

UK Nuclear Fleet Stakeholder Update

January 2025

The Government's focus on ambitious clean power targets for 2030 and beyond, as well as ongoing concerns on energy prices and security, have helped to keep energy high on the agenda over the past year.

This winter there have been prolonged periods of dull, calm weather leading to low output from wind and solar. At times, gas provided more than 60% of our power needs, pushing up electricity prices and adding to our carbon emissions.

A low carbon future needs a renewables dominated mix along with new British nuclear, for lower electricity costs, energy security and thousands of great jobs which will help to transform communities across the country.

Noting the growing interest in what role nuclear energy will play in the future, in the UK and internationally, this annual update is designed to provide an accessible insight into the status and outlook of the UK's operating fleet of eight power stations.

EDF's Nuclear Operations business is a core part of EDF's broad family of businesses in the UK (nuclear, renewables, technical services, retail and business/wholesale) and plays a key role in delivering the company's purpose to help Britain achieve net zero. The business is 80% owned by EDF Group and 20% by Centrica plc and employs around 5,000 people at 10 main sites. It owns and operates eight nuclear power stations across the UK, five of which are generating zero carbon electricity and three that are now in the defueling phase, the first stage of decommissioning.

The Nuclear Operations business has five clear priorities over the next decade - delivering long term value from Sizewell B power station; maximising output from the four generating Advanced Gas-cooled Reactor (AGR) nuclear stations; defueling the AGR stations efficiently; seamlessly transferring them to Nuclear Restoration Services (NRS) and developing our long-term future, recognising that by the mid-2030s all seven of the AGR power stations will be owned by the UK Government.

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Executive Summary

This update to interested stakeholders provides some background information on the existing UK nuclear fleet and information on these five key priorities over the coming years. For those wanting a “two-minute” read the following is an executive summary:

- Maintaining a strong **nuclear safety** track record remains the over-riding priority. Performance in 2024 was very good, with zero ‘top tier’ nuclear safety, security, fire and environmental events.
- Since acquiring the nuclear fleet in 2009, **EDF has invested around £8 billion** and will invest a further **£1.3 billion over the next three years (2025-27)** to help sustain current levels of generation, boost energy security and cut carbon.
- Over that 16-year period the UK’s nuclear stations have generated over **240TWh more electricity than expected** through life extensions and better operational performance. That is enough zero carbon electricity to power **every UK home for two years**.
- UK nuclear output in **2024 totalled 37.3TWh** - the same as 2023 - and nearly four times more than was anticipated for 2024 at the point of acquisition in 2009. The UK imported 21TWh from France in 2024, the majority of which will have been generated by French nuclear reactors.
- The objective is to **sustain output at around this level** into 2027 and longer, if possible.
- Sustaining existing output is also positive for jobs and tax receipts. In 2024, EDF’s Nuclear Operations business **expects to pay around £1 billion in taxes** including over £400million through the new Electricity Generator Levy.
- The estimated generating lifetimes of **Heysham 2 and Torness** power stations were extended in December 2024 by a further two years (to March 2030) and of **Hartlepool and Heysham 1** by a further one year (to March 2027). EDF’s ambition is to generate beyond these dates, subject to plant inspections and regulatory oversight.
- **Sizewell B delivered a successful maintenance and refuelling outage** in Autumn 2024 and nearly 9TWh of output during the year. Progressing a 20-year life extension opportunity (2035 to 2055) is a priority in 2025 and dependent on agreeing the appropriate commercial model to ensure such an extension is viable.
- EDF is committed to defueling the AGR fleet efficiently and supporting the seamless transfer of the sites to NRS. **The defueling of Hunterston B’s reactors is now complete** with good progress also made at Hinkley Point B and Dungeness B. Our aim is to transfer the first two power stations and many of their employees to NRS in 2026.
- Delivery of the above plans, and the investment in nuclear new build, will require **hiring over 1,400 people across the nuclear family in 2025**, including 300 in Nuclear Operations. The number involved in early careers schemes is almost 500.

