

Coal extraction data

Richard Heede
Climate Mitigation Services
File started: 11 January 2005
Last modified: July 2019

China, Peoples' Republic

Beijing

yellow column indicates original reported units

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 tonnes/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, July, 47 pp

China: coal consumption and production 1981-2018, in Mt per year.

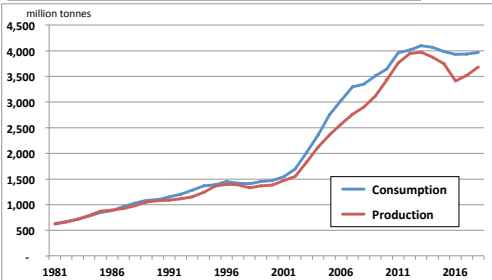


Chart by Climate Accountability Institute / Source data: BP Statistical Review 2018



- 16 1928
- 17 1929
- 18 1930
- 19 1931
- 20 1932
- 21 1933
- 22 1934
- 23 1935
- 24 1936
- 25 1937
- 26 1938
- 27 1939
- 28 1940
- 29 1941
- 30 1942
- 31 1943
- 32 1944
- 33 1945
- 34 1946
- 35 1947
- 36 1948
- 37 1949
- 38 1950
- 39 1951
- 40 1952
- 41 1953
- 42 1954
- 43 1955
- 44 1956
- 45 1957
- 46 1958
- 47 1959
- 48 1960
- 49 1961
- 50 1962
- 51 1963
- 52 1964
- 53 1965
- 54 1966
- 55 1967
- 56 1968
- 57 1969
- 58 1970
- 59 1971
- 60 1972
- 61 1973
- 62 1974
- 63 1975
- 64 1976
- 65 1977
- 66 1978
- 67 1979
- 68 1980
- 69 1981
- 70 1982
- 71 1983
- 72 1984
- 73 1985
- 74 1986
- 75 1987
- 76 1988
- 77 1989
- 78 1990
- 79 1991
- 80 1992
- 81 1993
- 82 1994
- 83 1995
- 84 1996
- 85 1997
- 86 1998
- 87 1999
- 88 2000
- 89 2001
- 90 2002
- 91 2003
- 92 2004
- 93 2005
- 94 2006
- 95 2007
- 96 2008
- 97 2009
- 98 2010
- 99 2011
- 100 2012
- 101 2013
- 102 2014
- 103 2015
- 104 2016
- 105 2017
- 106 2018

1 tonne = sh tons 1.1023113

EIA dataset
EIA dataset
EIA dataset
EIA dataset
EIA dataset
EIA dataset
EIA dataset

China, Total		
million tonnes		
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	131	China Mining Assn
363	329	interpolated
412	373	interpolated
460	417	
275	249	
275	249	
300	272	
320	290	
330	299	
360	327	
250	227	
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
698	633	EIA
684	620	EIA
685	622	EIA
734	666	EIA
788	715	EIA
870	789	EIA
962	872	EIA
986	894	EIA
1,023	928	EIA
1,080	980	EIA
1,162	1,054	EIA
1,190	1,080	EIA
1,195	1,087	EIA
1,229	1,116	EIA
1,269	1,151	EIA
1,355	1,240	EIA
1,424	1,361	EIA
1,505	1,397	EIA
1,461	1,388	EIA
1,436	1,332	EIA
1,416	1,364	EIA
1,526	1,384	EIA
1,622	1,472	EIA
1,709	1,550	EIA
2,023	1,835	EIA
2,340	2,123	EIA
2,607	2,365	EIA
2,833	2,570	EIA
3,042	2,760	EIA
3,200	2,903	EIA
3,434	3,115	EIA
3,779	3,428	EIA
4,150	3,764	EIA
4,349	3,945	EIA
4,381	3,974	EIA
4,270	3,874	EIA
4,130	3,747	EIA
3,708	3,411	EIA
3,798	3,524	EIA
-	3,683	EIA

EIA coal production data (from page 2)

