



THE GREAT SOUTH WEST A NEW NUCLEAR FUTURE

January 2026

Great South West



greatsouthwest.co.uk



A New Nuclear Future

The Great South West can lead the nation's clean energy superpower ambitions through its nuclear heritage and leadership, skilled workforce, expertise, and supply chain capabilities

The UK is entering a new era of nuclear energy that will deliver clean power generation, drive economic growth, and create high-quality jobs across the country.

The Great South West is ready to lead this transformation.

Immersed in nuclear heritage, the region hosts an established ecosystem across both civil and defence sectors, including active nuclear licensed sites and the highest concentration of nuclear-related employment in the UK. With its unique combination of natural assets and experience gained through the delivery of Hinkley Point C - the first UK new nuclear reactor in a generation - the region is ideally positioned to play a leading role in supporting the UK's new nuclear ambitions.

A culture of innovation and a proven track record in delivering major infrastructure projects have made the Great South West a magnet for public and private investment. Its collaborative model for skills, training, supply chain development, and project delivery creates a resilient ecosystem that reduces the risk for nationally significant projects, thereby unlocking economic growth locally and beyond.

The Great South West already hosts many civil and defence-related nuclear infrastructure and skills assets including new build nuclear at Hinkley Point C, decommissioning at multiple sites including Winfrith, and naval nuclear at HMNB Devonport and Devonport Dockyard.

Historically, the region also hosted the operation of Hinkley Point B power station, one of the UK's most productive energy assets, and the innovative development of several advanced nuclear reactor types including High Temperature Gas Reactors.

A New Nuclear Future builds on the Great South West's Clean Energy Prospectus (2024) and demonstrates why it is the 'go-to' location for new nuclear investment.

With the region expected to generate up to 11% of the UK's clean energy demand by 2035, there is clear scope for the Great South West to play an even bigger role in the UK becoming a clean energy superpower and in parallel, secure long term sustained economic growth for the nation.

This requires strong partnership working between the Great South West and UK Government, Great British Energy - Nuclear, and partners such as Nuclear South West, to capitalise on new policy, including the EN-7 new nuclear siting policy, and the region's credentials and spirit of innovation to deliver these national missions.

A New Nuclear Future captures the region's nuclear offer - as part of a portfolio of wider clean energy assets - and demonstrates the scale and diversity of market opportunities for new nuclear investment that can shape an exciting economic legacy for generations to come.



Professor Dame Judith Petts DBE
Chair of the Great South West Energy
Programme Board, Emeritus Professor
University of Plymouth

CONTENTS

The Opportunities for a New Nuclear Future	03	New Build Enablers	11
South West Growth through Nuclear Development	05	Lasting Social and Economic Benefits	13
Home of the UK's Largest Infrastructure Project	07	Wider Energy Applications	15
Existing Locations and the Potential for New Build Nuclear	09	Focus on Technology	17
		Illustrative Case Studies	19
		References and Acknowledgements	23

Winfrith Steam Generating Heavy Water Reactor (SGHWR)
During Operation (1967-1990).
The Advanced Reactor provided electricity to the national grid in Dorset for 22 years.



THE OPPORTUNITY FOR A NEW NUCLEAR FUTURE

UK Governments have consistently supported the growth of nuclear.

This has now led to the greatest potential for nuclear expansion in two generations. Small and Advanced Modular Reactors (collectively known as Advanced Nuclear Technologies) are now embedded into the UK's nuclear future, with a highly attractive nuclear deployment environment, which could generate higher economic growth and provide more good jobs across more locations. In the longer term, a fusion could also deliver commercial power stations.

Great British Energy - Nuclear is tasked by the Government to deliver a new fleet of reactors in the UK, with Small Modular Reactors at Wylfa being the current priority. Concurrently, policy developments on nuclear siting and regulation, hydrogen, aviation, shipping and district heating present unique opportunities for expansive

nuclear sector growth across the UK – all of which will contribute to higher economic growth, increased good jobs across more locations, and accelerate the transition to a Net Zero future.

The Great South West – with current nuclear licensed sites, pre-existing skills, and strong supply chain capabilities – provides a head start compared to other locations for nuclear projects seeking rapid and lower risk deployment in a region where communities are already familiar with nuclear energy and the hosting of nuclear facilities.

These present a compelling investment opportunity to support the national endeavour for a fleet of new nuclear reactors and the long-term supply of nuclear fuel by leveraging the region's comprehensive nuclear ecosystem, which also serves as a blueprint for other regions and enables the Great South West to

‘export’ its new build experience.

The Great South West's proven track record in delivering Hinkley Point C – the first UK new nuclear reactor in a generation – coupled with the nuclear legacy at Winfrith and the defence-focused infrastructure at HMNB Devonport and Devonport Dockyard, demonstrates the Great South West's readiness to deliver further nuclear projects and programmes in alignment with growing economic demand that leverages the region's embedded culture of nuclear and wider clean energy innovation.

Clean energy parks and campuses across the Great South West already host the UK's most groundbreaking industries, which are critical to delivering the UK's Modern Industrial Strategy and the Government's overall mission for the UK to achieve the highest sustained growth in the G7 over the next decade.