Nuclear Operations

EDF Nuclear Operations, part of EDF’s Nuclear family, manages eight nuclear power stations across the UK, five of which are generating zero carbon electricity and three that are now in the defueling phase, the first stage of decommissioning. We will continue to safely decommission our two coal stations, while helping the UK Atomic Energy Authority develop the fusion reactor planned at West Burton.

We are Britain’s biggest generator of zero carbon electricity, providing approximately 13% of the UK’s power and consumers depend upon us to provide electricity safely and reliably.

With approximately 5,000 people employed directly, and thousands more in the supply chain across the country, Nuclear Operations plays a key part in EDF’s purpose in the UK.



1	PRESSURISED WATER REACTOR	<ul style="list-style-type: none"> ▪ Commissioned 1995 ▪ Lifetime expectation 2035+
7	AGR NUCLEAR STATIONS	<ul style="list-style-type: none"> ▪ Commissioned 1976 - 1988 ▪ Heysham 1 & 2, Hartlepool and Torness generating until 2027-30+ ▪ Hunterston B, Hinkley Point B and Dungeness B are in the defueling stage
2	THERMAL	<ul style="list-style-type: none"> ▪ 2 coal power stations, Cootam and West Burton, in the decommissioning stage

Supporting UK Energy Security

EDF has continued to invest in the nuclear fleet over the past year, allowing it to support UK energy security. Since acquisition in 2009 EDF has invested around £8 billion to extend lifetimes and improve reliability. Without EDF's investment in, and stewardship of, the nuclear fleet there would be one generating nuclear power station today (Sizewell B), not five, and nuclear would contribute only 3% of the UK's power generation. This would have meant more reliance on gas and imports, as well as higher energy prices for customers and more carbon in the atmosphere.

Over the past 16 years the UK's nuclear fleet has generated more than 240TWh, (+35%) more electricity than anticipated through life extensions and better operational performance. That is enough zero carbon electricity to power every UK home for more than two years.

Nuclear output in 2024 was 37.3TWh, the same as 2023's output, and almost four times more than expected when EDF acquired the fleet in 2009. The plan is to sustain this output, which is around 13% of the UK's electricity generation, until at least 2027.

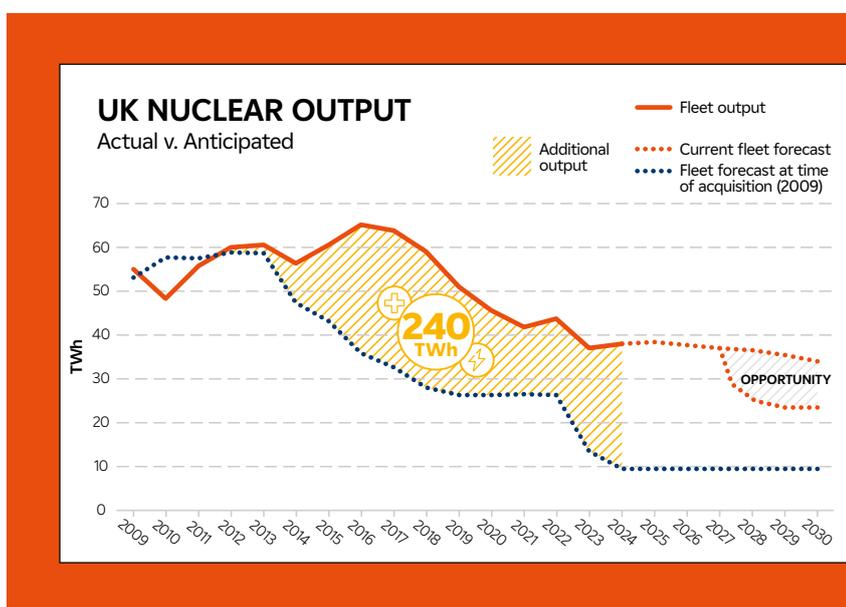
While output has dropped from a high point in 2016 of 65TWh from eight power stations, the fleet still plays an integral part in supporting UK energy security.

