,781 | | | 1,190,375 | 1,190,375 | | | |
| 130 | | 1991 | | 49,373 | 909,539 | 236,302 | 81,037 | | | 1,195,214 | 1,195,214 | | | |
| 131 | | 1992 | | 52,106 | 932,908 | 243,567 | 88,007 | | | 1,228,581 | 1,228,581 | | | |
| 132 | | 1993 | | 63,167 | 989,315 | 258,084 | 102,710 | | | 1,310,566 | 1,310,566 | | | |
| 133 | | 1994 | | 66,957 | 1,066,032 | 274,101 | 107,814 | | | 1,407,089 | 1,407,089 | | | |
| 134 | | 1995 | | 70,171 | 1,169,920 | 291,374 | 14,797 | And | | 1,531,464 | 1,531,464 | | | |
| 135 | | 1996 | | 61,332 | 1,162,695 | 314,875 | 149,866 | | | 1,538,902 | 1,538,902 | | | |
| 136 | | 1997 | | 65,018 | 1,167,390 | 266,285 | 150,500 | | | 1,498,693 | 1,498,693 | | | |
| 137 | | 1998 | | 59,273 | 1,102,754 | 252,043 | 142,188 | | | 1,414,071 | 1,414,071 | | | |
| 138 | | 1999 | | 59,593 | 1,067,559 | 200,411 | 133,090 | | | 1,327,563 | 1,327,563 | | | |
| 139 | | 2000 | | 52,577 | 1,025,260 | 193,709 | 134,306 | | | 1,271,546 | 1,271,546 | | | |
| 140 | | 2001 | | 58,308 | 1,138,038 | 209,164 | 144,742 | | | 1,405,510 | 1,405,510 | | | |
| 141 | | 2002 | | 69,328 | 1,206,782 | 275,148 | 157,116 | | | 1,551,257 | 1,551,257 | | | |
| 142 | | 2003 | | 74,513 | 1,454,017 | 335,213 | 195,944 | | | 1,863,743 | 1,863,743 | | | |
| 143 | | 2004 | | 87,277 | 1,701,196 | 511,274 | 219,774 | | | 2,299,747 | 2,299,747 | | | |
| 144 | | 2005 | | 97,750 | 1,866,351 | 536,793 | 276,688 | | | 2,500,893 | 2,500,893 | | | |
| 145 | | 2006 | | 100,661 | 1,985,981 | 487,255 | 324,766 | | | 2,573,897 | 2,573,897 | | | |
| 146 | | 2007 | | 107,382 | 2,147,264 | 526,486 | 361,261 | | | 2,781,132 | 2,781,132 | | | |
| 147 | | 2008 | | 118,560 | 2,383,624 | 584,288 | 353,087 | | | 3,086,472 | 3,086,472 | | | |
| 148 | | 2009 | | 129,146 | 2,596,447 | 636,457 | 352,740 | | | 3,362,050 | 3,362,050 | | | |
| 149 | | 2010 | | 140,640 | 2,827,531 | 693,102 | 352,740 | | | 3,661,272 | 3,661,272 | | | |
| 150 | | | | | | | | | | | | | | |
| 151 | | | | | | | | | | | | | | |
| 152 | | subt. 1980-2010 | | 1,971,263 | 37,566,550 | 9,435,225 | 4,452,814 | | | 48,973,039 | | | | |
| 153 | | percent of 2009 | | 3.84% | 77.23% | 18.93% | 100.00% | | | | | | | |
| 154 | | % 1980-2010: | | 4.0% | 76.7% | 81% | | | | | | | | |
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Note: EIA does not specify rank of bituminous or sub-bituminous for China's coal production
 CMS would normally apply bituminous coal emission factor (2.530 tCO2/tonne)
 However, to bring China's coal emissions within range of CDIAC coal emissions (1,629 tC or 5,962 tCO2) in 2010
 (note: CDIAC includes consumption emissions, and China is slight net importer),
 CMS assigns the sub-bituminous emission factor (1.864 tCO2 per tonne) to China's "bituminous coal emissions."
 However, in the table on page 4, production data shows anthracite & bituminous at 96 percent of total for 2008, and lignite & sub-bituminous at 4 percent.
 This runs counter to the re-classification discussed above.
 Coal accounts for 69.91 percent of total national energy consumption in China (EIA, 2007a).

| O | P | Q | R | S | T | U | V | W | X | Y | Z | AA | AB | AC | AD | AE |
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Coal methane emissions
Global Methane Initiative (US EPA)
CMM emissions | CMM drainage | CMM utilized
million cubic meters million cubic meters

| | | | | | |
|------|--------|--|--------|-------|-------|
| 1990 | | | 8,830 | | |
| 1991 | | | | | |
| 1992 | | | 8,320 | | |
| 1993 | | | 8,550 | | |
| 1994 | | | 8,950 | | |
| 1995 | 10,441 | | 8,900 | | |
| 1996 | | | 9,280 | | |
| 1997 | | | | 760 | 362 |
| 1998 | | | | 740 | 362 |
| 1999 | | | | 790 | 318 |
| 2000 | | | 9,630 | 870 | 318 |
| 2001 | | | | 980 | 458 |
| 2002 | | | 9,871 | 1,150 | 456 |
| 2003 | | | 11,674 | 1,521 | 629 |
| 2004 | | | 13,535 | 1,929 | 603 |
| 2005 | | | 9,500 | | |
| 2006 | | | | | |
| 2007 | | | | | |
| 2008 | | | | | |
| 2009 | | | | 6,170 | 1,770 |
| 2010 | | | 10,767 | | |

Table 7-1. China's Coal Reserves and Production

| Indicator | Anthracite & Bituminous (million tonnes) | Sub-bituminous & Lignite (million tonnes) | Total (million tonnes) | Global Rank (# and %) |
|----------------------------------------|------------------------------------------|-------------------------------------------|------------------------|-----------------------|
| Estimated Proved Coal Reserves (2005)* | 62,200.4 | 52,300.3 | 114,500.7 | 3 (13.7%) |
| Annual Coal Production (2008)** | 2,482.5 | 101.1 | 2,583.6 | 1 (39.17%) |

Source: *EIA (2007c); **EIA (2009a) Note: Numbers may not add due to rounding

Global Methane Initiative (2010) *Coal Mine Methane Country Profiles*, China, chapter 7, www.globalmethane.org/tools-resources/coal_overview.aspx

Cell: D11**Comment:** Rick Heede:

Coal production by coal mining companies and state-owned enterprises, including subsidiaries of oil and gas companies.