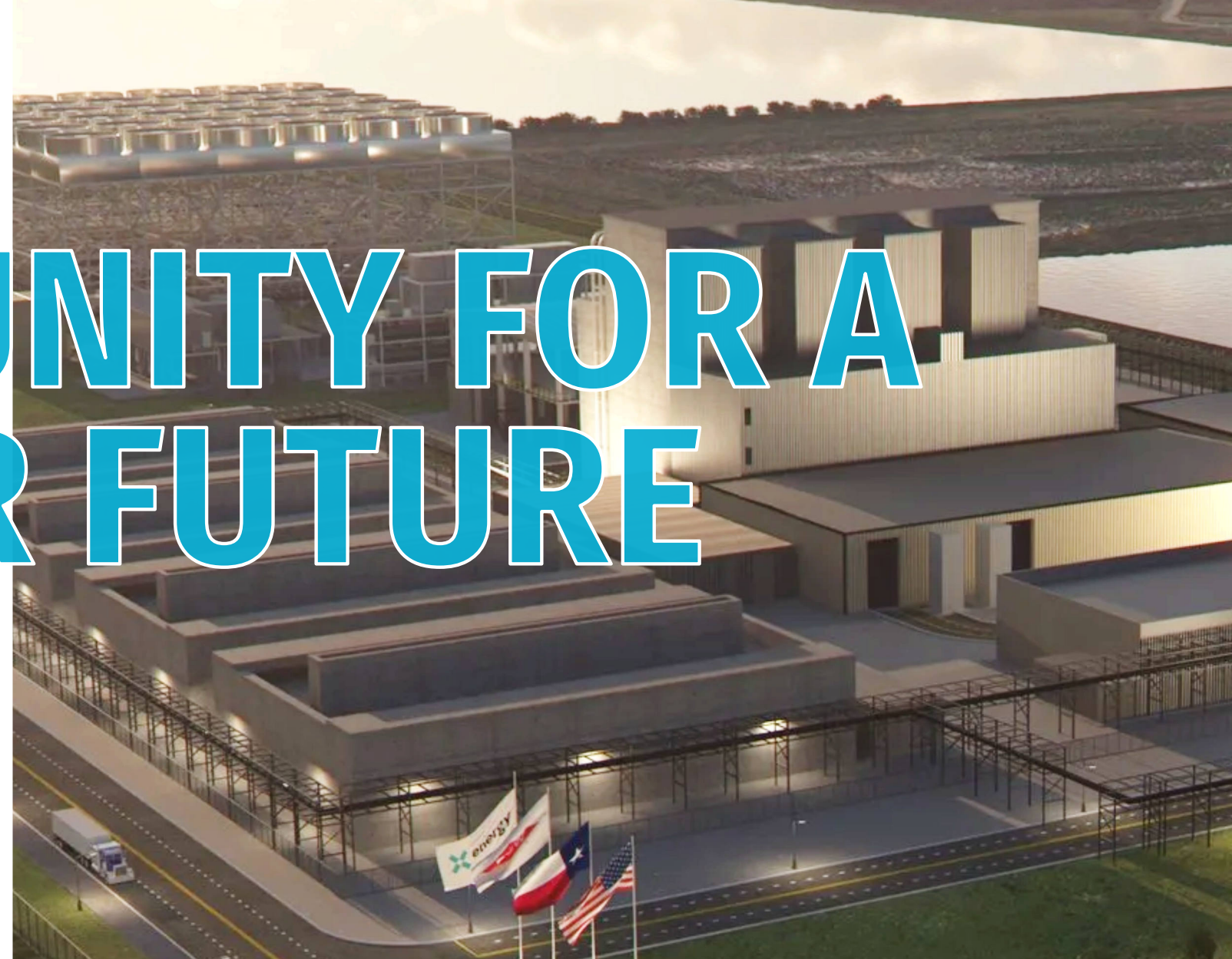
UK Definitions of Advanced Nuclear Technology

Small Modular Reactors

These use the same technology as conventional large nuclear power stations operating around the world but are smaller and provide options for easier financing and quicker build times with lower risk due to modular designs with more scope for factory construction. Example: Rolls-Royce Small Modular Reactor

Advanced Modular Reactors

Operating with alternative physics and cooling fluids, these reactors operate at higher temperatures and use advanced fuels with higher enrichments. Advanced Modular Reactors operated previously at Winfrith in Dorset. Example: X-energy's Xe-100 and TerraPower's Sodium



THE FOUNDATIONS FOR A NEW NUCLEAR FUTURE

1

A NEW NUCLEAR FLEET

Great British Energy - Nuclear is tasked to deliver a nuclear new fleet and has selected the Rolls-Royce SMR as the technology partner for its first project at Wylfa.

2

POLICY AND REGULATION

The Advanced Nuclear Framework, new nuclear siting policy and the Nuclear Regulatory Taskforce outcomes provides a robust basis for progress and growth.

3

REDUCED COST

Replication, modular designs and the Regulated Asset Base financing model shares nuclear deployment risk to bring down the cost of financing nuclear reactors.

