

Fossil fuels to fall away as ‘age of electricity’ declared

Nick O'Malley | November 12, 2025 — 5.32pm

Oil and coal demand will peak by the end of the decade and then decline as the International Energy Agency has declared the “Age of Electricity” is here, with a global surge in renewables and a pending return of nuclear energy.

The IEA’s main energy-use scenario, outlined in this year’s World Energy Outlook, forecasts coal demand peaking and falling before 2030, with oil and gas to flat line and then slowly decline, despite the Trump administration’s efforts to boost the industries.

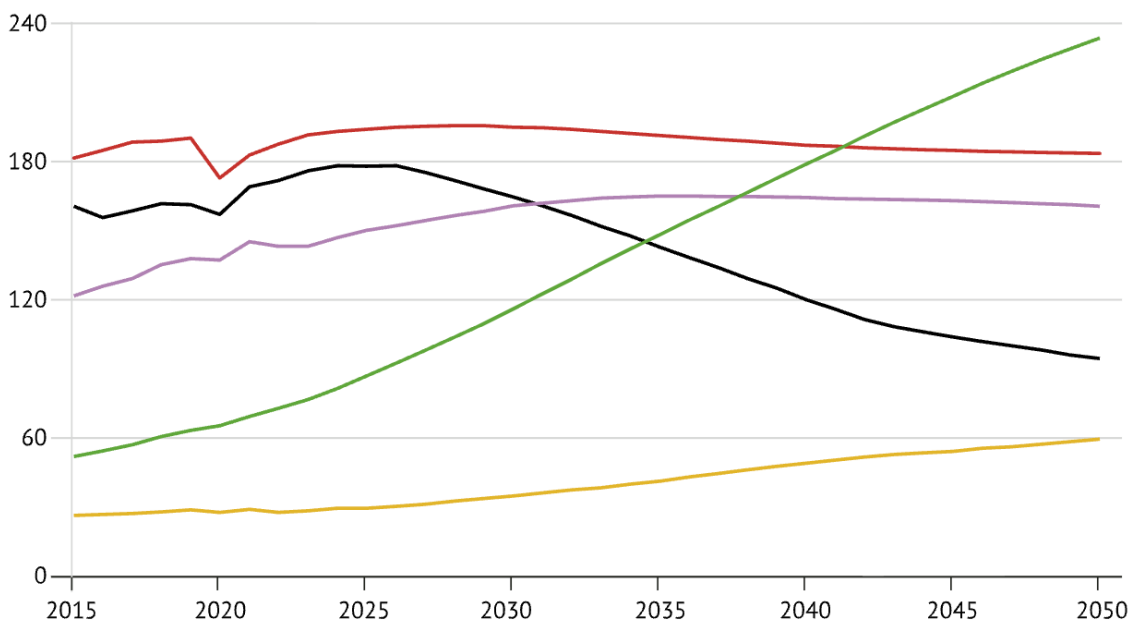
Global turning point for fossil fuels approaching

Total energy demand by fuel type, 2015-2050, under current policies

Fuel type

Renewables Oil Natural gas Coal Nuclear

Total energy demand in exajoules (EJ)



