



bp Energy Outlook – 2022

Insights from the Accelerated, Net Zero and New Momentum scenarios – Africa

Under all three scenarios Africa's demand for electricity increases significantly, more than tripling in **Net Zero** and **Accelerated**; renewables become the dominant energy source in total primary energy by 2050

1. The share of electricity in Africa's total final consumption of energy increases from 10% today to 20% in **New Momentum**, almost 40% in **Accelerated** and more than 50% in **Net Zero**
2. The share of wind and solar in electricity generation grows from 3% today to more than 70% in **Accelerated** and **Net Zero**
3. Natural gas production increases only in **New Momentum** to reach 10% of total global production from 6% today

39% to 95%

growth in primary energy in 2019-2050 under all scenarios

1% to 12%

share of coal in primary energy in 2050

43% to 69%

share of renewables in primary energy in 2050

48% to -73%

net change in CO₂ emissions by 2050

- ▶ Africa's economy grows at a rate of 3.0% a year in 2019-2050, down from 4.3% a year over the past 20 years.
- ▶ Primary energy consumption increases in all three scenarios, primarily reflecting increase in prosperity as measured by GDP per head and population.
- ▶ The share of renewables in electricity generation increases sharply in all three scenarios, driven by wind and solar.
- ▶ Wind and solar used in electricity generation increase from almost zero today to 3 EJ, 10 EJ and 11 EJ in 2050 in **New Momentum**, **Accelerated** and **Net Zero**, respectively.
- ▶ Oil's share in Africa's fuel mix declines under all scenarios, falling from 25% today to 15% in **Accelerated**, 9% in **Net Zero** and 20% in 2050 in **New Momentum**.
- ▶ The share of natural gas consumption in total primary energy decreases in **Accelerated** and **Net Zero** to 13% and 7% respectively and increases to 20% in **New Momentum** by 2050 from 16% today.
- ▶ Coal's share in the primary energy mix drops in **Accelerated** and **Net Zero**, to 2% and 1% respectively by 2050 from 13% today. Coal production decreases from 7 EJ today to 3 EJ in 2050 in **New Momentum** and to almost zero in the other scenarios.
- ▶ Production of oil declines in all scenarios in Africa. Oil production decreases sharply from 9 Mb/d today to 2 Mb/d in **Accelerated** and 4 Mb/d in **New Momentum**.
- ▶ Net CO₂ emissions increase by 48% in **New Momentum**, due to the relatively high share of fossil fuels in the energy mix in this scenario. However, in **Net Zero**, net emissions decrease by 73% and by 33% in **Accelerated**.





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	Level in 2050				2019	Shares in 2050 (%)			Change 2019-2050 (% p.a.)		
	2019	Accelerated	Net Zero	New Momentum		Accelerated	Net Zero	New Momentum	Accelerated	Net Zero	New Momentum
Primary energy consumption (EJ)											
Total	34	55	48	67	100	100	100	100	1.5	1.1	2.2
Oil†	8.5	8.3	4.1	14	25	15	8.6	20	-0.1	-2.3	1.6
Natural gas	5.6	7.0	3.3	14	16	13	7.0	20	0.7	-1.7	2.9
Coal	4.3	1.0	0.6	8.0	13	1.8	1.2	12	-4.7	-6.3	2.0
Nuclear	0.1	1.0	1.3	0.3	0.4	1.8	2.7	0.4	7.1	8.0	2.8
Hydro	1.2	4.6	5.5	2.7	3.5	8.5	12	4.1	4.4	5.0	2.7
Renewables (incl. biofuels)	15	33	33	29	43	60	69	43	2.6	2.6	2.2
Primary energy consumption (native units)											
Oil† (Mb/d)	4.2	4.2	2.1	6.8							
Natural gas (Bcm)	155	194	93	380							
Total final consumption by sector (EJ)											
Total	29	37	27	55	100	100	100	100	0.7	5.3	7.7
Transport	5.5	6.6	5.2	8.2	19	18	19	15	0.6	-0.2	1.3
Feedstocks	0.6	1.0	0.8	1.1	2.0	2.7	3.1	2.1	1.7	1.2	2.2
Buildings	14	13	8.2	27	49	37	30	49	-0.2	-1.8	2.1
Industry	8.9	15	13	19	30	42	48	34	1.8	1.2	2.4
Generation (native units)											
Power (TWh)	840	4,106	4,507	3,063					5.3	5.6	4.3
Hydrogen (Mt)	2.4	8.2	14	4.4					4.1	5.9	2.0
Production											
Oil† (Mb/d)	8.7	2.3	1.3	3.9					-4.2	-5.9	-2.5
Natural gas (Bcm)	244	216	121	494					-0.4	-2.2	2.3
Coal (EJ)	6.8	0.6	0.2	3.3					-7.8	-10	-2.3
Emissions											
Carbon emission†† (Gt of CO ₂ e)	2.0	1.3	0.5	3.0					-1.5	-4.2	1.3
CCUS (Mt of CO ₂)	0	124	231	1.8					52	56	33

EJ = exajoules

† 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. †† Carbon emissions include CO₂ emissions from energy use, industrial processes, natural gas flaring, and methane emissions from energy production.