4

ADVANCED TECHNOLOGY

Small and Advanced Modular Reactors can reduce built time and cost through modern, modular construction techniques and passive safety.

5

ACTIVATE PRIVATE INVESTMENT

Public-private collaboration can unlock capital and support a nuclear fleet and meets industrial energy needs and reduces cost and risk to consumers.

6

ACCESS NEW MARKETS

Hydrogen, aviation, shipping and heat policies all categorise nuclear as equivalent to renewable energy in financing and revenue support mechanisms.

7

AMBITIOUS DEPLOYMENT TARGET

The UK Government recognises that nuclear could provide 25% of 2050 electricity demand with up to 24GW of new nuclear deployments.

8

DEFENCE - CIVIL PARTNERSHIPS

Shared capability to support the UK's defence programme including the strategic deterrent, propulsion systems and nuclear infrastructure.



SOUTH WEST GROWTH THROUGH NUCLEAR DEVELOPMENT

The UK nuclear sector contributes £7billion to the economy and employs over 70,000 people, much in the South West through the development of the Hinkley Point C nuclear power station.

The region is accustomed to nuclear operations and decommissioning and has supported nuclear generation since 1957. The regional economic benefit is realised through higher-skilled, better-paid jobs across the region.

The supply chain and skills in the area have emerged over decades providing a highly capable and competent base that has both supported nuclear operations at Hinkley Point B and actively enabled the construction of the UK's first nuclear reactor in a generation at Hinkley Point C. It is this heritage and capability that nuclear developers and operators of the future can benefit from within the Great South West.

The region's nuclear heritage extends to advanced nuclear including the Dragon High Temperature Gas Reactor at Winfrith, anchoring the region as a historical leader in new nuclear innovation.

The Great South West is a great place to do business, with investment in a wide range of clean energy projects including cleaner air and sustainable energy and heat infrastructure driving industrial growth that is aligned to national

economic priorities and ambitions.

Alignment with regional transport hubs and industrial locations also presents new opportunities for nuclear to provide spin-off benefits through low-carbon fuels production.

Hinkley Point C is a transformative, first-of-a-kind project for the UK; demonstrating how to pivot from the high capital challenge of a nuclear new build to reignite the UK's nuclear supply chain, boost manufacturing, enhance the UK's major project delivery capabilities, and renew the relationship between the nuclear sector and regional and national stakeholders.

Small and Advanced Modular Reactors offer a streamlined path forward. Their smaller scale requires less capital investment and allows key components such as reactor pressure vessels and turbine systems to be sourced from a wider range of suppliers.

Investing in small and advanced modular nuclear deployments at locations close to the Great South West region, for example Oldbury and Berkeley, means capitalising on a revitalised local supply chain, with lessons learned from Hinkley Point C and a growing base of nuclear-ready talent and infrastructure.

The skills, capabilities, supply chain, infrastructure and academic institutions in the Great South West represent an unmatched nuclear ecosystem.

This nationally leading nuclear ecosystem - across civil and defence - can play an instrumental role in delivering the UK's new nuclear future, for large scale, Small and Advanced Modular Reactors.



THE GREAT SOUTH WEST'S NUCLEAR ADVANTAGE

- 1 NUCLEAR PROGRAMME DELIVERY**
The first nuclear power station in a generation at Hinkley Point C demonstrates the region's ability to support the delivery of major infrastructure projects.
- 2 REGIONAL LICENSED SITES**
Existing licensed sites could present opportunities for nuclear deployment in locations where stakeholders and the public are already informed on nuclear operation and decommissioning.
- 3 HOME TO ADVANCED TECHNOLOGY**
The South West has previously hosted nine experimental Advanced Modular test Reactors at Winfrith in Dorset, which has a longstanding relationship with nuclear innovation.

- 4 INNOVATION CULTURE**
A region already steeped with an innovation culture, clean energy and exploration appetite demonstrated by multiple clean energy parks and Spaceport Cornwall.
- 5 DEFENCE NUCLEAR ENTERPRISE**
Host to the UK's only nuclear submarine refitting, repair and refuelling base. Embedded synergies between civil and defence nuclear capabilities are strong.
- 6 INDUSTRIAL HEARTLAND**
The largest industrial base in the South and increasing energy demand as innovation in low-carbon solutions grows rapidly alongside infrastructure upgrades.
- 7 CONNECTIVITY**
World class connectivity for data with international cable landing sites and ever-reducing transit times across the region.



HOME OF THE UK'S LARGEST INFRASTRUCTURE PROJECT

The South West is proud to be the UK's leading region for new nuclear investment, thanks to the established supply chain and expertise built around Hinkley Point C, which has already injected over £5.3 billion into the regional economy. More than 1,300 regional companies have benefited, and the overall regional nuclear workforce has grown to over 31,000, supported by 29 colleges, leading universities, and specialist centres including the National College for Nuclear.

Existing training centres in the South West, such as those specialising in mechanical, welding, and electrical engineering, alongside the National College for Nuclear, are being used for multiple, highly strategic purposes.

