



India's share of total global primary energy demand is set to roughly double to ~11% by 2040, underpinned by strong population growth and economic development

1. India accounts for more than a quarter of net global primary energy demand growth between 2017-2040.
2. 42% of this new energy demand is met through coal, meaning CO₂ emissions roughly double by 2040.
3. Gas production grows but fails to keep pace with demand, implying a significant growth in gas imports.

+156%

Growth in Indian primary energy consumption

11%

India's share of global energy consumption in 2040

58%

Share of coal in India's power generation mix

+116%

Growth in India's net CO₂ emissions by 2040

- ▶ Robust growth in prosperity and population size drives a massive increase in India's primary energy consumption, which expands by 1.2 billion tonnes of oil equivalent or 156% by 2040, making India by far the largest source of energy demand growth in the outlook.
- ▶ India's population increases by more than 267m, and the economy nearly trebles in size, meaning income per capita roughly doubles.
- ▶ This growth in absolute terms means India's share of global primary energy demand jumps from 6% today to 11% by 2040.
- ▶ Power generation increases by 207% to 4,781 TWh by 2040, accounting for 61% of primary energy demand growth.
- ▶ Industry is the strongest source of final energy demand growth (+238 Mtoe) followed by transport (+144 Mtoe) and non-combusted (+64 Mtoe).
- ▶ Coal meets ~42% of India's new energy demand, increasing by 493 Mtoe. The majority (84%) of this additional consumption is met through domestic production.
- ▶ Renewable energy consumption surges from ~20 Mtoe today to ~300 Mtoe by 2040 – concentrated mainly in the power sector and driven largely by growth in solar capacity. Yet despite this growth in renewables, coal continues to dominate India's power generation mix, accounting for 80% of output by 2040.
- ▶ As a result, although the carbon intensity of India's power grid declines by 29% by 2040, it remains 58% above the global average.
- ▶ India's total net CO₂ emissions roughly double to 5Gt by 2040, meaning India's share of global emissions increases from 7% today to 14% by 2040.
- ▶ Although gas production increases modestly to ~75 Bcm, demand surges some 240% to reach 185 Bcm by 2040, meaning India's reliance on gas imports is set to continue to grow significantly.
- ▶ Nuclear capacity continues to grow slowly and accounts for 4% of total power generation by 2040.



BP Energy Outlook – 2019

Insights from the Evolving transition scenario – India



	Level		Shares		Change (abs.)		Change (%)		Change (annual)*	
	2017	2040	2017	2040	1995-2017	2017-2040	1995-2017	2017-2040	1995-2017	2017-2040
Primary energy consumption (units in Mtoe unless otherwise noted)										
Total	754	1928			501	1174	199%	156%	5.1%	4.2%
Oil† (Mb/d)	5	9	29%	23%	3	5	196%	101%	5.1%	3.1%
Gas (Bcm)	54	185	6%	8%	36	131	200%	242%	5.1%	5.5%
Coal	424	917	56%	48%	284	493	202%	116%	5.2%	3.4%
Nuclear	8	43	1%	2%	7	35	391%	412%	7.5%	7.4%
Hydro	31	56	4%	3%	14	25	79%	81%	2.7%	2.6%
Renewables (including biofuels)	22	306	3%	16%	22	283	>1000%	>1000%	>10%	>10%
Transport^	104	253	14%	13%	76	149	279%	144%	6.2%	4.0%
Industry^	382	990	51%	51%	257	608	207%	159%	5.2%	4.2%
Non-combusted^	50	114	7%	6%	31	64	165%	130%	4.5%	3.7%
Buildings^	218	571	29%	30%	136	353	167%	162%	4.6%	4.3%
Power	373	1087	49%	56%	252	714	208%	191%	5.2%	4.8%
Production										
Oil† (Mb/d)	1	1			0	0	32%	-19%	1.3%	-0.9%
Gas (Bcm)	29	74			10	45	58%	159%	2.1%	4.2%
Coal	294	708			161	414	121%	141%	3.7%	3.9%

* 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.



Brought to you by the team that produces the BP Statistical Review of World Energy and the BP Energy Outlook.