Source: International Energy Agency

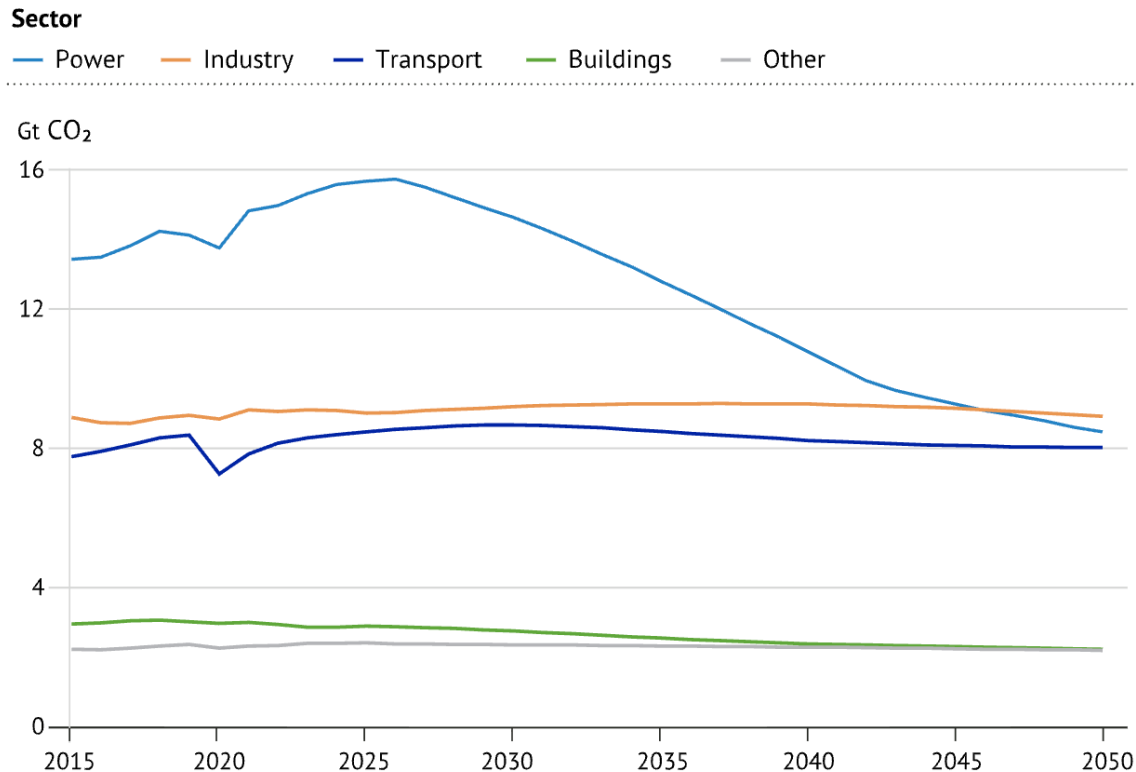
The blockbuster annual report comes as a second analysis shows that over the past 18 months Chinese greenhouse gas emissions have plateaued.

The annual WEO report, relied upon by world governments in their planning, explores energy demand and supply over coming decades under three scenarios and lays out their implications on the climate.

The central scenario, known as STEPS, presumes governments meet their stated policies. A more ambitious scenario, known as NZE, assumes governments meet net zero goals. After complaints from the Trump administration, the IEA has resurrected a more conservative outlook, which it abandoned over recent editions of the report, that presumes governments continue with current policies.

Global greenhouse gas emissions by sector

Gigatonnes of carbon dioxide (Gt CO₂) produced, 2015-2050, under current policies



Source: International Energy Agency

The new report's central scenario revised down the growth in EVs in the US, where the Trump administration is ending subsidies and tax breaks for renewables, but still predicts the share of EVs in new car sales will rise above 50 per cent worldwide by 2035, with oil demand levelling off in about 2030 at 102 million barrels a day before starting a slow decline.

This would happen far faster in a scenario where governments met net zero goals.

In the report's main scenario, electricity accounts for 21 per cent of global energy consumption but makes a far higher economic contribution because it powers high value-added sectors such as advanced manufacturing, AI and digital services, the report says.

"Electricity is already the key source of energy for sectors accounting for over 40 per cent of the global economy. By 2035, this rises to around 50 per cent in the STEPS."

Energy analyst Tim Buckley said the report supplied further evidence that China was leading the world in the transition to renewables, driven by its geopolitical urge towards energy independence.