Coal types produced are not ordinarily reported by coal operators (except for metallurgical coal). We distinguish, where possible and reasonably well known, between hard (bituminous and subbituminous) and soft (lignite or peat) coals, especially for the larger companies operating in regions such as Australia and India where soft coals are predominant. Soft coals have lower carbon content per tonne than do hard coals.

Cell: H18**Comment:** Rick Heede (Feb10):

<http://en.wikipedia.org/wiki/Coal>

"Coal fires in China burn 109 million tons of coal a year, emitting 360 million metric tons of CO₂. There are hundreds of coal fires burning around the world.[41] Those burning underground can be difficult to locate and many cannot be extinguished. Fires can cause the ground above to subside, their combustion gases are dangerous to life, and breaking out to the surface can initiate surface wildfires. Coal seams can be set on fire by spontaneous combustion or contact with a mine fire or surface fire. A grass fire in a coal area can set dozens of coal seams on fire."

CMS note: 360 MtCO₂ / 109 Mt coal is a carbon factor of 3.30, substantially above the carbon factor CMS uses for bituminous coal: 2.53 tCO₂/tonne coal. CMS thus revises the emissions from 109 Mt of coal burned per year to 109 * 2.53 = 276 MtCO₂. A source is not provided in the Wiki entry, is not verified, and is not added to China's emissions from coal production; CMS considers such fires to be non-anthropogenic.

Cell: K36**Comment:** Rick Heede:

EIA (2005) Table 5.3, World Bituminous Production 1980-2003, www.eia.doe.gov/emeu/internationalenergy.html

Cell: M36**Comment:** Rick Heede:

EIA (2005) Table 5.4, World Lignite Production 1980-2003, www.eia.doe.gov/emeu/internationalenergy.html

Cell: P39**Comment:** Rick Heede:

China Mining Association: Coal. In part: "After the July 7 Incident of 1937, Japanese invaders occupied a large number of coal mines in China and made predatory exploitation. During the period from 1931 to 1945, 420 million tons of coal were plundered and coal resources were seriously damaged. In the Anti Japanese War (1937-1945), the Commission of Resources of the then national government made efforts to develop China's mining industry, mainly coal industry, and the annual output of coal reached 6 million tons. When Japanese invaders were defeated, most coal mines occupied by Japanese invaders were taken over by the Kuomintang regime. On the eve of liberation in 1949, the majority of China's coal mines were nearly closed down or stopped production because of war in successive years."
www.chinamining.org/Facts/2006-09-26/1159249580d1319.html

Cell: K40**Comment:** Rick Heede:

China Mining Association (2006) Coal. "After liberation in 1949, coal production was resumed in an all-round way in the years of 1949-1952 and the national output of coal reached 66 million tons in 1952."

Cell: K45**Comment:** Rick Heede:

China Mining Association (2006) Coal. "With these efforts the national output of coal reached 131 million tons in 1957."

Cell: J48**Comment:** Rick Heede:

China's coal production of lignite plus bituminous plus anthracite (not disaggregated) from U.S. Bureau of Mines, Minerals Yearbook, various, 1960-1967.

Cell: J58**Comment:** Rick Heede:

US Energy Information Administration, world coal production 1970-1979.

Cell: F64**Comment:** Rick Heede:

EIA (2011) International Energy Statistics on World Coal Production (lignite, bituminous, anthracite, and metallurgical coal), by country; data for 1980-2009; total Primary Coal Production data extends to 2010. www.eia.gov/emeu/internationalenergy.html or www.eia.gov/countries/data.cfm.

Cell: G103**Comment:** Rick Heede:

Note: EIA does not specify rank of bituminous or sub-bituminous for China's coal production CMS would normally apply bituminous coal emission factor (2.530 tCO₂/tonne) However, to bring China's coal emissions within range of CDIAC coal emissions (1,629 tC or 5,962 tCO₂) in 2010 (note: CDIAC includes consumption emissions, and China is slight net importer), CMS assigns the sub-bituminous emission factor (1.864 tCO₂ per tonne) to China's "bituminous coal emissions.

Cell: H115**Comment:** Rick Heede:

EIA (2011) International Energy Statistics on World Coal Production (lignite, bituminous, anthracite, and metallurgical coal), by country; data for 1980-2009; total Primary Coal Production data extends to 2010. www.eia.gov/emeu/internationalenergy.html or www.eia.gov/countries/data.cfm.

Cell: J130**Comment:** Rick Heede:

EIA "International Energy Statistics" for China: "Table: Total Primary Coal Production (Thousand Short Tons)" for 1990 through 2009. Production data for 2010 only available for Total Primary Coal Production, not by rank.

Cell: B149**Comment:** Rick Heede:

EIA has estimated Total Primary Coal Production for several countries, including China, for 2010. CMS allocates to lignite, bit, anthracite and met. Coal on the basis of 2009 percentages.

Cell: AD172**Comment:** Rick Heede:

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