Importantly, these training centres are designed to be flexible. They support not only nuclear but also other sectors such as renewables, construction, and

advanced manufacturing. This multipurpose approach maximises the value of regional investment in skills infrastructure and ensures a steady pipeline of talent for a wide range of major infrastructure projects.

Since 2017, the Hinkley Supply Chain Programme has significantly boosted the South West and South Wales economies by helping over 1,300 businesses access opportunities linked to Hinkley Point C.

These businesses and their highly trained people stand match-fit, ready to support new nuclear projects minimising the time required to stand up the workforce for the next project and lowering risk.

With a public sector return on investment rising from 7:1 to nearly 80:1, the programme has built a strong cluster of nuclear-capable businesses ready for future growth, and ready to support further national and regional nuclear development programmes.



EXISTING LOCATIONS AND THE POTENTIAL FOR NEW BUILD NUCLEAR

Somerset, Devon and Dorset are home to nuclear licensed sites

Additional to pre-existing nuclear infrastructure, the Great South West has the potential to host new Small and Advanced Modular Reactors on additional sites.

Any such site would be subject to strategic and regulatory review, local stakeholder engagement and would require a well-funded and capable nuclear development organisation to facilitate the build programme.

Suitable sites must align with National Policy Statement (NPS) on new nuclear siting, EN-7, and be technically feasible, socially acceptable and economically viable. All potential sites may experience policy, technical, planning or economic challenges, or a combination thereof.

Prospective developer organisations benefit from the Great South West holding a head start advantage on the path to securing the required skills and capabilities for a new build project.



HMNB Devonport and Devonport Dockyard

HMNB Devonport and Devonport Dockyard is a nuclear licensed site where nuclear-powered submarines are serviced, repaired and refuelled. As part of the largest naval base in Europe the ecosystem of enduring skills, supply chain expertise and training providers presents a unique opportunity for nuclear developers wishing to kick-start their programme. 21,500 jobs are supported with an economic contribution £1.3bn GDP

Portland Port can host nuclear powered submarines for the Royal Navy, where the port's "Deep Water Berth" is authorised for operational visits, without requiring a nuclear site license to be issued by the Office for Nuclear Regulation.

Winfrith nuclear licensed site, operated by Nuclear Restoration Services, is a decommissioning location, previously at the heart of UK nuclear innovation.

The Dragon High Temperature Gas Reactor (pictured) is a technology now considered a leading Advanced Modular Reactor type, cementing the location as a centre of nuclear excellence.

Master-planning activities for the site, which adjoins Dorset Innovation Park, are ongoing with a focus on clean energy-led development including new nuclear, hydrogen generation and storage, advanced engineering and manufacturing, and research.





NEW BUILD ENABLERS



Nuclear development projects require decadal commitments and trusted partnerships between the community, developer and a wide range of other contributing organisations. The land owner, regulators, regional organisations, central and local governments, technology providers, nuclear fuel suppliers, training and education providers, supply chain companies, energy utilities and energy users all have a role to play.

Key project enablers are supported by regional leadership and engagement with developers of Small and Advanced Modular Reactors across the UK to secure the Great South West as a major contributor to the UK's new nuclear ambitions.

Nuclear innovation at Winfrith, electricity generation at Hinkley Point and the extensive national capability at HMNB Devonport and Devonport Dockyard underline the importance of nuclear in the region.

The Great South West ecosystem stands ready to unlock five key enablers to maximise the opportunity for the delivery of successful Small and Advanced Modular Reactor deployments that deliver for investors, workers, supply chain companies and the nation.

Meanwhile, transitioning labour and skills from Hinkley Point C beyond the peak of construction provides opportunities for workers, supply chain companies and developers.

In collaboration with industry and Government, the Great South West region stands ready to support the UK to achieve its nuclear ambitions, including as one of the UK's premier locations for Small and Advanced Modular Reactors within the remit of NPS EN-7.

The region exhibits the essential features for investable, lower-risk projects including coordinated and committed regional partnerships, skills and the ability to mobilise and deliver multi-billion pound infrastructure projects.

GREAT SOUTH WEST POTENTIAL FOR SMALL AND ADVANCED MODULAR REACTORS

The Great South West's goal is to demonstrate how the region can deliver nationally and internationally significant market opportunities through new nuclear.

In collaboration with Nuclear South West and other key stakeholders, we aim to:

1. Be a world class partner to nuclear developers seeking to leverage the region's compelling nuclear and wider economic assets.
2. Ensure investments are:
 - a. Fully aligned with the policy and regulatory landscape
 - b. Well-purposed and well-timed to maximise return on investment
 - c. Purposefully aligned to the regional and national economic priorities
3. Demonstrate the region's on-going contribution to the UK's nuclear success story.
4. Establish a clear voice with, and channel to, UK Government, GB Energy-Nuclear, the National Wealth Fund and other investors, and key national stakeholders on the strength of the region's offer, capabilities, and partnership working.
5. Create a supportive framework for identifying and reviewing all credible proposals for new nuclear opportunities within the region from an informed position and in line with regional and national priorities.

To achieve this requires funding into the delivery and coordination of the above activities.

