

THE WEEK IN ENERGY: VENEZUELA AND OIL*

A critical part of the explanation for Venezuela's decline lies in the damage done to PDVSA, its national oil company. When the Arab countries nationalised their oil industries in the 1960s and 1970s, they managed to retain many of their skills and capabilities. After Hugo Chávez, predecessor and mentor of Mr Maduro, was elected president in 1998, there was an exodus of experienced oil workers, as PDVSA was "packed with political and military appointments and descended into mismanagement and incompetence", as the FT's Jonathan Wheatley put it. Venezuela's crude production fell to 1.1m barrels a day in December, just a third of its level in the mid-2000s. It is worth noting that although the decline in oil prices since 2014 has not helped Venezuela, the depth of its economic slump has not been shared by other petro-states. Over the past 10 years Saudi Arabia and Angola, to take two examples of economies that are heavily dependent on oil revenues, have outperformed Venezuela enormously in terms of economic growth.

The Energy Information Administration this week published its 2019 Annual Energy Outlook, projecting possible future scenarios for the US out to 2050. S&P Global Platts focused on the outlook for oil, highlighting the EIA's projection, based on unchanged policies, that "record-breaking US oil production is expected to continue for decades, driven largely by the Permian Basin". The EIA also forecast that wind and solar power would be the fastest growing sources of new electricity generation in the US, for at least the next two years. The longer-term projections imply a slowdown in the pace of growth in the 2020s, but the EIA also has a record of underestimating the growth of renewables, and many analysts think wind and solar in the US will also end up outpacing the EIA forecasts.

The energy density advantage of oil-based fuels over batteries means that aviation will be one of the toughest sectors to move away from hydrocarbons. If world oil consumption does go into a declining trend at some point, jet fuel is one of the products that is likely to remain in use the longest. Rocky Mountain Institute warned in a report this week that the global aviation industry needed "a radical new plan to achieve its climate goals", because its emissions are growing faster than earlier forecasts suggested, "and long-term solutions are nowhere in sight". There is a research and development effort going into electric aircraft, however, and Boeing this week said it had recently held a first test flight for its "all-electric autonomous passenger air vehicle".

A record-breaking heatwave has been scorching Australia, straining the country's power supplies. In the state of Victoria, customers have been hit by rolling blackouts, as the heatwave caused "unanticipated levels of demand" for electricity. As the Australian Energy Market Operator worked to keep the lights on, it ordered Alcoa's aluminium smelter in Victoria to cut its power usage for about 100 minutes under the system's emergency process. Lily D'Ambrosio, Victoria's energy minister, identified shutdowns and reduced output at several of the state's coal and gas-fired power plants as critical

factors in causing the blackouts. The AEMO warned that Australia's ageing coal plants could be expected to break down more often in the future. Meanwhile, renewable energy is booming in Australia. Renewable generation on the grid in Australia's national electricity market grew from 13.4 per cent in December 2017 to 17.6 per cent in December last year.