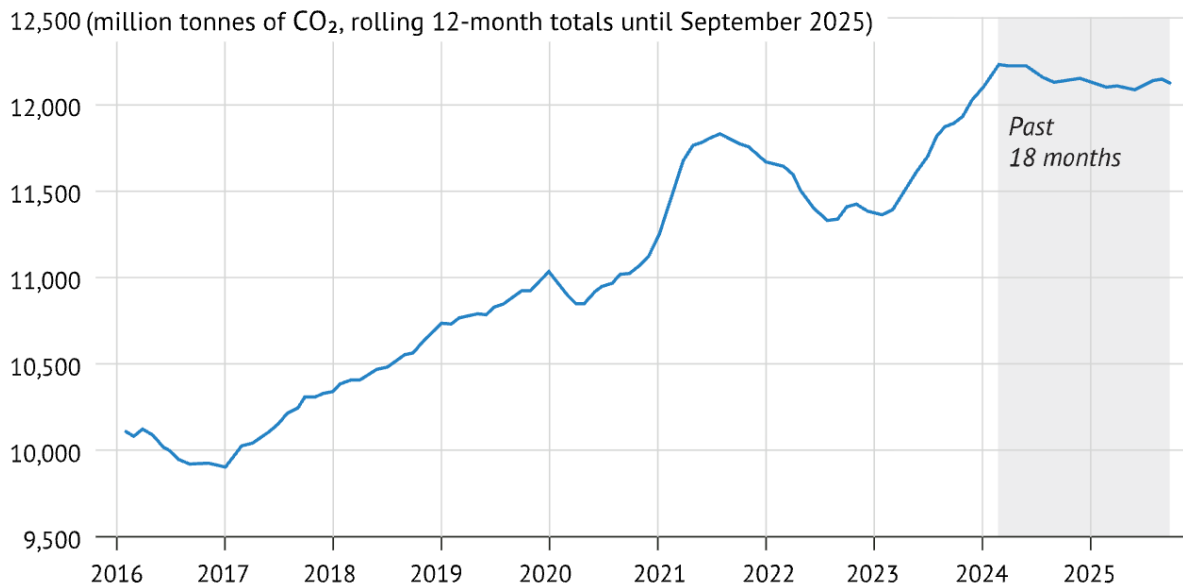
"In the month of June, China imported exactly zero dollars' worth of fossil fuels from the US," Buckley said. This follows imports worth \$US1.5 billion (\$2.3 billion) in September.

The IEA report shows that due to the failure of governments to act as advised by climate scientists, it is inevitable that the world will overshoot the Paris Agreement goal of limiting temperature increase to 1.5 degrees. If net zero targets are met, temperatures could still be brought back under that level by the end of the century after a period of "overshoot".

The IEA found that the surge in AI use would cause a tripling of the amount of electricity consumed by data centres by 2035, but this would still represent less than 10 per cent of total global electricity demand growth.

China emissions flatline

China's CO₂ emissions from fossil fuels and cement flat or falling for past 18 months



Source: Carbon Brief analysis (Lauri Myllyvirta)

It noted this growth would be highly concentrated geographically in advanced economies and China, putting additional strain on congested grids.

The report charted a resurgence in interest in nuclear power, with more than 40 countries taking steps to develop new projects. "In addition to reactors that are restarting operation, notably in Japan, there are more than 70GW of new capacity under construction, one of the highest levels in 30 years," the report says.

"Technology companies are supporting the emergence of new business models, with agreements and expressions of interest for 30GW of SMRs [small modular reactors], mainly to power data centres. With these developments, after more than two decades of stagnation, global nuclear power capacity is set to increase by at least one-third to 2035."

Meanwhile, emissions from China, the world's biggest greenhouse gas polluter, have now been flat or falling for 18 months, according to [analysis by Lauri Myllyvirta](#), lead analyst at the Centre for Research on Energy and Clean Air. The early peak is due to the massive and rapid deployment of solar and wind power, which grew by 46 per cent and 11 per cent, respectively, in the third quarter of this year, as well as a surge in electric vehicles sales.

The drop in emissions is particularly significant because China's energy demand continues to grow, meaning that renewables have not only been meeting all new demand, but have also begun to displace fossil fuels.

Chinese President Xi Jinping announced a new 2035 emissions target in September to reduce carbon pollution by 7 to 10 per cent from an undefined peak, though China has a history of outperforming its targets.

Earlier this month, the United Nations Environment Programme published its annual Emissions Gap Report, warning that the world was likely to breach 1.5 degrees and that without immediate, aggressive action Earth would be on track for a global average temperature rise of 2.3 to 2.8 degrees above pre-industrial levels over this century.

It calculated the Trump administration's withdrawal from the Paris Agreement, which goes into effect in January 2026, would add another 0.1 degrees to this range.

Launching the United Nations COP climate talks, which are taking place in Brazil, UN Secretary General Antonio Guterres said last week that world economics had shifted in favour of renewables.

"In 2024, investors poured \$US2 trillion into clean energy – \$US800 billion more than fossil fuels," he said.

"Clean energy is winning on price, performance and potential – offering the solutions to transform our economies and protect our populations."

<https://www.smh.com.au/environment/climate-change/fossil-fuels-to-fall-away-as-age-of-electricity-declared-20251112-p5nets.html>