NUCLEAR POWER: A FUTURE PATHWAY FOR THE UK.

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Nuclear power remains a key part of the Government’s plans for a diverse mix of energy assets delivering reliable and affordable electricity. Over the next decade many of our existing power plants will be coming to the end of their lives but the demand for low-carbon electricity will be on the increase. That is why new nuclear power plants will have a key role to play in the years ahead.

Richard Harrington MP
Parliamentary Under Secretary of State at the Department for Business, Energy and Industrial Strategy

This case study has been produced in the context of the Institution’s strategic themes of education, energy, environment, healthcare, manufacturing, transport and its vision of ‘Improving the world through engineering’.

Cover image
Landscape image of the new Hinkley C 3,200 MWe nuclear power station.

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Introduction

Back in 2008, UK Government set out its energy policy [1], which aimed to provide strong leadership not only in meeting the challenges of climate change, but also in ensuring secure and affordable energy supplies. The policy concluded that nuclear power should have a role to play in the generation of electricity, alongside other low-carbon technologies. In support, through the Energy Act of 2013, electricity market reforms were enacted which provided the Contract for Difference mechanism and the Capacity Market. However, despite these measures, nuclear power projects have been slow to progress, and it seems unlikely that new nuclear electricity will be generated at the earliest much before the second half of the next decade.

In recent years, the UK has made great strides in renewable energy generation, thereby reducing its reliance on coal-fired power stations. Furthermore, it has created the environment for low-carbon vehicles to be developed and increased public and corporate awareness of the impact that the electricity sector has on our climate.

The next step for government is to outline plans for decarbonising the entire UK energy sector as part of its commitment to a low-carbon future. The nuclear power industry will therefore be a vital component to achieving this vision. However, government must be bold in its nuclear sector planning, enabling low-carbon electricity generation while simultaneously supporting UK manufacturing, skills and the economy.

This case study re-examines the role of nuclear power in the UK's energy mix, and proposes a pathway for the technology, if it is to play a key part in delivering secure and affordable, low-carbon electricity.

Elements of Electricity Generation

To deliver a secure supply of electricity that is as low carbon and affordable as possible, National Grid requires three elements of electricity generation:

- Low-carbon basedload that is always available when required, such as nuclear power.
- Low-carbon generation that is harnessed when renewable resources are available, such as wind and solar power. To be truly effective, intermittent generation needs to be complemented by energy storage or back-up capacity.
- Fast-response generation that can provide back-up to fulfil the demand when baseload and intermittent renewable generation and storage are insufficient to meet the demand (often higher carbon sources such as gas-fired generation, or interconnectors to other transmission networks).

In the interim, there may well be occasions when the above are still insufficient to meet demand and high-carbon standby capacity may be needed, such as coal-fired generation. Overall National Grid has to manage both supply and demand across the year within a wide range, which has historically been from 20GW on a summer's night up to 60GW on a cold winter's evening. Recently demand has actually fallen to as low as 18GW in the summer, while mild winters have meant that the peak demand is also lower (2016/17 was only 51GW)[2].

Using the current data, there is therefore a need for three sectors of generation: low-carbon baseload of 15GW, variable with back-up for a further 30GW, and standby of a further 15GW. To achieve this the Institution of Mechanical Engineers believes that the UK will continue to need a balance of technologies including:

- Distributed generation from small, localised units to reduce demand on the grid system (will be only truly effective when it can be combined with effective and low-cost energy storage).
- Construction of more renewable generation, particularly where construction and operating costs are reducing, such as offshore wind.
- Develop large-scale energy storage systems to smooth out renewable intermittency.
- Highly efficient, fast-response gas-fired plant should be built to provide back-up to intermittent renewables, and efforts should be made to reduce carbon emissions completely though the use of carbon-capture technology.
- High-carbon emitting coal plants should be phased out, even for standby purposes (as recently confirmed by Government) although coal could still be considered if highly efficient and affordable carbon-capture and sequestration processes (for both mining and combustion) can be developed.
- New nuclear capacity should be built to replace old nuclear power stations to provide reliable baseload generation and, as demand for electricity increases, the capacity of nuclear generation should rise proportionately, provided that costs can be reduced.

