



BP Energy Outlook

Country and regional insights – United States

We project that the US becomes energy self-sufficient in the early 2020s and maintains its position as the world's largest producer of liquid fuels and natural gas

Fast facts

1. The share of renewables in the US fuel mix grows from 5% today to 17% by 2040.
2. Natural gas demand surpasses oil in the mid-2020s; renewables surpass coal in the late 2020s.
3. US energy production as a share of consumption is projected to rise from 87% in 2016 to 119% by 2040.

+1%

Growth in US energy consumption

13%

Share of global energy consumption in 2040

+39%

Growth in US energy production

15%

Share of global energy production in 2040

- Energy consumption is essentially flat (+1% to 2040). Energy use in power generation grows by 10%. Among final sectors, growth in buildings (+5%) and non-combusted uses (+35%) is offset by declines in transport (-10%).
- Energy consumed in power generation increases by 0.4% p.a. from 2016-40, half the growth rate of 1990-2016.
- Improvements in vehicle efficiency cause energy use in transport to fall by 0.4% p.a., after growing by 1.0% p.a. over 1990-2016.
- By fuel, growth in renewables including biofuels (+220%) and natural gas (+30%) is offset by declines in coal (-69%), oil (-18%) and nuclear power (-28%).
- Natural gas becomes the leading fuel, accounting for 40% of US energy consumption, up from 32% today. Renewables (17% in 2040) also gain market share while coal and oil lose significant share (accounting for 5% and 30% of energy use, respectively, in 2040).
- Renewables (including biofuels) see the largest growth increment of any fuel growing by 5% p.a..
- Renewables surpass coal as the second-largest source of power generation (by fuel input) around 2030.
- Domestic energy production increases by 39%; growth in natural gas (+65%), oil (+55%) and renewables (+220%) more than offset declines in coal (-48%) and nuclear power (-28%).
- The US remains the largest producer of liquid fuels and natural gas. Oil production increases by 7 Mb/d over the Outlook to reach 21 Mb/d by 2040.
- Natural gas production increases by 46 Bcf/d to 118 Bcf/d.
- Energy intensity (the amount of energy required per unit of GDP) declines by 35% 2016-40, similar to the decline seen over 1990-2016 (-38%) and to the global decline to 2040 (-37%).
- Flat energy consumption combined with a shift in the fuel mix (more renewables and gas; less coal and oil) drives a decline in CO₂ emissions from energy use of 21% by 2040.



BP Energy Outlook

Country and regional insights – US

	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	2273	2299			307	26	16%	1%	0.6%	0.0%
Oil† (Mb/d)	19	15	36%	30%	2	-3	9%	-18%	0.3%	-0.8%
Gas (Bcf/d)	75	97	32%	40%	23	22	43%	30%	1.4%	1.1%
Coal	358	112	16%	5%	-125	-246	-26%	-69%	-1.1%	-4.7%
Nuclear	192	137	8%	6%	54	-55	40%	-28%	1.3%	-1.4%
Hydro	59	59	3%	3%	-7	0	-10%	0%	-0.4%	0.0%
Renewables (including biofuels)	120	383	5%	17%	104	263	684%	220%	8.2%	5.0%
Transport^	633	569	28%	25%	146	-64	30%	-10%	1.0%	-0.4%
Industry^	634	645	28%	28%	-59	11	-9%	2%	-0.3%	0.1%
Non-combusted^	106	143	5%	6%	6	37	6%	35%	0.2%	1.3%
Buildings^	899	942	40%	41%	213	43	31%	5%	1.0%	0.2%
Power	946	1041	42%	45%	186	95	25%	10%	0.8%	0.4%
Production										
Oil† (Mb/d)	13	21			4	7	40%	55%	1.3%	1.8%
Gas (Bcf/d)	72	118			23	46	48%	64%	1.5%	2.1%
Coal	365	189			-201	-176	-36%	-48%	-1.7%	-2.7%

*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.

BP Energy Economics