The UK's success in enhancing its nuclear nation credentials arguably rests on recognising and backing the Great South West as a region that continues to demonstrate 'first mover' strengths in nuclear.

This requires cross-departmental support from the UK Government to make it happen.

KEY ENABLERS

1

A committed and well-funded developer

This forms the central pillar of any new build project development. The Great South West offers those seeking to invest in Small and Advanced Modular Reactors a launchpad to accelerated project delivery.

2

A supportive supply chain

With multiple nuclear licensed sites steeped in heritage and nuclear innovation, the Great South West has an agile and credible supply chain to further new nuclear projects at scale and pace.

3

A supportive skills ecosystem

The Great South West is home to extensive and well-regarded skills ecosystem with high quality facilities including the National College for Nuclear and the South West Nuclear Hub for Nuclear Skills.

4

A pro-nuclear environment

The current national policy landscape is the most positive in two generations and further reinforced by recognition of the value that nuclear can bring as part of a wider, and dynamic clean energy offer from the Great South West.

5

Supportive national and regional policy for new nuclear

UK Government policy is due to enable more sites to host nuclear power stations providing a low risk option for developers seeking to deploy Small and Advanced Modular Reactors.



SMALL MODULAR REACTORS CAN PROVIDE

3,000 Jobs for a power station with three reactor units

Direct low-carbon heat provision to local industry and homes including for low carbon fuels production

~3 million Homes powered

~1.5GW

Low-carbon electricity available from a three reactor site

LASTING SOCIAL AND ECONOMIC BENEFITS

£5.3bn

Directly spent with South West companies through Hinkley Point C

New nuclear deployment presents a multi-billion-pound opportunity to revitalise the South West's industrial landscape. The modular design of modern reactors, which rely heavily on factory-built components, mean social and economic benefits can be felt near to and distant from build locations. This creates a strong demand for regional manufacturing hubs and logistics networks to benefit major companies and smaller enterprises, fostering long-term economic resilience.

attract inward investment, and support long-term skills development across the region. Deploying advanced reactors in the South West could deliver significant socioeconomic benefits. Some designs of reactors share design similarities with the UK's Advanced gas-cooled reactors such as Hinkley Point B, enabling the retention of world-leading and unique expertise in gas-cooled reactor operation, high-temperature materials, and graphite. This helps preserve strategic capabilities and prevents skilled professionals from leaving the industry.

£15.3bn

GVA from Hinkley Point B over its operational life in Somerset

The South West is well-positioned for this transformation with its strategic location, diverse economy, and existing technical expertise and infrastructure to support new nuclear generation and associated facilities. Investing in new nuclear in the South West would unlock regional supply chain potential, drive high-value job creation,

Locating Advanced Modular Reactors at existing or former civil nuclear and defence sites allows established local supply chains to remain active, supporting jobs and local economies. These suppliers are often well-adapted to local conditions and can meet the safety and security needs of nuclear operations. Local sourcing also reduces transport emissions.

ADVANCED MODULAR REACTORS CAN PROVIDE

£12bn **2500** jobs per 12-unit station

Lifetime economic impact from one X-energy station with 12 reactors

1.5 million

Homes powered by a 12-unit Advanced Modular Reactor development

~1GW

Low-carbon electricity available from a multi-reactor site

High and lower temperature heat for industrial decarbonisation and low-carbon fuels production

SMR figures source: <https://www.gov.uk/government/news/rolls-royce-smr-selected-to-build-small-modular-nuclear-reactors>
AMR figures source: <https://www.centrica.com/media-centre/news/2025/centrica-and-x-energy-agree-to-deploy-uk-s-first-advanced-modular-reactors/>



WIDER ENERGY APPLICATIONS

Additionally to grid electricity, nuclear can support a wide variety of applications bringing diversity and opportunity to developers in how a commercial case for nuclear can be constructed, and options for energy users in how they secure and receive their energy.

The Great South West is ideally placed to host the low-carbon value chains that start with low-carbon energy production and end with the use of low-carbon fuels of the future, thus driving industrial growth and regional jobs.

FIRM, FLEXIBLE ELECTRICITY

Firm electricity provides a key service, keeping the lights on when renewables output is low and maintaining energy independence and grid stability. With a strong pipeline of renewable energy projects including floating off-shore wind in the Celtic Sea, integrating nuclear technologies within the wider ecosystem can lead to fewer grid constraints, shorter transmission distances and greater utilisation of valuable resources.

HYDROGEN

Hydrogen produced with the electricity and heat from nuclear reactors has the potential to be lower cost than other hydrogen generation routes and can be produced locally to centres of demand using smaller areas of land. Championed by Hydrogen South West, the synergy between hydrogen and nuclear can drive towards lower emission, lower cost energy systems sooner.

DATA CENTRES

Data centre operators in the South West can benefit from proximity to the many international data cables entering the UK in the South West, while simultaneously improving their sustainability by leveraging the region's low-carbon energy production infrastructure.

AVIATION FUEL

Produced using electricity and heat inputs from nuclear power stations, sustainable aviation fuels (SAF) can be manufactured closer to regional airports creating strong jobs growth potential supported by the regions four airports. The SAF production process requires large quantities of energy. Current projects are in their early stages with demand and deployment timelines that align with the potential availability of new nuclear Small and Advanced Modular Reactors.