Nuclear power plants are most economical when they are run all year round and all day at full power, so they are most appropriate to fill the minimum baseload demand, which is currently 18GW. At present, the existing nuclear power stations can provide just under half the 18GW baseload demand. However, by 2025 many of these plants will be shut down and by 2030 only 1GW from Sizewell B will be available. While the plans for new nuclear power could provide up to 16GW of new generation, there is still great uncertainty with the funding of these projects and they are unlikely to all be generating until at least 2030. Currently, only 3.2GW is under construction.

By that time, the total demand for electricity looks likely to have increased significantly. With Government plans to ban new petrol and diesel cars by 2040, development of electric vehicles is likely to increase demand for electricity to charge these vehicles well before that deadline date. Electricity currently accounts for only about 20% of energy consumed in the UK, while transport equates to about 45%. When this is coupled with potential decarbonisation of the domestic and industrial heat market, which equates to about 35% of energy consumed, the potential for significant electricity demand growth is clear. The UK therefore needs to have a plan that could supply this increasing demand, with all the complementary elements of generation described above. Given the long lead-times for the development and construction of generating plant, this plan needs to be put in place now.

Cost of Electricity Generation

There has been considerable discussion over the past few months about the relative cost of generating technologies. In comparison to the current wholesale price of electricity of about £40/MWh generated from old power stations, all new generation seems to be expensive. The UK is currently powered by coal, gas and nuclear power plants that were built in the 1980s and 90s, which now have their initial capital cost fully depreciated.

The electricity market is dominated by capital expenditure. At the time new generation seems very expensive, but if run for a long time it can deliver very cost-effective electricity, provided that the maintenance costs are not too high. However, eventually it will reach the end of its life, when maintenance and repair costs exceed the value of the plant.

The decision on what to buy next is confusing. Coal is deemed to be too dirty. Gas is cheap to buy, although the fuel may become expensive in the future, but is not low-carbon. Nuclear is expensive to buy but cheap to run. Renewables without storage present problems of security of supply – with storage they may also be expensive.

The reality is that the UK will need all these technologies to deliver secure, low-carbon and affordable electricity. Driving down the cost of each technology is therefore the objective for engineers, constructors and operators. Over the past three years, the offshore wind industry has demonstrated that, with initial incentives and support, costs can be reduced significantly, with the cost of electricity for some units falling from £140/MWh to below £60/MWh, although it must be noted that this cost does not include back-up generation when the wind is not blowing. By working together to develop commercial designs and rapidly reducing their production costs, the offshore wind industry has provided a path for other technologies to follow. Through modular build and shipyard assembly of mass-produced units that can be shipped to sites for installation rather than stick-built on-site, construction times have reduced, along with the associated financing costs. The Advanced Manufacturing Research Centre (AMRC) is supporting the development of such technologies, and the Nuclear AMRC has recently set up a facility on the River Mersey, working with Cammell Laird to facilitate the development of modular construction for the nuclear power industry.

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Building a fleet of identical reactors which are smaller and built in modules off-site, seems to be the most logical way forward to reduce cost.

The Cost of Nuclear Power

Nuclear power will only have an attractive future if generation costs can be reduced from the level required by EDF to progress the Hinkley Point C project of £92.50/MWh. To further understand how nuclear costs could be reduced, it is necessary to examine why they are so much higher in the UK than elsewhere in the world. When reactor vendors from France, Japan, USA, China and Korea bring their designs to the UK, they now expect that costs will rise compared to the construction of similar units in their home countries. This cost increase is put down to: excessive regulation and confusing environmental laws; overly constrained safe-working practices that can affect worker productivity; and a lack of suitable sites. Given these constraints, rather than trying to replicate the construction process, which may have been successful elsewhere in the world, it may be necessary to build nuclear power plants differently in the UK. It is also worth noting that the UK imposes more restrictive working practices on the nuclear industry compared to other parts of the construction industry (including, for example, 'renewable energy' construction). There seems no logical justification for this, but it does have significant consequences for nuclear costs.

