



Supporters of Nuclear Energy

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WHERE WILL IT ALL END?

Just as it seemed that things were going reasonably well for new build nuclear energy projects in the UK the Prime Minister called a snap general election and that put discussion on much needed investment by the State in nuclear power on hold. To add to the uncertainty the French, Germans and South Koreans have important Presidential elections under way and candidates who plan to cut back on nuclear power. That may also have an impact in Britain. Then there are Toshiba's financial difficulties, which threaten the Moorside scheme in West Cumbria. Where will it all end?

Elsewhere in Europe there have been more encouraging developments this month.

Four leading members of Finland's Green Party said that time was running out in the battle against climate change and nuclear energy must be an option to replace fossil fuels. Then Denmark, which banned nuclear energy more than 30 years ago, revealed that it is to invest in nuclear energy research, concentrating on the thorium based molten salt reactor. That will please our friends in Weinberg Next Nuclear, with whom we are discussing possible collaboration.

THE UK GENERAL ELECTION'S LIKELY IMPACT

The constraints on Ministerial action during the so-called "election period" in the UK came into effect at midnight on Friday 21 April. Until a Government has been formed following the June 8th vote the present Government retains its responsibility to govern and Ministers remain in charge of their departments. However, it is customary for Ministers to "observe discretion" in initiating any new action of a continuing or long-term character.

Decisions on matters of policy on which a new Government might be expected to want the opportunity to take a different view from the present Government should be postponed until after the election "provided that such postponement would not be detrimental to the national interest or wasteful of public money." the civil service guidance notes state.

I am sure that many SONE members would argue that inordinate delay would be detrimental but that argument is unlikely to prevail. Despite the current predictions of the pollsters of a land-slide Conservative victory some sort of coalition Government involving the Labour Party, the Scottish Nationalists, the Liberal Democrats and the Green Party is a possibility and a decision on State investment or even the abandonment of Moorside might be a consequence of that.

State investment in the Moorside project also has its opponents in the Treasury and among some Tory Party members. They regard it as a form of back door nationalisation. Others have genuine concerns about the viability of the scheme now that investment in it is up in the air. But there are others who are convinced that the only way forward is for the State to weigh in behind this particular project - and possibly others, too.

SONE SAID IT FIRST

In last year's November Newsletter Gerald Clark, a member of SONE's Committee, argued the case for State investment very cogently. Since then others have joined in, notably trade unions with an interest in the employment potential of nuclear expansion and the candidates now battling it out for Parliamentary seats in West Cumbria and other constituencies with plans for new nuclear plants. Nuclear is a vote winner there as evidenced by the Conservative gain in the Copeland by-election recently.

Before the General Election was announced by the Prime Minister and before the Toshiba/Westinghouse debacle came to light the Financial Times produced an extremely perceptive First Leader on the subject of State investment in nuclear energy. What it had to say still holds good and is worth repeating here.

"The obstacles to the UK's ambition of building a fleet of new nuclear power plants appears larger by the day," the FT said. "The £18 billion Hinkley Point project has won approval despite its eye-watering costs, but it could still fall through if a new French Government doubts EDF's ability to build it or China pulls its investment. Moreover, the decision to leave Euratom - a consequence of Theresa May's approach to Brexit - will create uncertainty for the entire industry.

TREASURY DOGMA

"If UK Ministers wish to overcome these obstacles they will need to reconsider their long-standing opposition to public investment in the sector. Ever since Tony Blair and Gordon Brown called for a nuclear 'renaissance' the Treasury dogma has been that all financing for new plants must come from the private sector.

“There are solid reasons for this. The UK has bad memories of a 1970s industrial policy that backed the wrong technology, with huge delays and cost over-runs. The coalition Government that set the current strategy faced, in addition, a self-imposed squeeze on public borrowing and Liberal Democrat opposition to nuclear technology in principle. The result, however, is the controversial deal on Hinkley Point, which depends on Chinese State support and a UK Government guarantee to pay more than double the current wholesale power price for 35 years.

“Had officials been free to consider the case for direct public subsidy they might well have been able to achieve a lower cost for consumers.

“The UK is in theory an attractive market since few developed countries are expanding nuclear generation and approval from the UK regulator serves as a badge of quality. Nonetheless, Ministers need to recognise the reality. Without Government support private capital will not finance projects with enormous upfront capital costs, huge construction risks and very long-term pay-offs.

“The next test of the UK’s commitment to nuclear expansion will be the plant Hitachi wants to build at Wylfa in Anglesey. If Ministers want this to proceed they should be open in principle to financing the project directly. This could be done in a way that overcomes the Treasury’s concerns - for example by buying a minority stake in the project, which would not count towards public debt and could be sold on once the plant was in operation.