E-DIESEL

The use of nuclear energy to produce shipping fuels could enable the regions fuel demands to be met e the electricity and heat inputs from reactors. Production systems could require innovative Direct Air Capture, electrolysis and fuel upgrading systems to further drive the regional innovation agenda. The use of Direct Air Capture provides the opportunity for additional emissions reduction through carbon dioxide storage.



Policy, financing and revenue support frameworks are favourable to the use of nuclear energy to support the energy transition more than ever before.

The Great South West, energy companies, innovators and energy users can therefore look to nuclear for their low-carbon energy needs as part of a pan-regional ecosystem of energy production and use.

In synergy with renewables, energy storage and conventional generation, nuclear can deliver an important pillar of the energy system while also supporting levelling up by creating thousands of clean energy jobs across the energy value chain from production to use. In this way, energy production from nuclear can be a regional jobs driver across the economy.

NON-ENERGY USES

MEDICAL

Medical radioisotopes play a vital role in modern healthcare, helping doctors diagnose and treat a wide range of conditions, including cancer and heart disease. However, the UK currently lacks a comprehensive long-term strategy for producing these essential materials domestically, leaving the country reliant on international supply chains that can be vulnerable to disruption. Excitingly, some designs for Advanced Modular Reactors could produce medical isotopes as part of their operation helping to support multipurpose nuclear operation.

SPACE

Cornwall is emerging as a key player in the UK's space sector, with one of the country's leading space launch sites at Newquay and the globally significant Goonhilly Earth Station driving deep space communications. Together, they anchor a fast-growing space economy in the South West. Looking ahead, the region could play a role in pioneering space battery technology, which uses long-lived isotopes from nuclear waste to power deep space probes. This innovation links the South West's strengths in both space and nuclear sectors, offering exciting potential for future collaboration, investment, and leadership.

PROPULSION

Nuclear-powered submarines are a cornerstone of the Royal Navy's capability. Devonport hosts the UK's submarine repair, refurbishment and refuelling capability. With UK partnerships including AUKUS, the role of nuclear propulsion in the region with a consistent requirement for skills is a springboard for new projects. The Royal Navy's interest in a potential new nuclear-propelled surface ship could present new opportunities to leverage existing and new skills for regional growth.



FOCUS ON TECHNOLOGY

Vendors for Small and Advanced Modular Reactors are early movers in recognising the opportunity for advanced nuclear to meet the needs of society. In the UK, many vendors are actively pursuing projects funded by either UK Government or private enterprise. Some examples active in the UK are:

Rolls-Royce SMR

The case for nuclear has never been stronger, and the Rolls-Royce SMR has been specifically designed to avoid the difficulties that have impacted other 'large-scale' nuclear projects over recent years.

Rolls-Royce SMR is a 470MWe Pressurised Water Reactor (PWR) which is entirely focused on reducing project risk, increasing delivery certainty and is committed to developing a solution which will provide energy quickly and affordably to a wide variety of global locations.

This unique 'factory-built' approach means that approximately 90% of the plant will be factory fabricated, tested and delivered to site as modules, where they will be assembled and commissioned by the Rolls-Royce SMR team under an Engineering, Manufacture, Assembly (EMA) contract.

X-energy's Xe-100 High Temperature Gas-cooled Reactor

The Xe-100 reactor is an advanced modular nuclear reactor using helium coolant within the reactor core. The technology represents the next generation of clean, safe, reliable, and zero-carbon nuclear energy. The Xe-100 is designed to produce 80MW of electricity, or 200MW thermal energy. It can be scaled up into a 'four-pack' configuration, allowing for a total power output of 320 MW.

Xe-100 reactors use TRISO particle fuel and are designed to be intrinsically safe as the fuel can withstand extreme temperatures without melting. This stands to provide 60 years of safe, uninterrupted low-carbon electricity and

process heat to additionally enable the transition of high temperature heat requirements to lower-carbon energy supplies.