It is important to note that the UK has a good record in delivering recent large infrastructure projects, the 2012 Olympic park, new Forth Road Bridge and Crossrail are all success stories that we can use to influence delivery models for nuclear power.

In addition, with a typical new nuclear power plant costing over £10bn, financing is very challenging and hugely expensive. Even if funding can be found at 6% interest rate, over the ten years it is likely to take to develop and build a nuclear power plant, interest charges will add a further £3bn to the project cost. If reactors were smaller and quicker to build this burden could be reduced, particularly if parallel off-site modular construction methods were employed. Even then, the method of project funding is still likely to be a key issue, which will affect not only the cost of generated electricity, but also the feasibility of the project proceeding in the first place.

The pathway to lower costs will need to consider the following issues:

- Regulation – the UK is justifiably proud that it has the safest nuclear power plants in the world, but the process of proving the safety of a generic design has led to reactor vendors adding extra safety systems, or significantly modifying the design to meet UK requirements. These modifications have not been tried and tested and so the UK plant designs are unique, and therefore they incur 'first of a kind' costs. These changes to the reference design are rarely demanded by the UK Regulator, but are added by the reactor vendors to address potential issues that could slow the progress of the assessment process. It is therefore recommended that an independent review be undertaken to assess these modifications, to ensure that in future, cost is not unnecessarily added just to speed up the design review process. It will be particularly important going forward to have proportionate regulation of risk, as future designs are likely to be for Small Modular Reactors (SMRs), where the capital costs and generating incomes will be much lower, so the design assessment process and associated costs will need to be proportionately lower.
- Safe Working Practices – again, the UK nuclear industry is justifiably proud of its good health & safety record, with lower rates of injury and fatalities than in other UK industrial sectors, and considerably lower than elsewhere in the world. It is unrealistic to impose less safe working practices to speed up construction just because they are used elsewhere in the world. Instead, construction will need to be done differently in the UK. This is where modular construction could be of considerable benefit. Instead of having multiple work-faces within a confined space on-site, potentially open to the weather or working at height, modules could be constructed in bespoke factories and brought to site as fully tested elements and lifted into place. This may require considerable redesign, but the cost of doing so is likely to be less than the increased construction costs and it is likely to be safer.

Image: Small Modular Reactor concept design by Rolls-Royce plc

- Worker Productivity – over the past five years, this has been the subject of considerable discussion between UK construction companies and the overseas reactor vendors. While statistically, UK workers are less productive than many other countries, effective productivity is a result of a number of factors including workers' training, skill, experience, morale, pay and working environment. With relatively low unemployment in the UK over the past three years and a shortage of trained UK workers, the construction industry has had to take on a relatively high proportion of skilled and experienced workers from overseas, particularly Eastern Europe. The Brexit process has brought uncertainty to this strategy and is already threatening to hamper construction of many infrastructure projects. While some skills are listed for nuclear decommissioning on the Government's Tier 2 Shortage Occupation List (UK) for 2017[3], most of the construction skills for new nuclear plants are not.
- Suitable Sites – in 2009 Government published the National Policy Statement for Nuclear Power[4] in which the Strategic Siting Assessment (SSA) was presented, which identified sites in England and Wales that were potentially suitable for the deployment of new nuclear power stations by the end of 2025. In the policy statement, Government affirmed that 'failure to develop new nuclear power stations significantly earlier than the end of 2025 would increase the risk of the UK being locked into a higher carbon energy mix for a longer period of time than is consistent with the Government's ambitions to decarbonise electricity supply'. The eight sites identified by the SSA were located at Bradwell, Hartlepool, Heysham, Hinkley Point, Oldbury, Sizewell, Sellafield (the site now known as Moorside) and Wylfa, all of which are next to existing nuclear facilities. Of these sites, six are currently under consideration by developers, with no current plans for Heysham and Hartlepool. In terms of timing, it now seems unlikely that electricity will be generated from any of these sites much before 2025. In reality, while all these sites are located in communities which are used to nuclear power, they each have physical challenges that do not make them ideal for building a new nuclear power plant. Government therefore needs to start to consider sites that would be more appropriate for construction beyond 2025. Developers who come forward in the future will need to nominate a site as well as a reactor design, so this is an essential step along the Nuclear Pathway.
- Project Funding – the recent National Audit Office (NAO) review of the Hinkley Point C project[5] indicated that the method of funding and the required support from Government were unlikely to be the most effective way of delivering cost-effective electricity for the UK taxpayer or the electricity consumer. The report discussed 'Alternative Funding Options' which could reduce the required Strike Price to much lower levels. With financing structures such as the 'public-private partnership', Government borrowing at 2% could be used to reduce the financing charges while still sharing risk with the developer. In reality, Government will always share the risk, as failure to build these plants could result in a loss of generating capacity, which could lead to power shortages and would be blamed on Government policy anyway. The NAO concluded that if Government borrowing were used to take a 50% equity stake in the projects, the Strike Price could be reduced to a level where a long-term subsidy through the Contract for Difference process will not be required, so, while the taxpayer would take some risk during construction, it would not burdened with long-term payments.