This is especially true when demand is high and renewables output is low due to weather conditions. The nuclear fleet's contribution to UK energy security goes beyond the reliable production of clean electricity, it also has a key role in providing inertia to maintain grid stability. Grid stability is becoming increasingly important as the power system decarbonises and conventional thermal plants, like coal and gas, are being replaced by renewable generation.

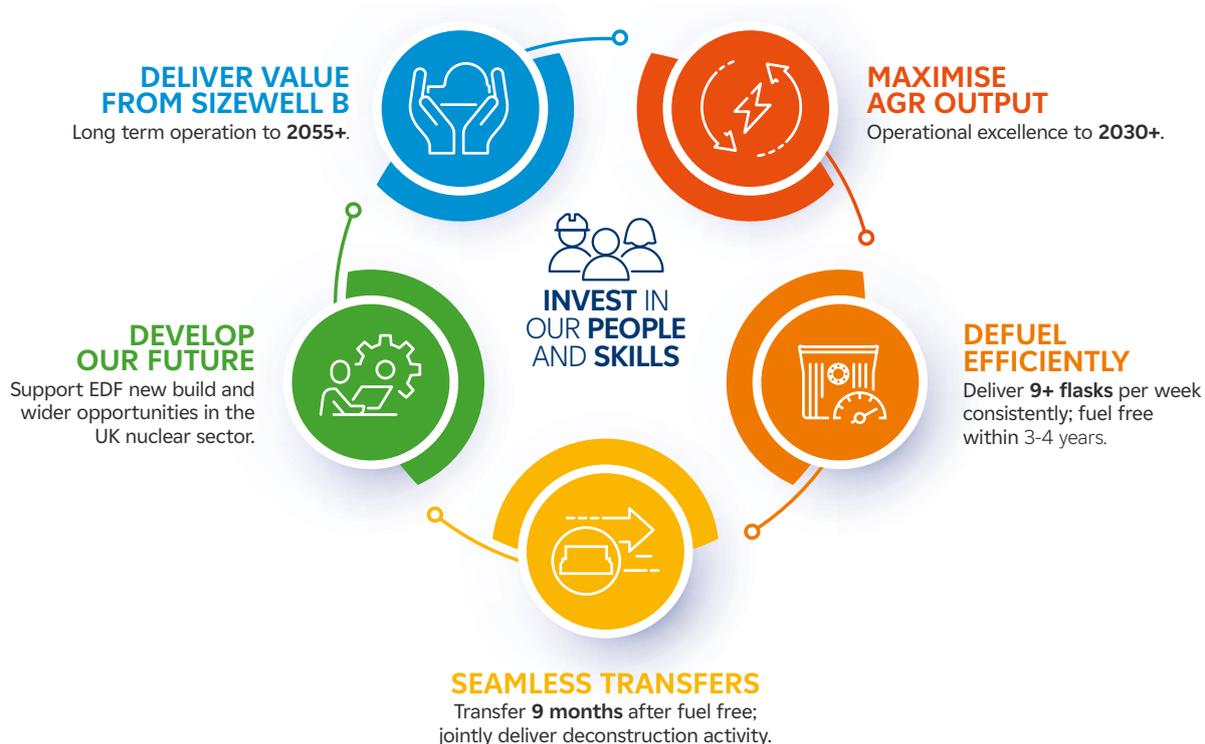
During the year, Heysham 2 reached a significant milestone. It has now generated more than 300TWh, making it the second most productive nuclear power station in the UK, after Hinkley Point B, which is now in defueling. Heysham 2 is expected to surpass Hinkley Point B's total in 2026.

Through its UK Nuclear Operations business, EDF is due to pay around £1 billion in taxes for 2024, including over £400 million through the Electricity Generator Levy (EGL).

