



UK Atomic
Energy
Authority

UKAEA Strategic Business Plan 2026-2029



1. Purpose of this document

The UK Government’s Fusion Strategy 2026 sets the objective to accelerate growth of the UK fusion industry to capture the economic and strategic benefits of fusion. The UK Atomic Energy Authority (UKAEA) is central to delivery of that objective.

UKAEA Group’s mission is to lead the delivery of sustainable fusion energy to maximise scientific and UK economic benefit.

The Group includes UKAEA’s National Fusion Laboratory (UKAEA in this document)¹ and UK Fusion Energy Ltd (UKFE). The role of UKAEA’s National Fusion Laboratory is to deliver foundational research, technology and innovation in support of the UK fusion sector through world-leading fusion expertise and capability. The role of UKFE is to deliver [STEP](#) and successive fusion power plants by acting as a national fusion systems integrator, and working with industrial partners to develop and deploy the technologies and capabilities required. UKAEA acts as UKFE’s Fusion Partner to support UKFE to deliver STEP.

This Strategic Business Plan (hereafter “the Plan”) is that of UKAEA’s National Fusion Laboratory (hereafter “UKAEA”). UK Fusion Energy Ltd (UKFE) has developed its own separate Business Plan. The development of these plans has been coordinated across UKAEA Group. Risk and Impact are assessed at group level; as such this Plan will refer to UKAEA Group in these areas.

The Plan describes at a high level the technical and strategic outcomes targeted by 2030 and the objectives and targets for the next three financial years, as set out in the UKAEA Strategy. It focuses on providing additional detail for the first year of 2026/27. It also provides information about UKAEA’s approach to measuring economic benefits arising from its activities and about the wider risk landscape.

UKAEA will publish a Plan on this basis each year.

UKAEA’s Annual Report and Accounts review UKAEA’s performance over the preceding year.

2. Strategic Business Planning Aims

The UKAEA Strategy sets out the role of UKAEA’s National Fusion Laboratory: “to deliver foundational research, technology and innovation in support of the UK fusion sector through world-leading fusion expertise and capability”. It describes how UKAEA will execute this role via a portfolio of activities that is informed by the challenges of fusion, UKAEA’s technical strengths, and the strategic and economic benefits that can be realised. On this basis, a number of **strategic business planning aims** are articulated. These are reproduced from the strategy below in three broad groups: **technical**, **strategic**, and **operational**. These aims informed the 2025 Spending Review allocation of Grant-in-Aid funding for UKAEA (detailed in section 3) and the setting of specific targets, performance measures and technical outcomes (section 4).

Technical Aims

Informed by the 2025 Spending Review, the strategy confirmed that UKAEA will:

- Deliver the technical insight, evidence and capability required by the STEP programme through UKAEA’s role as Fusion Partner.
- Complete and operate major new fusion research facilities, particularly [H3AT](#) – which will demonstrate the operation of a continuous, closed loop fusion plant fuel cycle at a pilot power plant scale – and [LIBRTI](#) – a facility for testing tritium-producing components at full scale – alongside other critical research rigs and laboratories
- Increase investment in the operational infrastructure of [MAST-U](#) as the UK’s premier fusion facility
- Maintain its fusion enabling infrastructure in line with operational criticality and affordability
- Continue to decommission [JET](#) in a way that maximises scope for infrastructure repurposing and innovation and helps to define requirements for future fusion power plant decommissioning, to a timetable subject to affordability
- Consider what fusion research facilities may be developed in future years
- Work with UK and global partners and collaborators to exploit the [Sunrise AI supercomputer](#) and other [computing](#) facilities, to deliver on the Government’s Culham AI Growth Zone initiative.

The UKAEA Strategy also makes clear that its approach is to harness the required technical capabilities through partnering arrangements and collaborations with UK industry as far as possible. Where this does not exist or cannot be developed in UK industry, UKAEA will seek to sustain its own critical mass of fusion-specific capabilities and the necessary cross-cutting [engineering](#), design, computing and operational capabilities, alongside its specialist enabling infrastructure.