If all the issues mentioned above can be addressed, then there is a chance that the cost of future nuclear power can be reduced to ensure that nuclear is deemed to be affordable as well as secure and low carbon.

However, before the UK can be taken seriously as a suitable market for significant nuclear investment, it needs to demonstrate that it can build any form of nuclear power plant. Therefore the continued development of the projects at Hinkley Point C, Wylfa Newydd and Moorside is important. While Hinkley C is making some progress with the support of the French and Chinese governments, it seems likely that the alternative financing options mentioned above will need to be used, to ensure that Wylfa Newydd and Moorside progress quickly, if they are to come on-line before the old nuclear plants shut down.

A Pathway to Small Modular Reactors (SMR): Beginning of a New Industry

Building a fleet of identical reactors which are smaller and built in modules off-site, seems to be the most logical way forward to reduce cost. In 2014, the Institution's report on Small Modular Reactors[6] recommended that 'UK Government should include within the UK's nuclear sector strategy a pathway for engaging the nation in future emerging SMR markets'. In the same year, Government commissioned a report by the National Nuclear Laboratory[7] which concluded that 'SMRs were potentially deployable within a ten-year timeframe'. In 2015, Government announced that it would invest £250m in an 'ambitious nuclear research and development programme, enabling the UK to be a global leader in innovative nuclear technologies'. This was to include a competition to identify the best-value SMR design for the UK, which was launched in March 2016. The objective was to gauge market interest among technology developers, utilities, potential investors and funders in developing, commercialising and financing SMRs in the UK [8]. Thirty-one interested parties engaged in this 'competition' but in July 2016, when the new Department for Business, Energy & Industrial Strategy (BEIS) was formed, the competition effectively stopped. BEIS has indicated that it 'intends to develop an SMR roadmap, which will summarise the evidence so far, set out the policy framework and assess the potential, for one or more possible pathways for SMRs to help the UK achieve its energy objectives, while delivering economic benefits'. This statement, made on 9 August 2016, is the last communication from BEIS on the subject.

In September 2017, Rolls-Royce published a report entitled 'UK SMR: A National Endeavour'[9] which set out its view of a pathway. In the report, the Rt Hon the Lord Hutton of Furness stressed that 'it is vitally important to make the decision to move forward on this opportunity now. That is why Government should make clear its intentions so that the UK can deliver a solution that will supply secure, reliable and affordable electricity for more than 60 years, and capitalise on new overseas markets that are emerging for SMRs'. The report concluded that SMRs can be more than cost-competitive with large nuclear plants, and if a fleet of reactors can be manufactured, the lifetime cost of electricity generated could come down to as low as £60/MWh. The report concludes by encouraging UK Government to 'provide a fertile ecosystem for UK SMR development, starting with policies and support for an indigenous UK SMR market'.

It also stressed the need for Government to proceed with the identification of a viable SMR first-of-a-kind site, with a process to identify further sites to enable fleet-scale deployment beyond 2025. In parallel, Government will need to make available a suitable time-slot for the generic assessment of the SMR designs, through the Office for Nuclear Regulation. Once the design has been approved and suitable sites made available, an SMR will become a viable proposition for independent private investment.