“Since the Government is better able to bear long-term risk and can borrow more cheaply than the private sector this could cost less than offering guarantees for investors to bear the same risk.

OTHERS MAY WANT SUBSIDIES

“Ministers will be wary of exposing themselves to a wave of lobbying from companies seeking similar subsidies for other forms of generation. Public funding can be justified only when there is a clear market failure - in this case the short time span in which investors require projects to pay off - and a clear strategic value.

“The original argument for replacing and expanding the UK’s ageing fleet of nuclear reactors was that it was essential to ensure the country’s energy supply and meet its legal commitments to cutting carbon emissions.

“This argument may now be weaker, given sharp falls in the price of gas and the cost of offshore wind power. Yet nuclear energy is still important to maintaining diversity in the UK’s energy supply.

“If the Government now believes it can meet the UK’s future energy needs by any other means it should explain how it plans to do so. If it is still relying on

nuclear expansion to plug the gaps that will open up it will need to be open to funding it directly.”

While the Financial Times pointed to the investment worries plaguing Horizon’s Wylfa new build project Toshiba’s plans for Moorside currently look more vulnerable. Westinghouse, the US nuclear reactor developer, owned by Toshiba, was forced to file for bankruptcy at the end of March as a result of spiralling losses brought about by heavy cost over-runs and project delays.

The resulting financial liabilities facing Toshiba have grown to around £7.2 billion for the year to the end of March, more than double previous estimates. The Westinghouse subsidiary was forced to obtain more than £600 million of bankruptcy financing from a third party simply to help fund its ongoing commitments.

These include engineering work to support operating plants, the supply of nuclear fuel and charges associated with decommissioning.

KOREA TO THE RESCUE?

This was all too much for the French utility Engie, which exercised its right to sell its 40% per stake in the NuGen venture at Moorside. Toshiba had to pay some £120 million for the stake making Toshiba the sole owner of NuGen, not something it wanted. It has always said that eventually it wanted to divest itself of its financial interest in Moorside. The Government may not have volunteered to step in with support but it has been working hard to attract new investors to NuGen and some feel that Engie’s departure might even make it easier to sell NuGen as a whole.

The Korea Electric Power Corporation (Kepco) has been holding talks with Toshiba and Britain’s energy minister, Greg Clark, went to South Korea this month for discussions on future collaboration between the two countries, including nuclear projects.

Kepco has some sort of incentive to look outside South Korea for business as nuclear power has been targeted for cuts by the two leading candidates for the country’s Presidency, the Liberal front runner, Moon Jae-in and the centrist Ahn Cheoi-soo. Both plan to reduce South Korea’s reliance on nuclear energy and coal if they win, switching to renewable energy.

At present South Korea gets 40% of its electricity from coal, 30% from nuclear, 20% from natural gas and the rest from oil and renewables. Moon plans to cut nuclear’s contribution to 18% and coal’s to 15% by 2030 while the contribution of liquefied natural gas would increase to 37%,

If elected Moon would also scrap a plan to build Shin Kori No.5 and Shin Kori No.6, two nuclear reactors on which construction began last year and cut

back South Korea's existing nuclear power expansion scheme. That means that South Korea's plan to build 11 nuclear reactors by 2029 could be under threat. Ahn would shelve a plan to construct four coal-fired power plants and would not extend the life span of ageing coal and nuclear power stations. Both candidates target a 20% renewable energy share by 2030 as part of efforts to cut carbon emissions.

We are unlikely to get a decision on Kepco's possible involvement in the Moorside project until the result of South Korea's May 9th Presidential election is known. Some UK Government funding might persuade Kepco to join the scheme.

A BIT OF GOOD NEWS

Toshiba and NuGen did have a bit of good news at the end of last month. The UK regulators announced that the AP1000 reactors designed by Westinghouse which are expected to be deployed at Moorside had successfully completed the Generic Design Assessment (GDA) process - at long last.

This means that the regulators (the Office for Nuclear Generation (ONR) , the Environment Agency and Natural Resources Wales) are satisfied that the reactor meets expectations on safety, security and environmental protection at this stage of the regulatory process. It has taken a long time to get there.

Westinghouse, once owned by British Nuclear Fuels, initiated the voluntary GDA process ten years ago but Westinghouse put the review process on hold until its then majority shareholder, Toshiba, bought a stake in NuGen.

It restarted the process in January 2015 when NuGen announced plans to build three AP1000 units at Moorside.

Despite all its problems NuGen is adamant that it will continue in a "business as usual" manner, working in collaboration to gain the appropriate permits and licences required for the Moorside project. However, the company no longer intends to submit a Development Consent Order application in the second quarter of this year as had been planned.