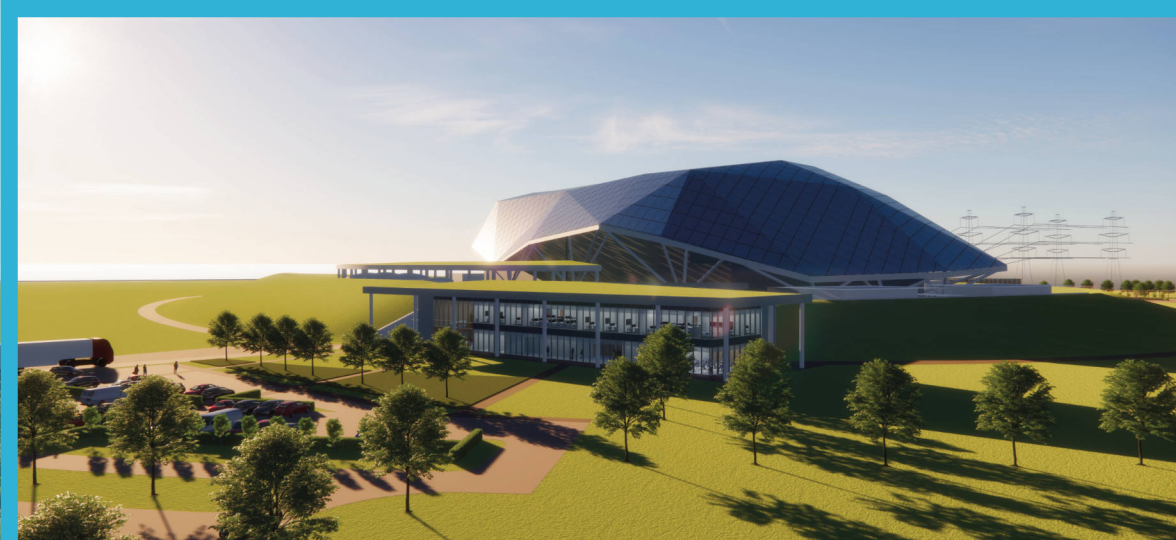
Holtec SMR-300

Holtec Britain's SMR-300 will produce a steady source of low carbon electricity, safely bringing 320 MWe of green power to UK homes and businesses over the next 80 years. The reactor and its systems have been engineered using proven Pressurised Water Reactor (PWR) technology, with fuel similar to that already used at Sizewell B, and other new UK reactors under development including Hinkley Point C.

Throughout the design and development of the SMR-300, Holtec has drawn upon decades of proven PWR operating experience and manufacturing pedigree, as well as existing UK nuclear presence, and can manufacture large reactor components in its own facilities which provides quality control and value for money. The result of Holtec Britain's endeavours is a sustainable and reliable contribution to UK energy independence for generations to come.

TerraPower

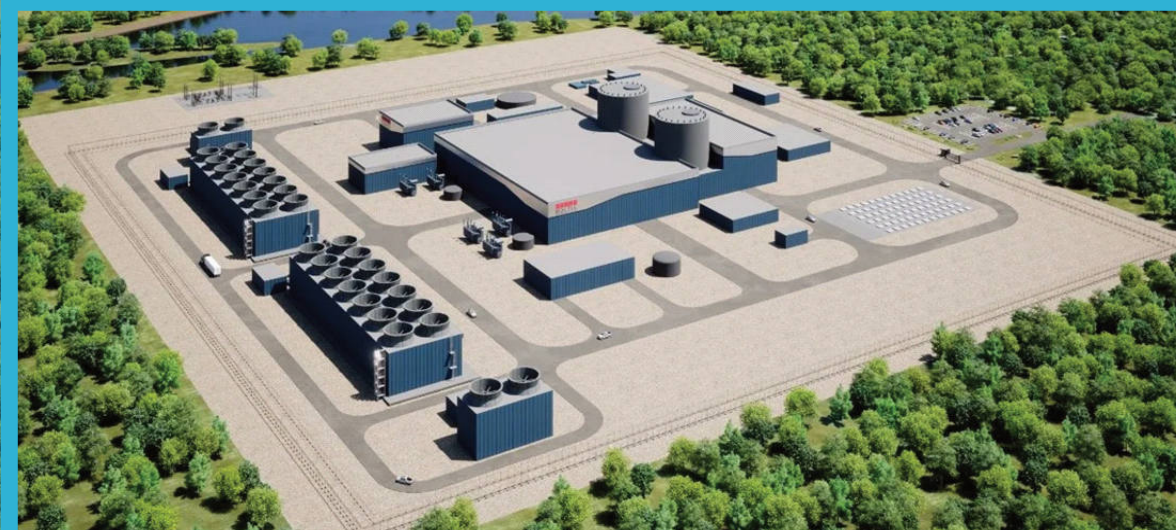
Unlike today's Light Water Reactors, the Natrium reactor is a 345MW sodium fast reactor coupled with TerraPower's breakthrough innovation - a molten salt integrated energy storage system, providing built-in gigawatt-scale energy storage. The Natrium reactor maintains constant thermal power at all times, maximising its capacity factor and value. Molten salt energy storage is more resilient, flexible and cost-effective than current grid-scale battery technology. The Natrium technology's advanced design enables simultaneous production of carbon-free electricity and heat to support decarbonisation of power and industrial sectors. No other reactor has this capability.



SMR

Advanced Light
Water-cooled Small
Modular Reactor

 **energy**
Xe-100
**Pebble Bed, Modular,
High Temperature Gas
Reactor**




HOLTEC
BRITAIN

Advanced Light
Water-cooled Small
Modular Reactor


**Sodium-cooled fast reactor
coupled with molten salt
energy storage**





CASE STUDY - PROJECT SHyNE

Regional nuclear-enabled hydrogen production to support future regional low-carbon energy demands

Hydrogen presents a potential pathway to the decarbonisation of industry, homes and businesses. The extensive gas network offers opportunities to transport hydrogen and low-carbon gases to meet future energy needs while maximising the full value of critical national infrastructure for generations to come.