Around 5,000 people are directly employed in the operating fleet, across 10 UK locations. Planned investment in the five generating stations is forecast to be £1.3bn over the 2025-27 period, to support the objective to safely maximise generation.



Our **10-YEAR** priorities



Priority One:

Deliver value from Sizewell B

Sizewell B power station in Suffolk started operations in 1995 and is a valuable UK asset. In February 2025 it celebrates 30 years of operation. The station provides 3% of the nation's electricity demand, making it important for energy security and the UK's clean power goals.

The station differs from the other seven stations in the fleet and has a design based on standard Pressurised Water Reactor (PWR) technology in common use around the world. It was initially intended to be one of a fleet of PWR stations to be built in the UK, a programme that was cancelled by the Government more than 30 years ago.

In 2024, the station completed its sixth continuous run between outages since generation started. That means it generated zero carbon electricity continuously for 510 days before it was taken offline for planned maintenance and refuelling. This is exceptional performance and demonstrates the value of the station to the UK energy system.

The seven-week outage was delivered to plan and involved the replacement of the enormous rotor system inside one of the turbines and detailed inspections of the reactor, its system and pipelines. The outage represented a £75 million investment in the power station and the additional contractors who supported the work provided a boost to the local economy.

The focus for the Sizewell B power station is on operational excellence and investing to enable a potential 20-year life extension, taking the lifetime out from 2035 to 2055. This decision is subject to agreeing the appropriate commercial model to ensure such an extension is viable.

Priority Two:

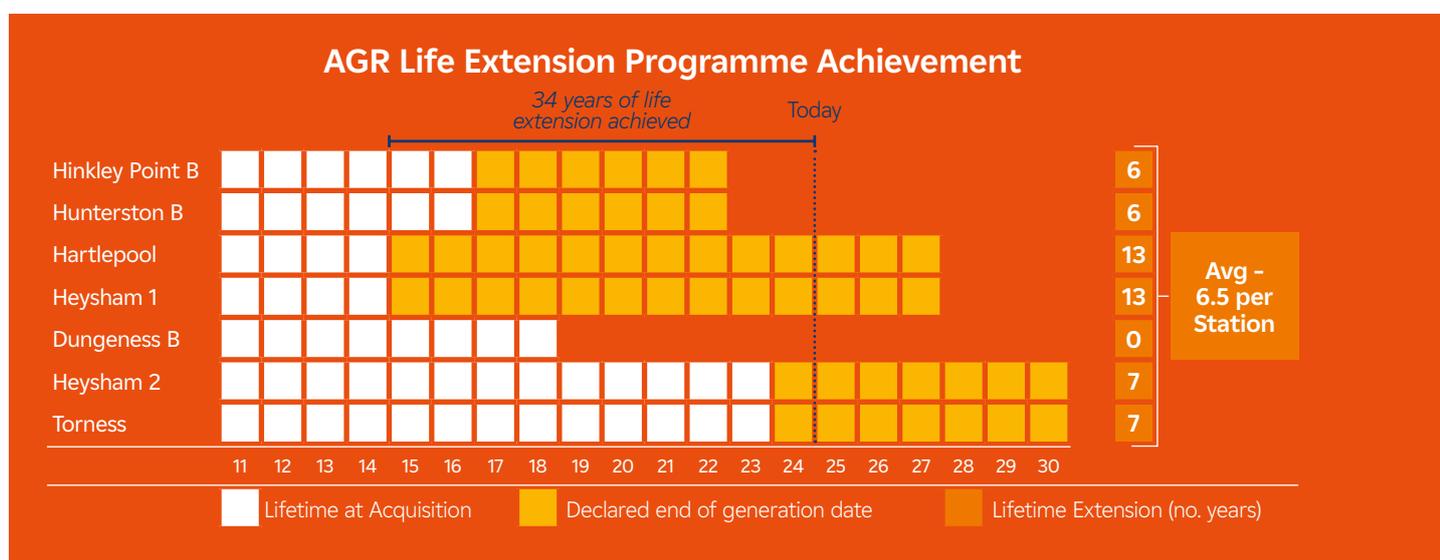
Maximise Advanced Gas-cooled Reactor output

We were delighted, in December 2024, to be able to announce further life extensions for the four generating AGR stations. Following a detailed review process, it was confirmed that Heysham 1 and Hartlepool would generate for one year longer, until 2027, and Heysham 2 and Torness would have their lifetimes extended by two years to 2030.