The identification of suitable sites will allow for a demonstrator SMR to be developed. Demonstrators are a crucial part of the innovation system that allows for learning and decisions on how to commercialise SMRs to be made. In our 2014 SMR report the Institution recommended Trawsfyndd as a potential site for demonstration. However, other sites Chapelcross and Dounreay may also be suitable.

To develop the design and a suitable UK supply chain to deliver the project with suitable skilled and experience workers, is estimated to cost about £500m and will require Government support. However, this investment will contribute to a number of strands in Government's Industrial Strategy as well as providing a pathway for nuclear power. It will also expand the UK skills base in reactor design, high-integrity civil engineering, project management and advanced secure digital technology. An initial opportunity would be to support the development of a modular construction facility being planned at Birkenhead on the River Mersey, which already has local enterprise and private finance support. Support by Government as well as the nuclear industry would ensure that this facility proceeds soon, and provide a clear signpost for the future Nuclear Pathway.

Challenges to be Overcome Along the Nuclear Pathway

This report identifies that the UK Government needs to develop a plan to deliver a real low-carbon energy landscape with clear roles for technologies that can deliver the desired outcomes of the UK Climate Change Act. If the UK is to successfully replace existing nuclear plants with new large nuclear plants and develop a pathway for the deployment of SMRs, there are a number of associated challenges which will need to be overcome, which are shown in red in **Figure 1**.

The Professional Engineering Institutions are at heart, bodies of peer-reviewed professionals. Existing processes to assess competence (a combination of academic achievement and work experience) are well embedded and ideally suited to an end-point assessment of an apprentice. Their governance under licence from the Engineering Council is also appropriate for an independent measure of maintaining standards.

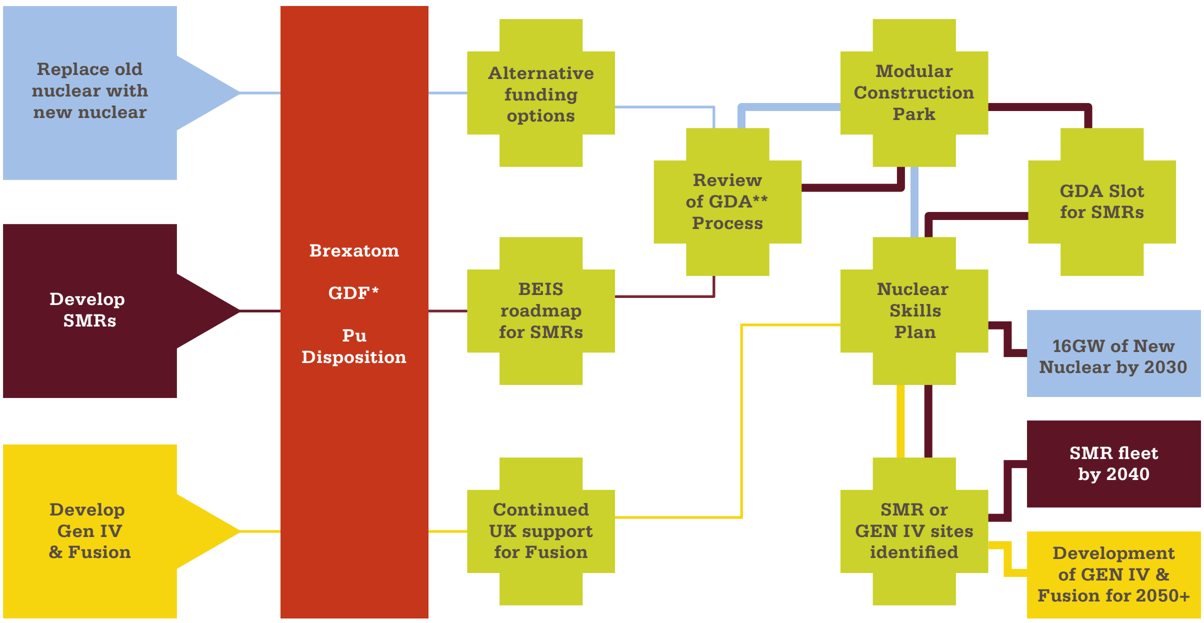

Figure 1: Pathways for nuclear power showing 'roadblocks'.

