

The need for more UK electricity generation

I was pleased to hear that the government is about to order or plan more nuclear power capacity. They need to. The UK currently generates around 15% of the power we need and around 17% of what we produce at home from some old nuclear plants. Four of the seven have to close by 2024 and two more by 2030. The very least the government needs to do is to replace these. Only Hinckley C is currently going ahead and will be producing 3GW in a few years time. None of the smaller Rolls Royce plants nor the other large plants now being considered are likely to be available prior to 2030, so we face a drop off in the next few years which should cause concern..

The UK relies on imports for 10% of the electricity we need. We buy imports most days including when demand is well below our domestic capacity. Given the growing tightness of energy supply on the continent, their ambitious decarbonisation plans which could leave them wind dependent and short of power and French threats we should wish to end our reliance on this source of power.

Wind power last year supplied under 16% of our needs and solar under 4%. The aim is to push this higher and more capacity is being added. However, as we have just witnessed, you can have a period of little wind and below average sun, leaving you very short of electricity. There needs to be more back up or allowance for underperformance of these renewables.

Last year biomass added 6% of our needs and gas 36%. Recently three old coal stations have had to be brought back into use and have provided around 4% of our power.

The total demand last year averaged 33.8GW. Peak demand can reach 45GW on a busy cold day. The system has enough power currently for peaks assuming the renewables work well. However, with nuclear about to decline and with domestic demands about to rise a lot were people to buy electric cars and electric heating systems we are going to need an additional 10.4GW of usable capacity. This would take care of the net 2GW loss of nuclear, the 3.4GW imports, and 5.0 GW to allow for a substantial rise in domestic demand for the planned electrical revolution.

The immediate task should be to keep all old power stations available on care and maintenance to be brought on if wind and solar let us down. The government should examine what are the best and cheapest forms of renewables that are not wind or sun dependent, given the priority they accord to decarbonisation. They need to see if expanding biomass makes sense. It may be that for a transition period the UK simply needs more combined cycle gas as the cheapest option.

Energy policy needs to keep enough capacity available to keep the lights on at all times, and needs to worry about the level of bills.