SO WHAT OF HINKLEY?

There was good and bad news for the Hinkley Point C project and its stakeholders, EDF Energy and China General Nuclear (CGN), this month - the good news in Britain and the potentially bad news in France.

First the good news. The Office for Nuclear Regulation (ONR) has granted its first consent for the start of construction of a twin EPR nuclear power plant at Hinkley Point C in Somerset. The consent covers the placement of the

structural concrete for the first nuclear safety related structure at the site. It did not give consent for all elements of construction, however.

Mike Finnerty, deputy chief nuclear inspector and director of the ONR's new reactors programme described the consent for the first structure as a key regulatory milestone, marking the start of construction of the first new nuclear power station to be built in the UK in almost 20 years. But will Hinkley Point C, with its two Areva-designed European Pressurised Reactors (EPR), actually get built?

I believe it will even if the UK electorate votes in a coalition Government which includes the Green Party, which opposes it, the Lib Dems, which are lukewarm and the Labour Party, which is only mildly supportive.

French opposition to the Hinkley scheme is more of a threat. During the French Presidential campaign it came in for considerable criticism, as did EDF. The two candidates who made it to the second stage of the presidential campaign, Emmanuel Macron of the newly formed En Marche! party and Marine Le Pen, of the Front National, have different views on what should happen to EDF, Hinkley Point C and nuclear energy in general.

The agreement to build Hinkley could be scrapped by the French if Marine Le Pen becomes President. She is fundamentally opposed to the £18 billion project and has vowed to study EDF's contract with the UK Government very closely to see if a loophole can be found and used to sink the deal.

The Front National argues that the Hinkley scheme would divert resources away from EDF at a time when it needs to increase spending to support its own nuclear energy industry. EDF faces a £46.9 billion bill to extend the life of its reactors to 2025 and another £54 billion cost for decommissioning its 58 nuclear reactors when they reach the end of their lives. Le Pen says she wants to "maintain, modernise and secure the French nuclear industry" and extend the lives of existing nuclear power stations beyond 40 years

Macron is not threatening to scrap the Hinkley C agreement. To the contrary, he sees the Hinkley scheme as a potential trailblazer, attracting further orders for the EPR3 when it is up and running, successfully of course.

He does, however, say that he would support a gradual move away from nuclear in France and also retain the Energy Transition Law introduced by Francois Hollande, the current President.

This contains a target to reduce the share of nuclear to 50% by 2025, down from 75% today. As to extending the lives of nuclear plants he says he will take "a strategic decision" on extending their operation beyond 40 years after

the National Safety Authority has delivered its conclusions sometime next year.

AN OPEN AND SHUT CASE

A row developed between EDF and the outgoing French Government during the Presidential election campaign. It centred on President Hollande's determination to force EDF (which is, of course, State owned) to shut down Fessenheim, France's oldest nuclear power station. EDF is equally determined to keep it open until the long-awaited 1650 MWe EPR unit at Flamanville is up and running

Both EDF and the French Academy of Sciences issued statements questioning the extent and timing of Hollande's planned reductions and Marine Le Pen said that she would put a stop to the planned closure of Fessenheim, which Hollande vowed to shut down before he left office.

That will not happen. Instead, the outgoing French Government published a decree to repeal EDF's licence to operate the Fessenheim plant. The plant, it said, must be shut down only when the Flamanville EPR begins commercial operation, which is what EDF agreed in the first place.

The decree was issued days after EDF said that it intended to comply with the legal requirements already announced for Fessenheim and pointed out that to come into effect the decree has to be issued at EDF's request. The EPR unit at Flamanville is expected to start up in late 2018, although that is by no means certain.

Whenever it is ready to be brought into service EDF would have to shut the equivalent capacity - most likely the two reactors at Fessenheim - in order to begin operating the Flamanville unit, a sort of shut and open case.

In its statement the Academy of Sciences challenged the assumptions behind the Energy Transition Law. "Simple common sense leads one to conclude that production of electricity that can meet the country's needs requires the availability of 'on demand' energies which do not suffer from intermittency and which can be called upon at all times, the Academy said.

"This means, in the absence of energy storage solutions, significant use will need to be made of thermal and nuclear power plants if France is to increase its use of renewable energy."

The Academy also turned its attention to the situation in Germany, where nuclear energy accounted for 13% of electricity production last year and which plans to phase out all nuclear generation. The Academy noted that even though renewable energy accounted for 30% of power production last year the share of fossil fuels was unchanged at 55%.

This is because Germany has had to open new fossil fuel plants to provide the back-up for intermittent renewable energy. As a result Germany remains one of Europe's largest CO₂ emitters - and exports "dirty" electricity to France!

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