* Geological Disposal Facility ** Generic Design Assessment

Brexatom

As a result of the decision to leave the European Union and its associated institutions, including the Euratom Treaty (the so-called 'Brexatom'), the UK nuclear sector faces a significant challenge in making alternative mitigating arrangements. These arrangements are needed to be able to continue to operate our nuclear fleet within an international framework, build new power stations, maintain fuel routes and continue to lead nuclear research. At present Euratom performs four distinct, high-level functions for the nuclear industry in the UK:

1. It enables a single market of goods and services for nuclear build, ongoing generation, research & development and decommissioning in Europe.
2. It provides funding for nuclear fusion research being undertaken by UKAEA at Culham in Oxfordshire, and it provides access to the European R&D community.
3. It provides a Safeguards regime to ensure UK compliance with the non-proliferation treaty, including inspection, reporting and accounting.
4. It manages and develops the Nuclear Cooperation Agreements (NCAs) with non-EU countries on behalf of Euratom members.

As a result, without alternative arrangements being put in place, the UK nuclear industry cannot operate.In May 2017, the Institution of Mechanical Engineers published a framework to assist in the transition to new arrangements[11]. It recommended:

- That UK Government adopts the framework approach to safeguarding, Nuclear Cooperation Agreements, research & development and regulation for the nuclear industry, replacing mechanisms lost as a result of the UK's departure from Euratom.
- That the UK continues to work towards developing a new nuclear Safeguards regime, through the development of a UK Safeguarding Office, to ensure the country conforms to international rules on safety and non-proliferation.
- That UK Government remains an associate member of Euratom for the specific purpose of research & development activities in the nuclear sector. The exact details of this associate membership should be arranged before the deadline for exiting the EU.
- That UK Government should include within the UK's nuclear sector strategy, a long-term commitment to nuclear R&D programmes, including a pathway for developing SMRs.

Government now has a sizeable team working on developing the transitional arrangements, but it must act fast if it is to prevent damage to the UK nuclear industry and its long-term future.

Nuclear Waste Disposal

Disposal of nuclear waste is seem by the public as the Achilles' heel of the nuclear industry. Until the industry can demonstrate that it has a safe long-term solution to the radioactive waste problem, it will always be feared by a large section of the public. The concept of a Geological Disposal Facility (GDF) has been considered for the past 30 years, and although the science to support the concept has been fully developed, the selection of a site has proved to be too contentious. Currently waste is stored above ground and it is likely that these stores will need to be replaced in the absence of GDF developments. GDF is government policy, however should the dry stores be replaced and expanded above ground, taking the pressure off GDF development, this policy may no longer be required. The Institution recognises and supports the Nuclear Decommissioning Authority (NDA) and Radioactive Waste Management (RWM) vision for GDF. This vision addresses many GDF issues, however progress remains slow on implementing a policy that has resurfaced after being unsuccessfully implemented in the 1990s.[10] The GDF site selection process should de-link ground-level sensitivities in preference for suitable geology, which will render the former constraint irrelevant.

The current operators of the UK's nuclear plants and the developers of future nuclear plants have little or no influence on the decision or the funding for the GDF. This is firmly under the control of Government through the Nuclear Decommissioning Authority. If the cost of building interim nuclear waste stores above ground was used instead to incentivise a volunteer community, this issue could progress more rapidly.

