

'Our Power, Our Planet'

But Is the World Truly Ready to Triple the Renewable Revolution?

The theme for Earth Day 2025, "Our Power, Our Planet," encourages people worldwide to come together in support of renewable energy and aims to triple global clean electricity generation by 2030. This ambitious goal calls for a worldwide commitment to significantly increase clean electricity output within the next five years. However, given the current energy landscape, can this target be realistically met, or are we setting ourselves up for unmet expectations?

Faraz Rupani explores these vital questions in this article.





The theme for Earth Day 2025 calls for a global commitment to tripling clean electricity generation by 2030. Given the current energy landscape, this is an ambitious and much-needed goal, but can it be achieved in just five years? Or are we setting ourselves up for an unfulfilled promise?

Rising Temperatures, Rising Energy Demand

For the first time in recorded history, 2024 saw global temperatures rise 1.6°C above pre-industrial levels. 2024 is confirmed by the Copernicus Climate Change Service (C3S) to be the warmest year on record globally, and the first calendar year that the average global temperature exceeded 1.5°C above its pre-industrial level. Rising temperatures drive higher electricity demand for cooling, industrial operations, and daily life. But where does this energy come from?

The numbers tell a complex story. In 2023, global primary energy consumption reached 620 Exajoules (EJ), a 2 per cent increase from the previous year. Renewables accounted for just 14.6 per cent, with solar energy, led by China, driving most of the growth. Global renewable capacity surged by 50 per cent to nearly 510 gigawatts (GW). However, fossil fuel consumption also hit a record high, reaching 505 EJ, up 1.5 per cent. Moreover, global energy-related emissions exceeded 40 GtCO₂e, equivalent to burning 120 billion barrels of oil in a single year. While renewables are expanding, fossil fuel use is not declining quickly enough to meet climate targets. So, is the world witnessing a renewable boom, or will fossil fuels remain dominant in the long run?

The figures look promising with the increasing shift towards renewable energy, G20 countries taking the lead accounting for 90 per cent of global renewable power capacity. The US

achieved 41.9 per cent of its electricity generation through renewable energy, China powering itself with 35 per cent clean energy while in the European Union it's just 24.5 per cent with Austria taking the lead.

Despite growing energy consumption, 1 in 10 people worldwide still lack access to electricity, and 2.6 billion people rely on polluting biomass fuels for cooking. Africa and South Asia account for less than 10 per cent of global energy demand, not due to lower need, but because access remains limited. Studies predict a 1.5-fold increase in electricity demand. So, what will happen with this increase in demand? Can renewables meet the surge in demand, or will fossil fuels fill the gap?

To better understand this, let's examine two countries at different stages of their energy transitions: India, which is making notable progress, and South Africa, which continues to struggle. While the challenges and advancements

in renewable energy can vary across different regions, these two cases showcase key dynamics in transitioning energy systems within South Asia and Africa.

India: A Trailblazer in Renewable Energy Expansion

India offers a glimpse into this challenge, under the “Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY)”, the government electrified 18,374 villages, 2763 of which were powered by renewable energy, while the rest relied on grid-based power. By October 2024, India’s total power capacity had reached 452.69 GW, with renewables making up 46.3 per cent (203.18 GW). The government now aims to achieve 500 GW of renewables by 2030 and has also made a significant step forward in rooftop solar energy, reaching 1 million households. However, a significant obstacle looms: India’s complete reliance on imported energy transition minerals. The shift to renewable energy depends on lithium, cobalt, and nickel, essential for solar panels, wind turbines, and EV batteries. India imports 100 per cent of its supply, and global demand for these minerals is expected to double by 2030 requiring



India to continue its innovation to ensure its growth in the renewable energy sector.

South Africa: A Struggle between Coal and Clean Energy

South Africa is the world’s 16th largest emitter of greenhouse gases, with 0.6 kg of CO₂ per dollar of GDP. The country relies on coal for more than 80 per cent (42 GW) of its electricity supply, while only 17 per cent comes from clean energy—12 per cent from solar and wind and is significantly below the global average of 39 per cent. South

Africa was the first country to sign the Just Energy Transition Agreement at the United Nations in 2021, the country has planned to decommission 39 GW of coal-fired power plants over the next three decades, with 22 GW scheduled to close by 2035. Initially, South Africa received \$13.8 billion in pledges from international partners, but with the recent withdrawal of US funding, the country risks losing over \$1 billion in future investments. South Africa needs \$38 billion over the next five years to meet its climate goals and to decommission coal-fired power plants. However, its pace of developing new generation capacity is currently lagging