The decision, taken after a rigorous review process over a seven-month period, secures around 4.6GW of clean power for longer. It followed the publication of the [Clean Power 2030](#) report in November 2024 by the energy system operator, NESO, which outlined the importance of AGR life extension in reaching the UK Government's 2030 clean power goals.

As well as bolstering energy security, the decision supports plans for the rapid expansion of renewables by helping to maintain grid stability. It also helps to limit the UK's dependence on imported gas, with a further 45TWh of output potentially displacing over 9 billion cubic metres of gas over the extended lifetimes. That is the equivalent of over 60 Liquefied Natural Gas (LNG) tankers, more than 20% of LNG imports for 2023.

When EDF acquired the AGR fleet in 2009 all seven stations were due to be offline by March 2023, leaving the UK with just one nuclear power station, Sizewell B. Careful stewardship and around £8 billion of investment has seen several life extensions for these stations and much higher output than was predicted.



As well as helping Britain achieve its 2030 clean power targets this decision also supports the jobs of more than 3,000 staff and contractors working at the sites, as well as hundreds of companies in the supply chain.

Keeping the existing fleet running for longer will also help preserve valuable skills that will be critical as the UK seeks to re-build its nuclear capability.

The decision was welcomed across industry and government including support from the Secretary of State for Energy and Net Zero, Ed Miliband and the Chief Executive of NESO, Fintan Slye.

The ambition is to continue generating from these stations for as long as it is safe and commercially viable to do so. The actual end of generation dates for these four power stations will most likely be determined by the condition of the graphite making up the reactor cores, which is regularly inspected, and subject to rigorous assessment by the independent regulator. Inspections provide reassurance and allow us to meet strict external requirements, including global earthquake regulations. This means we must prove we can shut down the reactors during a major earthquake, a 1 in 10,000-year event, much larger than the UK has ever experienced or expects to happen.

EDF's technical and safety teams work hard to ensure appropriate regulatory permissions are in place for each reactor and that any technical challenges are dealt with efficiently. The operations and maintenance teams are responsible for managing the power stations and overseeing various inspections, to check the graphite reactor cores and invest in key areas like equipment reliability. We will continue to keep end of generation dates under review.

Priority Three:

Defuel the AGR Fleet Efficiently

During 2024, EDF made great progress in its defueling commitments to the UK Government. The agreement to defuel all seven Advanced Gas-cooled Reactor stations was reached in June 2021. Once the spent fuel has been removed each station will be transferred to Nuclear Restoration Services (NRS), part of the Nuclear Decommissioning Authority (NDA). This will happen on a rolling basis from 2026 onwards. There are three power stations currently in defueling (Hunterston B, Hinkley Point B and Dungeness B) and the costs come from an existing fund known as the Nuclear Liabilities Fund, which has built up over time and has a current value of £20.3billion - see the NLF website for further details <https://www.nlf.uk.net>. With the UK Government, and by extension the taxpayer, as our client, we are working hard to meet agreed performance targets while driving value for money and minimising costs. This is primarily a cost-recovery contract with an incentive and penalty framework in place which is subject to stretching targets.