Another challenge is the UK's stockpile of plutonium. As part of the nuclear strategy in the 1980s, the UK decided to reprocess fuel from its operating reactors to extract usable uranium and plutonium. While the uranium was recycled back into the production of new fuel, the plutonium was to be used to fuel Fast Breeder Reactors. However, the UK effectively ceased its research into fast reactors when it closed the prototype plant at Dounreay in 1992. Since then the plutonium stockpile has been increasing by about seven tonnes per year, so by 2020 there is likely to be 140 tonnes stored at Sellafield – the largest plutonium stockpile in the world. As a fuel, this material could be used to generate an enormous amount of electricity, but as a waste product it is expensive to store securely (costing £73m a year) and difficult to dispose of, particularly as there is not yet a GDF. Four options for plutonium management are being considered: long-term storage at Sellafield until the GDF becomes available; re-use as mixed oxide (MOX) fuel in a light water reactor; re-use as mixed oxide fuel in a CANDU reactor (CANMOX); or re-use as metal fuel in a PRISM reactor (which could be considered as an SMR). Government, through the Nuclear Decommissioning Authority (NDA), has been reviewing the long-term options for the stockpile since 2004. The NDA outlined its preferred options in January 2014 and was expected to publish an update of its work in late 2016, but, again the decision has been delayed.

Training and Skills

To deliver new nuclear power plants on the scale described above, will need up to 40,000 skilled workers and engineers. When dealing with nuclear, everyone involved will need to be a Suitably Qualified and Experienced Person (SQEP). For each role from the steel-fixer to the construction director, the level of required 'SQEP-ness' is carefully defined to ensure that at all levels, the person is capable of delivering their role safely and to the required quality. In 2016 the Nuclear Skills Strategic Plan[12] was launched, which presented the key actions designed to close skills gaps and establish training provision that allows for continual replenishment of the required skills and expertise. It defined 19 actions to be taken by Government and industry to deliver the strategy, but so far progress has been slow to deliver these actions, with other nuclear challenges such as Brexatom taking greater Government focus. Unfortunately resolving these challenges cannot be carried out 'in series' or they will take too long – they all need to progress in parallel.

Without certainty of the new nuclear projects proceeding, young engineers and skilled workers will not take up apprenticeships in the required areas, graduates coming out of university will chose other careers and investment in training facilities will not be made. Resources will be found to build new plants, but if there is insufficient investment in training, these resources will have to be brought in from the rest of the world and will be expensive, which will have a knock-on effect on the cost of the electricity and the future viability of nuclear power.

Recommendations

These recommendations could all be delivered through a clear nuclear sector plan where the key facilitating actions ensure that we leave Euratom with minimal impact on the industry, delivery of GDF is either confirmed or abandoned and that as a nation we maximise the energy resource made available to use from our plutonium stocks. This will open up the new 'Nuclear Pathway' identified in this case study.

1. The 'Nuclear Pathway' should be enabled through commitment to three objectives:
   - Replace old nuclear with new nuclear by 2030, and develop a clear target and plan for future baseload capacity from nuclear.
   - Have a fleet of affordable SMRs generating by 2040.
   - Develop Generation IV and Fusion plants for beyond 2050.

2. Action needs to be taken to remove three 'road-blocks':
   - Brexatom needs to be addressed urgently, otherwise the entire UK nuclear industry will not be able to function.
   - Publish a firm timetable and plan for the delivery of the Geological Disposal Facility.
   - Take forward firm plans for plutonium disposition, in particular, seriously consider how the PRISM SMR could be used to deliver a number of the objectives described above.

References

3. The key facilitating actions are:

- Urgently consider 'Alternative Funding Options' for nuclear projects, particularly for Wylfa Newydd and Moorside.
- BEIS to continue the development of the 'SMR roadmap' started by DECC.
- Ensure that post-Brexatom arrangements continue the support for the development of the Fusion programme.
- Undertake an independent review of GDA-related design changes, to ensure that costs are not added unnecessarily.
- Support the development of the Modular Construction Park, planned for the River Mersey, to develop modular construction skills and processes.
- Make available Generic Design Assessment slots for SMRs and develop the Office for Nuclear Regulation to have the required skills and capacity to undertake the reviews.
- Ensure that the Nuclear Skills Strategic Plan is effectively implemented, and add nuclear construction skills to the 'Tier 2 – Shortage Occupations List'.
- Undertake a new Strategic Siting Assessment to identify potential nuclear sites for construction beyond 2025, including sites for SMRs.

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