

THE WEEK IN ENERGY: PREDICTING THE POWER SHIFT*

Today, the consensus among leading forecasters is that we can expect continued rapid growth in renewables. Wind and solar power provided 6 per cent of the world's electricity in 2017, according to the International Energy Agency. By 2040, they are projected to provide 21 per cent in the IEA's New Policies Scenario, which reflects governments' announced policies and targets. In the Sustainable Development Scenario, showing a system on track to provide universal energy access while limiting the threat from climate change, they provide 38 per cent. But, given that the one thing we can be sure of is that the future will not turn out exactly as it is projected, are those numbers more likely to be underestimates or overestimates? Are we in 2007 again, or in 1979?

Two reports this week set out contrasting perspectives on that question. On Monday the research group Energy Innovation published an analysis suggesting that the US was reaching the point of "coal cost crossover", meaning that electricity is cheaper from new wind and solar capacity than from existing coal-fired plants. Hal Harvey of Energy Innovation argued: "Utilities and their regulators must adapt to changing energy economics before they're stuck with stranded assets." As a BNEF report also pointed out during the week, the costs of renewable energy and storage are continuing to fall, and Mr Harvey wrote that by 2025, 86 per cent of US coal-fired plants could be replaced by wind and solar power at a lower cost.

The IEA's latest World Energy Outlook included a new measure of competitiveness called value-adjusted LCOE (or VALCOE), which takes into account other factors including the flexibility of the power supplied. Brent Wanner of the IEA argued in a recent note that in India, for example, solar power risked becoming less competitive in the 2030s, after its share of electricity generation rose above 10 per cent. He concluded that the future of solar power "will continue to depend largely on decisions made by governments", and warned that without the right support, "the annual market for solar PV may stagnate or decline, an unfortunate fate that has happened to many other promising technologies".

A report on global construction of coal-fired plants from Global Energy Monitor and other environmental groups this week found a mixed picture. Worldwide, most leading indicators of coal power capacity growth declined in 2018 for a third successive year, as the number of permits for new coal plants in China and India dropped to record lows. However, satellite pictures of China have shown "ongoing construction at a number of project sites previously reported as suspended under central government restrictions". China's use of coal has already been growing; its carbon dioxide emissions grew by about 3 per cent last year, their fastest pace since at least 2013, according to Uearthed. A new paper for Nature Communications concluded that the development

of wind, solar and nuclear power meant that China's emissions were likely to peak "well in advance of 2030". However, as Ben Geman observed for Axios, "none of this can be taken for granted".