

BP Energy Outlook

Country and regional insights – India

We project that India's energy consumption grows the fastest among all major economies by 2040 with coal contributing most to meeting this demand followed by renewables

Fast facts

1. India's energy consumption would grow by 4.2% p.a., faster than all major economies in the world.
2. India overtakes China as the largest growth market for energy by the late 2020s.
3. Renewables become the second largest source of domestic energy production overtaking gas and then oil by 2020.

+165%

Growth in India's energy consumption

11%

Share of global energy consumption in 2040

+184%

Growth in India's energy production

22%

Share of renewables in total production in 2040

- India's demand growth of 165%, nearly three times the overall non-OECD growth of 61%, also outpaces each of the BRIC countries: China (+41%), Brazil (+60%), and Russia (+6%).
- India's share of global demand rises to 11% in 2040 from 5% in 2016, accounting for the second largest share of the BRIC countries.
- Demand for coal sees the biggest growth, expanding by 132% followed by renewables (+1409%), nuclear (+412%), hydro (+80%), gas (+185%) and oil (+129%).
- India's energy mix evolves very slowly with fossil fuels meeting 82% of demand in 2040, down from 93% in 2016.
- The share of coal in the energy mix falls from 57% in 2016 to 50% by 2040, while the share of renewables rises from 2% to 13%.
- Power consumption more than trebles (+241%) and while coal remains the dominant fuel source, its share of generation drops from 77% in 2016 to 64% in 2040 as renewables rise from 5% to 23%.
- Energy in transport grows by 4.4% per year and oil remains the dominant fuel source with a 96% market share in 2040.
- Industry's (combusted and non-combusted) share of energy consumed remains around 60% during the forecast.
- Energy production as a share of consumption increases from 56% in 2016 to 60% by 2040 while imports rise by 141%.
- A decline in oil (-24%) production is offset by increases in coal (+154%), gas (+99%), and non-fossil fuels by 544%.
- Coal remains the dominant fuel produced in India with a 63% share of total production in 2040. Renewables overtake gas and then oil by 2020 as the second largest source of energy production.
- Oil imports will rise by 175% and account for 65% of the increase in energy imports, followed by gas (+291%) and coal (+79%).
- By 2040, India's energy intensity of GDP is 37% lower than in 2016 while carbon intensity of energy use is down by 13%.



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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	724	1921			529	1197	271%	165%	5.2%	4.2%
Oil† (Mb/d)	4	10	29%	25%	3	6	269%	129%	5.2%	3.5%
Gas (Bcf/d)	5	14	6%	7%	4	9	315%	185%	5.6%	4.5%
Coal	412	955	57%	50%	302	543	275%	132%	5.2%	3.6%
Nuclear	9	44	1%	2%	7	35	493%	412%	7.1%	7.0%
Hydro	29	52	4%	3%	14	23	94%	80%	2.6%	2.5%
Renewables (including biofuels)	17	256	2%	13%	17	239	>1000%	>1000%	>10%	>10%
Transport^	94	265	13%	14%	71	172	307%	183%	5.5%	4.4%
Industry^	385	1018	53%	53%	282	633	275%	165%	5.2%	4.1%
Non-combusted^	47	122	7%	6%	34	74	258%	156%	5.0%	4.0%
Buildings^	198	517	27%	27%	142	319	253%	161%	5.0%	4.1%
Power	353	1045	49%	54%	271	692	329%	196%	5.8%	4.6%
Production										
Oil† (Mb/d)	1	1			0	0	41%	-24%	1.3%	-1.1%
Gas (Bcf/d)	3	5			2	3	129%	99%	3.2%	2.9%
Coal	289	734			182	445	171%	154%	3.9%	4.0%

*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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