

Power cuts in the making

A modern economy – indeed, a civilised society – depends on adequate supplies of energy and especially electricity when they are needed. It cannot function without them. And for the last 70 years or so Britain has had the good fortune to have had 99% reliability in its power supplies. It can no longer count on electricity being there at the flick of a switch. That in essence is the power crisis in the making. Nobody can say when – or, since a certain amount of luck is involved, even whether – serious failure will occur. But there is no doubt that security of supply is being dangerously imperilled.

There are several reasons for this:

- 1 Since electricity privatisation planning for the future has effectively been abandoned and existing ageing plant has been “sweated” rather than steadily replaced. Age is now catching up with it.
- 2 The response to the phenomenon known as global warming has been – and remains – irrational. In pursuit of both “challenging” EU and self-inflicted UK carbon reduction targets, the UK is shutting down “dirty” coal fired power stations while, at the same time, having to close “clean” nuclear power stations on grounds of age before they are replaced.
- 3 The Government is also bent on developing renewable sources of energy – predominantly wind power – which are dilute and intermittent or unpredictable. It envisages securing more than half (35,000MW) of the current maximum UK demand (60,000MW) from onshore and offshore wind turbines. Yet since it is not possible to store electricity in bulk, no one really knows how much renewables power the National Grid can cope with at any one time. The best engineering guesses vary from 8-20% - or, say, 5,000 –12,000MW, a long way short of 35,000MW
- 4 On top of this, Government policy only permits coal-fired power stations if they are fitted with CCS (carbon capture and storage) equipment. Yet again no one knows whether, or at what price, CCS systems can be scaled up to capture up to 200m tonnes of CO₂ and bury it for all time in strata under the North Sea. Current estimates suggest it could double the price of electricity if it can be made to work on an industrial scale.
- 5 The Government has a touching faith in its ability to reduce energy waste and persuade people to use it more efficiently to help close the gap between supply and demand. This is not to deny the potential savings, but in the end energy saving depends on changes in human behaviour and that is difficult, if not impossible, to engineer.

In short, Britain is embarked on a course where it is putting its very lifeblood – energy and especially electricity supply – at serious risk. It is, in fact, turning the clock back in reverting – against the pattern of human industrial development – to dilute sources of energy (wind, waves, tides, solar, biomass etc) from much more concentrated forms such as coal and, the most concentrated of all, nuclear.

It may well be that the Government is relying on gas-fired power stations to cover any emerging gap between supply and demand since they can be built relatively quickly. The previous Government approved the construction of 20,000MW of gas plant before it left office in 2010.

But this would saddle the nation with plant for at least 20 years, which would increasingly depend on imported gas at unknown prices. It would also do little to reduce carbon emissions for, while gas emits half the CO₂ of coal, it spews out 100 times more than nuclear, the cleanest fuel available, including wind. Presumably, gas would eventually be required to be fitted with CCS at further unknown cost.

In other words, current energy policy is not merely putting energy supplies at risk without knowing whether the future projected system will work; it is also in danger of pricing British industry out of the market. Already some 5.5m domestic consumers are living in what is called fuel poverty – i.e. spending more than 10% of their disposable income on energy bills - and industry complains about being priced out of Britain.

In these circumstances Supporters of Nuclear Energy seek a more rational approach to energy supply through this briefing note. The objective of energy policy in the 21stC should be to ensure security of low carbon supply at competitive cost. In an ideal world this should be achieved to maximise security through a mix of sources. SONE has never suggested that nuclear power should be the overwhelming supplier as in France where nuclear generates around 80% of its electricity.

But nuclear power should be at the centre of a policy to ensure low-carbon supplies at competitive cost. No new nuclear power station can now be operative much before 2020. Nor will a single one be built unless private investors decide to put their money into nuclear.

Yet nuclear:

- is safe – not a single death from a radiation accident in 55 years' generation in the UK
- has reliably generated up to 30% of UK power, though only half that now
- contrary to anti-nuclear claims, it has no problems with handling its waste
- has enough fuel to last for 1,000 years since uranium is as plentiful as tin, can be recycled and fast reactors can get 60 times more energy out of the fuel than plants generally in use
- improves security of supply and minimises the use of fossil fuels
- cuts carbon emissions because it produces next to none, taking everything from uranium mining to decommissioning and waste management into account
- it is competitive on the Government's own projections and its economics are to some extent protected because, unlike coal and gas, its fuel cost represents at most 20% of total price.
- it is economical in its use of land and would maximise use of the existing transmission system.

**Only nuclear ticks all the boxes.
Let's have some urgency behind it.**