¹ UKAEA’s National Fusion Laboratory is not a legally separate entity from UKAEA Group, though it is increasingly distinct in terms of governance and operations.

Strategic Aims

Informed by the 2025 Spending Review, the strategy confirmed that UKAEA will:

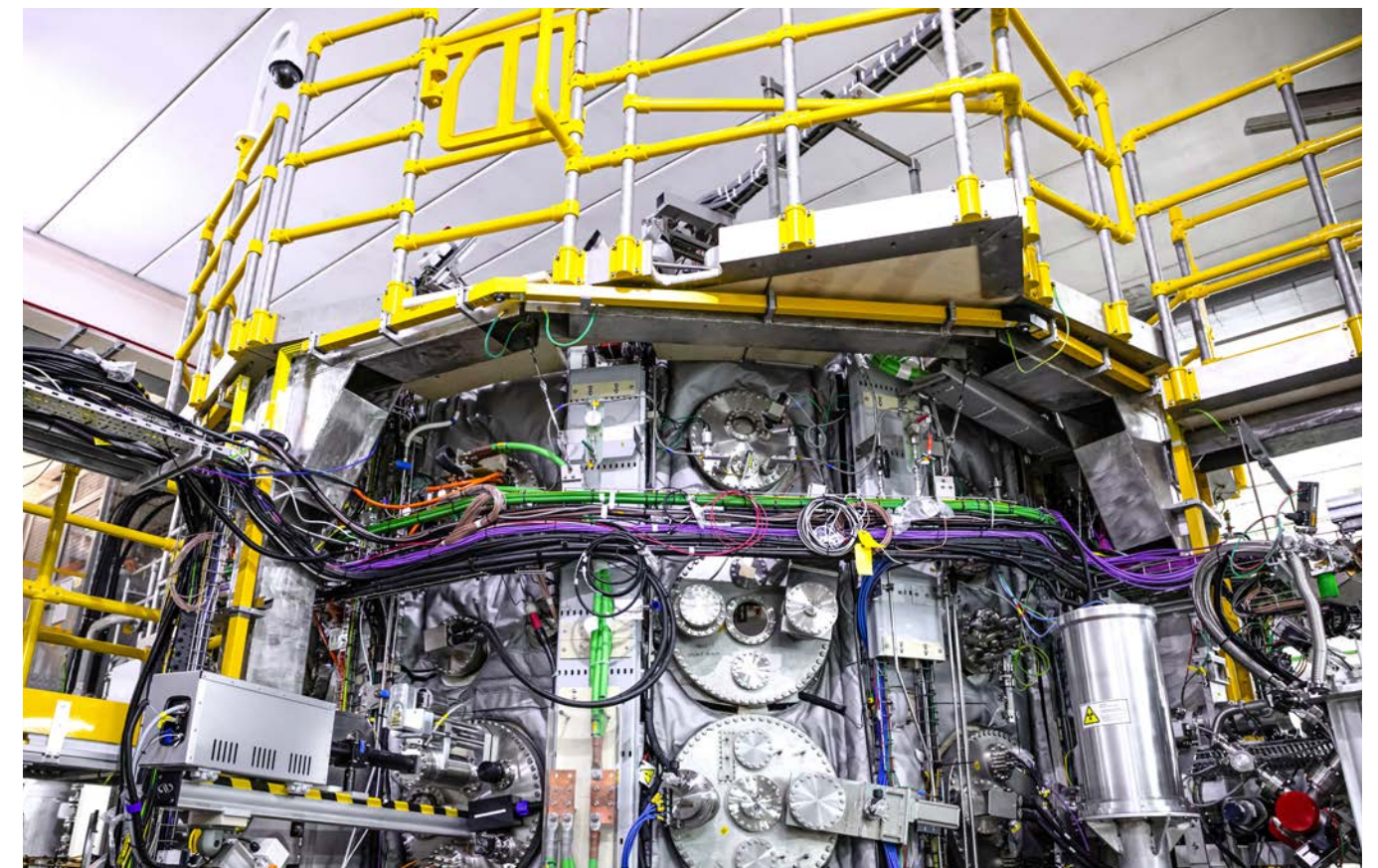
- Strengthen the Fusion Partner relationship with UK Fusion Energy Ltd, utilising UKAEA's research, facilities and enabling capabilities to deliver within the scope of the Fusion Partner for the STEP programme
- Collaborate internationally in line with the principles of the UK Fusion Strategy, in particular that collaborations should support UK strategic and economic objectives
- Prioritise collaborations that (for example): serve to pool knowledge, capabilities and skills; enable reciprocal access or exploitation of physical and simulation development facilities and data-sets; or coordinate research to increase value for money while protecting UK knowledge assets
- Deliver on planned research activities that provide breadth of understanding and depth of impact across the field of fusion
- Continue to act as a convenor and long term partner in research on fusion and adjacent opportunities, with the aim that research activities remain nationally and internationally connected, and capable of delivering impact well beyond fusion alone
- Consider how best to focus ongoing and future research activities to achieve maximum benefit both for fusion, for the wider research community, for industry and for UK national priorities
- Deepen its relationships with academia in line with the framework set out in this strategy
- Place increasing emphasis on talent-led research
- Continue to progress [Innovation and Technology Transfer](#) opportunities as part of the [Fusion Futures](#) programme
- Appraise the commercialisation potential of activities across UKAEA, without necessarily precluding collaboration with external partners in these areas
- Accelerate opportunities to increase efficiency and capability-pooling via the coordinated development and deployment of Robotics and Artificial Intelligence solutions across UK nuclear, as part of its efforts to commercialise UKAEA-developed robotics capabilities
- Deliver projects and programmes across its portfolio in a way that explicitly seeks to grow UK-based industrial capability
- Continue to work with partners across the fusion sector
- Progress its industry engagement strategy, particularly with SMEs
- Work with the Government to develop new proposals to support supply chain capability and unlock new investment, subject to affordability
- Continue to support the development of the UK's fusion regulatory and planning framework by providing specialist safety and technical assessments and evidence and supporting regulators to build understanding and capability.