Wales & West Utilities (WWU) have been exploring methodologies for hydrogen production, including the hydrogen production from nuclear energy. They recently commissioned the SHyNE study (Scaling Hydrogen with Nuclear Energy) to explore the viability of nuclear-enabled hydrogen (NEH) and the feasibility of NEH to support the energy transition.

The study found NEH to be an economically and technically viable option when paired with small and advanced modular reactors. This could allow hydrogen production at sites near key areas of demand, with the ability to be deployed alongside WWU's decarbonisation roadmap. This demonstrates the strong opportunities to link end user demand for clean energy products including hydrogen, with the local and regional jobs creation from small and advanced modular reactors providing the input energy requirement.

The study demonstrates the appetite for innovative solutions that include strong place-based drivers for jobs creation and economic growth in the regions where energy is produced and consumed.



CASE STUDY - HINKLEY POINT C IMPACT

The construction of Hinkley Point C is providing a significant economic boost on the local, regional and national scale.

Backed by new training facilities and courses to help people take advantage of the opportunities, the project is creating thousands of higher-skilled, well-paid jobs across the supply chain. In turn, these opportunities are helping to boost growth and directly improve the prospects of businesses and people from across the country.

At the national level, the construction of Hinkley Point C is an important catalyst for growth with the project currently contributing an estimated £13.3 billion in Gross Value Added to the economy. A project of Hinkley Point C's size also creates a huge increase in employment with over 26,000 direct and indirect jobs supported across the country. Around 9,000 people are working in growth-driving sectors such as advanced manufacturing and clean energy industries alone. The project is also helping to overcome the recognised social mobility challenges seen across the country with over one-third of those employed directly by the project being from some of the country's most deprived areas.

The local town of Bridgwater is seeing productivity levels 10% higher than surrounding towns; the local district area is seeing growth in the number of medium-sized companies that is ten times higher than anywhere else in the South West and The local area has seen a 25% growth in young people aged 25-39 - three times greater than the national average.





REFERENCES

Clean Energy Powerhouse Prospectus, The Great South West (2024)

Hydrogen Market Strategy, UK Government (2024)

Driving Growth, Hinkley Point C Socio-economic Impact Report 2025, EDF Energy (2025)

Digest of UK Energy Statistics - DESNZ Annual statistics publication, (2025)

Public Attitudes towards Clean Energy 2024, Radiant Energy Group (2024)

Economic Impact of EDF's Nuclear Fleet from 1976 to 2024, Economic Insight (2025)

Civil Nuclear: Roadmap to 2050 (2024)

Great British Nuclear (GBN) – updates & 2023/24 report

Energy Act (2023)

Nuclear Energy (Financing) Act (2022)

Sustainable Aviation Fuel (SAF) Mandate (2024)

Maritime Decarbonisation Strategy (2025)

Industrial Decarbonisation Strategy (2021)

Energising Dorset. Economic Prospectus Growth Plan 2025-2040, Dorset Council

Defence Driven Growth for Plymouth, Team Plymouth

Somerset Economic Prosperity Strategy 2025-2045

Cornwall Good Growth Plan 2024-2035

Heat and Buildings Strategy, UK Government, (2021)

National Policy Statement on Nuclear Siting EN-7 (2025)

Nuclear Regulatory Taskforce Final Report (2025)

ACKNOWLEDGEMENTS

The Great South West and Equilibriion would like to thank the following organisations for their valuable insights that have contributed to this prospectus:

- Dorset Council
- Somerset Council
- Nuclear Restoration Services
- Nuclear South West
- Nuclear Decommissioning Authority
- Wales and West Utilities
- Somerset Chamber of Commerce
- Regen
- Westinghouse
- University of Plymouth
- National Composites Centre
- Babcock International
- South West Manufacturing Advisory Service
- EDF Energy
- Rolls-Royce SMR
- Western Power Distribution
- Scottish and Southern Electricity Network
- Business West
- Nuclear Skills Programme
- TKMS Atlas UK
- UCS College Group
- Cavendish Nuclear
- South West Nuclear Hub
- X-energy UK
- AtkinsRealis
- Holtec Britain
- TerraPower



This prospectus is part of the Great South West's 'A New Nuclear Future' project, which is supported by Dorset Council and Somerset Council, and delivered by Equilibriion on behalf of GSW



Great South West



THE GREAT SOUTH WEST IS A BUSINESS-LED ORGANISATION WHICH IS FORMALLY RECOGNISED BY GOVERNMENT AS THE PAN-REGIONAL PARTNERSHIP COVERING THE ENGLISH CEREMONIAL COUNTIES OF CORNWALL, DEVON, DORSET, SOMERSET AND WILTSHIRE.

We are focused on driving investment into the region and promoting the World-class potential of the industries, technologies, businesses and workforce located in the South West of England.

Our mission is to help deliver a cleaner, greener, more inclusive, and more prosperous future for all our communities and, in doing so, drive the UK economy forward.

The Great South West is a large and physically, economically, and politically diverse region with a dynamic business base, a rich innovation ecosystem and vast natural capital assets that are uniquely aligned to the UK's long-term strategic economic interests.

To find out more visit

www.greatsouthwest.co.uk