Year	Lignite		Bituminous		Anthracite		Metallurgical	
	EIA coal stats:	EIA coal stats:	EIA coal stats:	EIA coal stats:	EIA coal stats:	EIA coal stats:	EIA coal stats:	
	million tons	million tons	million tons	million tons	million tons	million tons	million tons	
1980	38	451	81	114	81	114		
1981	38	452	81	115	81	115		
1982	40	484	87	123	87	123		
1983	43	519	93	132	93	132		
1984	48	574	103	145	103	145		
1985	53	634	114	161	114	161		
1986	54	650	117	165	117	165		
1987	56	674	121	171	121	171		
1988	60	712	128	181	128	181		
1989	64	766	138	194	138	194		
1990	66	784	141	199	141	199		
1991	66	788	142	200	142	200		
1992	68	810	146	205	146	205		
1993	70	837	150	212	150	212		
1994	75	893	161	227	161	227		
1995	79	939	169	238	169	238		
1996	83	992	178	252	178	252		
1997	81	963	173	244	173	244		
1998	79	947	170	240	170	240		
1999	78	933	168	237	168	237		
2000	84	1,006	181	255	181	255		
2001	89	1,069	192	271	192	271		
2002	94	1,127	202	286	202	286		
2003	111	1,333	240	338	240	338		
2004	129	1,542	277	391	277	391		
2005	144	1,719	309	436	309	436		
2006	156	1,867	336	474	336	474		
2007	168	2,006	360	509	360	509		
2008	176	2,110	379	535	379	535		
2009	189	2,264	407	574	407	574		
2010	208	2,491	448	632	448	632		
2011	229	2,736	492	694	492	694		
2012	240	2,867	515	727	515	727		
2013	241	2,888	519	732	519	732		
2014	235	2,815	506	714	506	714		
2015	228	2,723	489	690	489	690		
2016	204	2,445	439	620	439	620		
2017	209	2,504	450	635	450	635		
2018	-	-	-	-	-	-		

Total	4,374	52,313	9,401	13,266	90,599	86,131
--------------	--------------	---------------	--------------	---------------	---------------	---------------

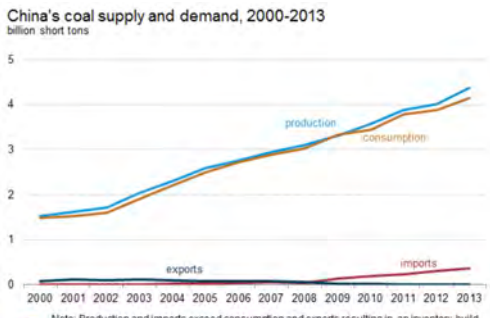
Coal Types:	Lignite	Bituminous	Anthracite	Metallurgical	
Percent 1980-2017	5.51%	65.92%	11.85%	16.72%	100.00%

Note: re-classified from sub-bituminous, Apr19.

A B C D E F G H I J K L M N O

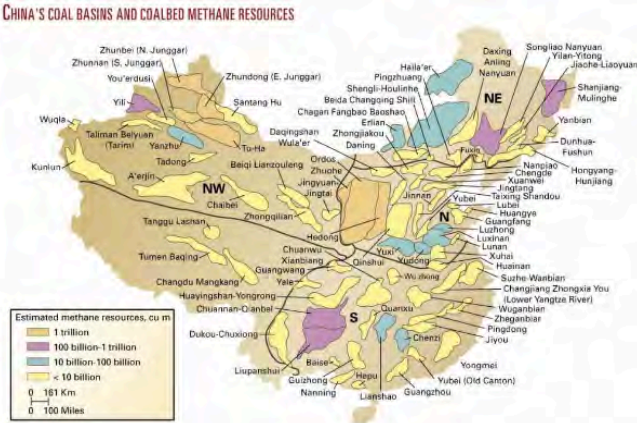
EIA China Country Rpt, May11.

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



Note: Production and imports exceed consumption and exports resulting in an inventory build
Sources: U.S. Energy Information Administration, International Energy Statistics, FACTS Global Energy.

EIA China Country Rpt, 2015
<https://www.eia.gov/international/analysis/country/CHN>



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

1 tonne coal equals 0.4803 1 tonne oil equivalent

BP Statistical Review 2018

	China coal Consumption		China coal Production		implied imports ignoring stock changes
	Mtoe	Mt	Mt	%	
1965		114		238	
1966		122		255	
1967		109		227	
1968		108		225	
1969		130		272	
1970		166		345	
1971		191		398	
1972		202		421	
1973		205		427	
1974		203		422	
1975		229		476	
1976		234		488	
1977		258		536	
1978		283		589	
1979		293		609	
1980		304		634	
1981		303		630	
1982		320		667	
1983		343		714	
1984		373		777	
1985		407		848	
1986		426		886	
1987		462		962	
1988		496		1,033	
1989		520		1,083	
1990		527		1,098	
1991		553		1,152	
1992		579		1,205	
1993		617		1,284	
1994		657		1,368	
1995		665		1,385	
1996		696		1,449	
1997		682		1,420	
1998		677		1,409	
1999		696		1,450	
2000		706		1,470	
2001		743		1,546	
2002		814		1,695	
2003		970		2,020	
2004		1,131		2,355	
2005		1,325		2,758	
2006		1,455		3,029	
2007		1,584		3,298	
2008		1,609		3,351	
2009		1,686		3,510	
2010		1,749		3,642	
2011		1,904		3,964	
2012		1,928		4,014	
2013		1,969		4,100	
2014		1,954		4,070	
2015		1,914		3,985	
2016		1,889		3,933	
2017		1,890		3,936	
2018		1,907		3,970	
1981-2018	37,220	77,497	71,780	8.0%	5,717



