## President Biden turns the USA green

Amidst the welter of new Executive Orders and statements of intent coming from the White House, there are several aiming to make the USA a global leader in the battle against fossil fuels. President Biden is a carbon warrior. He is cancelling a new oil pipeline, suspending new licences to drill in the Artic, committing the USA to net zero carbon in power generation as early as 2035, and to complete net zero carbon dioxide output by 2050. He plans to double offshore wind power, promote electric vehicles, and persuade and regulate the oil and gas industry into a major transformation away from their principal business activities. It is a major shift from President Trump's policy of making the USA energy self sufficient, fostering a large expansion of the domestic oil and gas industries and aiming at re industrialisation based on a plentiful supply of relatively cheap local fuel.

.

The statements so far are short on the detail of how such a huge transformation will be carried through and paid for. If the country is successful in talking people out of their diesel and petrol cars into electric ones they will need a large expansion of domestic electricity output at the same time as they are closing down all the fossil fuel power stations. There will be a need for substantial investment in new power cables, switching, transforming and relaying to each house. Each home will need improved capacity cables and supply to allow for the heavy demands of recharging electric vehicles. The grid will need access to considerable extra reserves of generating capacity to handle much higher peak demand levels. As much of the additional electricity capacity will be wind and solar there will also need to be substantial back up generators to avoid black outs when the natural power sources fail or go slow. Industrial USA will face Chinese competition which still has access to huge supplies of fossil fuel generated power, as China continues to add to her coal and gas stations. Will the USA be able to compete on price and on reliability of supply in this new world? Will the USA develop massive storage batteries or pump storage schemes to handle variable load power?

It will be interesting to see how far President Biden goes in introducing Federal capital and subsidy to bring about this new power world, and how much he seeks to do it by regulation and requirements on the network suppliers and power generators. He will need plans to make sure the USA does not run out of electricity when undertaking its electrical revolution, to make sure the electricity is affordable, and to ensure that they can arrange the supply to cater for peaks in demand as more Americans come to depend on electricity for their transport as well as for their space heating and much else.

The Green revolution remains a top down revolution on both sides of the Atlantic. We still await the iconic affordable cars, space heaters and other crucial products to bring this revolution into most people's homes. Meanwhile governments like the new US one wrestle with how far they should go with laws, bans and subsidies to try to depose King carbon. It looks as if it

is going to take a lot of US law and state spending to bring about this democrat vision in a country where many are committed to their vehicles.