There was significant progress in our defueling programme during 2024:

- On 17 December 2024, Hunterston B removed the final (616th) stringer of spent fuel from the station's second reactor, Reactor 4. This was a significant milestone in our defueling journey making Hunterston B the first of the AGR stations to empty both reactors of spent fuel. This work was in line with the budget and schedule agreed with the UK Government. Over the coming months the team at Hunterston B will work to dispatch the last of the spent fuel held in the ponds to Sellafield before it is officially declared free of nuclear fuel. The removal of all spent fuel from the reactors and ponds represents the removal of 99% of the radioactive material from the site.
- In August 2024, Hinkley Point B removed the last of 308 fuel stringers from its first reactor, Reactor 4. Following a short outage work got underway defueling Reactor 3, which is around a third defueled. The aim is to have the second reactor defueled and all spent fuel sent to Sellafield by the end of 2025.
- Dungeness B is a more complex station and site due to its unique design, but the team have worked through some early challenges and are now actively defueling the first reactor, which is around a quarter defueled.
- Over the past year we have continued to increase the rate at which we dispatch our flasks from all seven AGRs to Sellafield. In 2024, we dispatched a record 445 flasks and achieved a record 92% schedule adherence. This performance would not have been possible without the efforts of Sellafield to ensure it was able to process the additional traffic coming its way.
- We have also completed a project to increase the amount of spent fuel we are able to send in each flask. This project is expected to save £160m over the course of defueling.
- We completed the first phase of substantial fuel route upgrades at Hartlepool to allow us to increase the rate of defueling and make the process more efficient once that station comes offline. Similar upgrades are planned for Torness and Heysham 2.
- Since June 2021, when the first AGR station entered defueling (Dungeness B), our defueling expenditure has remained below our forecasts while delivering to our defueling strategy of 3.5 years, demonstrating value to the taxpayer.



Spent fuel flask being transported to railhead for journey to Sellafield

Priority Four:

Seamless transfer of the AGR Fleet

Completely decommissioning all seven AGR stations will be a multi-decade project. Once each site has been defueled by EDF it will be transferred to the NDA for its subsidiary, NRS, to carry out the next stages of decommissioning. It is our target to make this transfer approximately 9-12 months after each power station is declared as “fuel free”.

The first station due to transfer will be Hunterston B in mid-2026 with the rest of the fleet due to transfer on a rolling basis in the years that follow, depending on actual end of generation dates and overall defueling performance at each station and at Sellafield.

We have developed a joint team with NRS and are committed to working closely with them and the NDA to ensure we can carry out a seamless transfer of the sites and to identify efficiencies that will benefit the taxpayer.

Examples of EDF’s progress during 2024:

- Hunterston B secured consent from the independent regulator, the ONR, to start decommissioning following an application under the Environmental Impact Assessment Decommissioning Regulations (EIADR). The consent followed several rounds of public consultation by EDF and the ONR. It is the first EDF site to go through the process and the first full consent application in the UK for nearly a decade. This development paves the way for the safe and efficient decommissioning of Hunterston B.
- We agreed land transfer arrangements for both Hunterston B and Hinkley Point B giving clarity to EDF, NDA and NRS about the size and shape of the land that will come under NDA ownership following transfer.
- We agreed the post-transfer station organisation structures for Hunterston B and Hinkley Point B and talked to staff about what those structures will look like.
- We completed a formal consultation process with staff at Hunterston B, to understand who wanted to stay with the site and transfer to NRS after defueling. Following the consultation period, we were able to populate the new organisation structure and talk to people about their futures. The same process will take place at Hinkley Point B in the first few months of 2025.
- To support staff through this period, staff engagement events at Hunterston B and Hinkley Point B have been carried out. This was to help them find out more about NRS. Representatives from NRS came to talk about the organisation’s decommissioning activities and their 10-year strategy before staff made a decision on whether they would like to stay at the site following transfer.



Priority Five:

Develop our future as the UK's trusted nuclear operator

Our fifth priority over the next decade is to help develop longer term opportunities and clarity for our sites and people.

As the owner and operator of the UK's existing nuclear fleet, and the company responsible for re-starting the UK's nuclear programme after a 30-year hiatus, we are in a unique position to enable the development of new nuclear.

