



BP Energy Outlook

Country and regional insights – China

We project that China's energy demand growth slows to 1.5% p.a. through the Outlook, less than one third of its pace in the past 20 years (6.3% p.a.)

Fast facts

1. Despite slowing energy demand growth, China still consumes around one quarter of world energy in 2040.
2. China's energy intensity declines by 1.7% p.a. over the Outlook, compared to historical pace of 2.5% p.a..
3. China's energy mix continues to evolve, with coal's share declining to 36% in 2040, from 62% in 2016.

+1.5%

Growth in China energy consumption

24%

Share of global energy consumption in 2040

+45%

Growth in China energy production

20%

Share of global energy production in 2040

- Energy production rises by 45% while consumption grows by 41% between 2016 and 2040, much faster than the global increases of 34% and 35% respectively.
- China's share in global energy demand rises from 23% in 2016 to 24% in 2040, while its growth contributes 27% to the world's net increase.
- China's energy mix continues to evolve with coal's dominance declining from 62% in 2016 to 36% in 2040 and natural gas nearly doubling to 13%; renewables' share rises from 3% in 2016 to 18% in 2040.
- Among fossil fuels demand expands for oil (+28%) and gas (+194%) while coal demand declines slightly (-18%). Renewables in power (+789%), nuclear (+574%) and hydro (+32%) also grow quickly.
- Coal demand peaked in 2013. However, China remains the world's largest consumer of coal throughout the Outlook, accounting for 41% of global coal demand in 2040.
- Energy production as a share of energy consumption increases from 80% in 2016 to 82% by 2040.
- Nuclear increases by 8% p.a. from 2016 to 2040, and China accounts for 36% of global nuclear generation in 2040.
- By 2040 China is the second largest shale gas producer, after the US, growing to 22 Bcf/d by 2040.
- Oil import dependence rises from 63% in 2016 to 72% in 2040. Gas dependence rises from 34% to 43% in 2040.
- With the economy increasing by 115% from 2016 to 2040, China's energy intensity declines by 34%.
- Carbon emissions from energy use peak in 2026.
- Renewables expand rapidly, rising by 9.5% p.a. to 2040, and accounting for 31% of global renewables by then.



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	Level		Shares		Change (abs.)		Change (%)		Change (annual)*	
	2016	2040	2016	2040	1990-2016	2016-2040	1990-2016	2016-2040	1990-2016	2016-2040
Primary energy consumption (units in Mtoe unless otherwise noted)										
Total	3053	4319			2370	1266	347%	41%	5.9%	1.5%
Oil† (Mb/d)	12	16	19%	17%	10	3	436%	28%	6.7%	1.0%
Gas (Bcf/d)	20	60	6%	13%	19	39	>1000%	194%	>10%	4.6%
Coal	1888	1552	62%	36%	1360	-336	258%	-18%	5.0%	-0.8%
Nuclear	48	325	2%	8%	48	277	>1000%	574%	>10%	8.3%
Hydro	263	348	9%	8%	234	85	817%	32%	8.9%	1.2%
Renewables (including biofuels)	88	784	3%	18%	88	696	>1000%	789%	>10%	9.5%
Transport^	352	578	12%	13%	320	226	>1000%	64%	9.7%	2.1%
Industry^	1974	2367	65%	55%	1541	393	356%	20%	6.0%	0.8%
Non-combusted^	177	315	6%	7%	133	138	303%	78%	5.5%	2.4%
Buildings^	550	1060	18%	25%	376	509	215%	93%	4.5%	2.8%
Power	1311	2445	43%	57%	1127	1134	614%	87%	7.9%	2.6%
Production										
Oil† (Mb/d)	5	4			2	0	62%	-5%	1.9%	-0.2%
Gas (Bcf/d)	13	34			12	21	773%	155%	8.7%	4.0%
Coal	1720	1605			1180	-115	219%	-6.7%	4.6%	-0.3%

*Compound annual growth rate

†Oil supply includes crude oil, shale oil, oil sands, natural gas liquids, liquid fuels derived from coal and gas, and refinery gains, but excludes biofuels. Oil demand includes consumption of all liquid hydrocarbons, but excludes biofuels.

^Includes electricity and the associated conversion losses in power generation.



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