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 135 million tons in 1976. 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.

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.

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). Coal comprised nearly 66% of China's total energy consumption in 2012.

Cell: I9

Comment: Rick Heede:

The coal industry in China goes back many centuries.[In recent decades has become the main energy source of what (from 2010) is the world's second largest economy. Thus China is by far the largest producer of coal in the world, producing over 2.8 billion tons of coal in 2007, or approximately 39.8 percent of all coal produced in the world during that year. For comparison, the second largest producer, the United States, produced more than 1.1 billion tons in 2007. An estimated 5 million people work in China's coal-mining industry. As many as 20,000 miners die in accidents each year.[58] Most Chinese mines are deep underground and do not produce the surface disruption typical of strip mines. https://en.wikipedia.org/wiki/History_of_coal_mining#China

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):

"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. 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." <http://en.wikipedia.org/wiki/Coal> >>> 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/international/energy.html

Cell: M36

Comment: Rick Heede:

EIA (2005) Table 5.4, World Lignite Production 1980-2003, www.eia.doe.gov/emeu/international/energy.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: D46

Comment: Rick Heede:

BP Statistical Review 2018 (June 2019) data on consumption (converted from Mtoe to Mt) and production 1981-2018. Consult excel file for data; may not be contained in PDF.

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 (2019) International Energy Statistics on World Coal Production (lignite, bituminous, anthracite, and metallurgical coal), by country; data for 1980-2017. <https://www.eia.gov/beta/international/data/>

Cell: K101

Comment: Rick Heede:

CAI adopts coal production data for 2013 to 2017 from the BP Statistical Review 2018.

Cell: K104

Comment: Rick Heede:

Preliminary, based on BP Stats 2017.

Cell: K105

Comment: Rick Heede:

Preliminary, based on BP Statistical Review, June 2018. Revise with EIA data if warranted.

Cell: G112

Comment: Rick Heede:

CAI updated China's coal production from subbituminous to bituminous, April 2019, based on revised production by coal rank. See notes in China / Coal production worksheet. This revision increased China's coal emissions by 20.4%, from 159.4 GtCO2 through 2017 data to 191.8 GtCO2.

Cell: J116

Comment: Rick Heede:

EIA (2019) International Energy Statistics on World Coal Production (lignite, bituminous, anthracite, and metallurgical coal), by country; data for 1980-2017; <https://www.eia.gov/beta/international/data/browser/>

Cell: H118

Comment: Rick Heede:

EIA (2019) International Energy Statistics on World Coal Production (lignite, bituminous, anthracite, and metallurgical coal), by country; data for 1980-2017. <https://www.eia.gov/beta/international/data/>

Cell: N119

Comment: Rick Heede:

BP Statistical review 2018, excel data. Converted to short tons at left

Cell: B152

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: F180

Comment: Rick Heede:

USGS Minerals Yearbook 2014, China, advance release, chapter 9.18, May 2017. Also has a section on the structure of China's commodity industries, including the production capacity of 18 coal companies, coal reserves (240 Gt), Gas 4,950 Bcm, Oil 3,430 Mt, exports and imports (export 13.9 Mt of cement, import 291.2 Mt coal, 19.8 Mt LNG, 303.38 Mt crude oil and 30 Mt refined products -- all 2014).

Cell: D237

Comment: Rick Heede:

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.

Cell: D241

Comment: Rick Heede:

On the demand side it is not just the electricity sector which is soaring with 90GW added to Chinas 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

Cell: E274

Comment: Rick Heede:

BP Statistical Review 2018 reports China coal production 1981-2018 and China coal consumption 1965-2018 (only in Mtoe, toe = tonnes oil equiv). We calculate average Mt coal per Mtoe at ~0.4803 Mtoe/Mt.

Cell: G341

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