EDF owns five of the eight sites currently designated for new nuclear development in the UK. Construction is already underway at Hinkley Point C and Sizewell C, with plans for Heysham in Lancashire and Hartlepool on Teesside still in the early stages. The Bradwell site is also attractive for new nuclear (Small Modular Reactors (SMRs) and GW scale development), and we continue to engage with Great British Nuclear (GBN) to help determine the way forward.

EDF's objective is to help restore UK nuclear output back above 60TWh per annum by replacing the existing AGR fleet capacity by installing new European Pressurised Reactors at Hinkley Point C and Sizewell C and extending Sizewell B out to 2055.

Hinkley Point C and Sizewell C are nationally important industrial projects requiring significant capital investment and tens of thousands of people to contribute to them. Once built they will provide power for up to eighty years, into the 2100s. The Hinkley Point C project is showing the benefits new nuclear development can bring to an area. Hinkley Point C has now trained 1,320 apprentices and 23,500 jobs have been created on the project so far. It has seen £5.3 billion spent in the Southwest alone, smashing the original target of £1.5 billion, and £14.5 million has been provided to local groups through the project's community fund.

Beyond this major commitment, we will continue to support Government and industry with any plans to deliver a fleet of SMRs, further large scale nuclear at Wylfa and elsewhere and investment in advanced technologies.

In line with the UK Government strategy, EDF has continued to explore options for the long-term future of our sites. We are open in terms of which designs are taken forward at our sites and look forward to the Government's revised nuclear roadmap and further direction on which technologies should be developed on which sites as part of a holistic UK new build programme.

Engagement with Advanced Modular Reactor (AMR) developers continued at Hartlepool through 2024 with some of these developers carrying out their own stakeholder activities in the local area. We believe Hartlepool is the most suitable site in the UK for demonstrating High Temperature Gas Reactors (HTGR) - a type of AMR. HTGRs would help decarbonise industries on Teesside which need the heat and steam they could produce, and which are hard to abate through other means.

One or more HTGRs at Hartlepool - the [Hartlepool Heat Hub](#) - could secure hundreds of jobs at the site, and provide some of our employees, suppliers, and the wider industry on Teesside with longer term employment security.

In Lancashire, where we operate Heysham 1 and Heysham 2 power stations, and employ more than a thousand people, we have a site well suited to SMRs or AMRs. Not only does the site have available land, grid and rail connections and a supportive community, it also has a highly skilled workforce, the largest of any generating nuclear site in the UK, which could support the operation of any future nuclear development. Heysham and Hartlepool have all the attributes needed to host successful nuclear new build projects but if timelines drift, skills will drift. It is up to the Government to direct which nuclear technologies go on which sites, but decisions need to be taken quickly recognising the benefits of a timely transfer of skills and expertise from existing to new technologies. UK Government direction, through GBN, on how these sites should be re-developed is crucial to their futures.

Over the past year we have worked closely with GBN. We were pleased to see the selection of four potential developers in the UK Government's SMR competition. We look forward to seeing the results of this competition in the coming months and are ready to support the development of any technology that GBN selects for our sites and longer term requirements to operate these facilities.

Our West Burton A site, in Nottinghamshire, is also worth mentioning. As one of the UK's last operating coal stations, West Burton A closed in March 2023. West Burton A has been chosen as the location for the UKAEA's first commercial scale fusion project STEP (Spherical Tokamak for Energy Production). The site has the grid connections and other required infrastructure as well as regional support. Transitioning from an area known for coal-fired power to nuclear fusion will be a powerful example of clean technology replacing fossil fuels.

During 2025 we aim to develop options for the future of our Cottam site. This includes exploring whether the site could host a data centre and associated technologies like batteries and other energy storage technology.

Invest in our people and skills

The availability of skills is one of the biggest challenges facing the nuclear industry. Growth is expected in both the civil and defence sectors and the Nuclear Industry Association estimates that the nuclear workforce will need to double over the next 20 years – supporting around 80,000 additional skilled jobs across the UK.

EDF is committed to promoting and developing nuclear skills for the future. Our Nuclear Operations business is comprised of around 5,000 permanent employees with thousands more contractors and suppliers supporting the power stations.

In 2024, EDF brought more than 400 people into the Nuclear Operations business with a further 300 people expected to join this year. Across EDF's nuclear family, a group of five businesses which includes specialist engineering services and new build projects, we aim to hire 1400 people in 2025.

Last year, around 100 people joined early careers programmes in Nuclear Operations, including apprenticeships, the graduate programme and industrial placements. In total, there are almost 500 people in early careers programmes across EDF's nuclear family.

The announcement of life extension for the four generating AGRs will support around 3,000 jobs for longer. Meanwhile, at sites which have ended generation we have preserved crucial nuclear skills by supporting our people to retrain to stay at their current location to deliver defueling or to take on new opportunities at other sites. Providing skilled people to join new nuclear projects is also important and more than 500 people have transferred to Hinkley Point C from Nuclear Operations in the last decade, across a broad range of operations, engineering, regulatory and commercial skill sets. We are also working with colleagues at NRS to transfer hundreds of skilled people from EDF, starting with Hunterston B in 2026, to support the post defueling decommissioning phase of the nuclear life cycle.

EDF's Nuclear Services organisation, based in Gloucester, is home to a range of specialist nuclear skills supporting Nuclear Operations and our new build projects. Over the past year the number of people in that business has grown to around 700.

Operations and technical support for the existing fleet involves close collaboration with contract partners and suppliers, supporting thousands more UK jobs. In 2024, EDF spent more than £800 million to support its operational sites with 1,400 suppliers, over 90% of these being UK-based.

We continue to work with industry partners and government to support the development of skills and to attract new people to the sector.

As well as chairing the board of the National College for Nuclear we are active within the National Nuclear Plan for Skills and sit on the Delivery Board and Executive. We were also a founding partner in Destination Nuclear, the first joint nuclear recruitment campaign, which launched in February 2024.

EDF's long term vision is to be the UK's trusted nuclear operator. We will aim to maintain trust through the ongoing effective stewardship of the AGR fleet and Sizewell B. In addition, we will strengthen operational capability to serve the future water reactor fleet (Sizewell B, Hinkley Point C, Sizewell C); seek opportunities to provide technical skills to third party developers, once Government has approved new projects; promote our sites for future development to support the UK Government's nuclear strategy and plans; be prepared to operate other reactor technologies and work across industry on related energy technologies.

EDF will continue to work with Government and industry to address skills shortages and issues that impact operations and project delivery, including diversity, further education, supply chain capacity, migration, and the efficiency of vetting.

Clarity over sequencing and timing of new developments in the UK is also essential to help skills planning and investment. Moving too slowly on new nuclear development at sites with an existing operational workforce will result in a loss of valuable skills and will make it harder to restart the industry in those areas.



EDF apprentices at the annual graduation celebration



Find out how we make zero-carbon electricity!

Take a power station tour with Channel 5's Rob Bell

Our Nuclear Family



Nuclear Operations manages the eight power stations in the UK nuclear fleet.

Five of our stations are generating low carbon power, whereas Hunterston B, Hinkley Point B and Dungeness B have entered the defueling stage of operations, the first stage of decommissioning.



Nuclear Services provides technical expertise and support to each of its three licenses: Hinkley Point C, Sizewell C and Nuclear Operations.



EDF EPR Engineering UK develops EDF's nuclear expertise by assembling leading companies to support in the design, build and commissioning of our Hinkley Point C and Sizewell C projects.

It's a subsidiary of Edvance - part of the EDF group.



Hinkley Point C is our current nuclear new build project, that once built and operating is expected to power 6m homes.



Sizewell C is the UK's next mega nuclear construction project and will be a near-exact replica of Hinkley Point C.

The project moved into delivery mode in 2024 and construction is underway in Suffolk.

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