Operational Aims

UKAEA will:

- Support the efficient and effective performance of its central and enabling functions²
- Build capacity in specific central functions in response to business need, such as where commercial activities with industry may become more dynamic and complex
- Plan people and skills capability on the basis that delivery of UKAEA's mission depends on a highly skilled, diverse and internationally competitive workforce
- Anticipate and develop future technical, leadership and delivery capabilities through proactive workforce planning, sustaining organisational agility, pace and an inclusive, people centred culture
- Grow skills development and talent pipelines through partnerships with industry, academia and clean energy stakeholders through the [FOSTER](#) programme.

The safe operation of UKAEA's growing portfolio of complex, large-scale facilities and experimental devices remains fundamental to delivery of this Plan, as operation of these assets is central to generating the data, capability and confidence required for fusion deployment. UKAEA will continue to undertake its activities in line with regulatory expectations and internal standards, while maintaining a strong safety culture across the organisation.



MAST-U machine.

² These functions include: commercial, financial and legal functions; technical and buildings services across UKAEA sites; health, safety and assurance functions; and other technical and operational services essential for running the organisation. The size and scope of many of these functions is informed by the legal and regulatory obligations on UKAEA Group and the evolving requirements of UKAEA Group's complex portfolio.

3. Spending Review 2025 allocation for UKAEA

In 2025, the UK Government confirmed £2.5 billion for fusion research, development and innovation for the five-year period to 2030. Of this, almost £2.48 billion³ is expected to be spent via UKAEA Group. This creates the platform for UKAEA Group to support the growth of the UK fusion industry, operate and expand critical research facilities, progress the next phase of STEP, invest in computing and AI capability at Culham, and support the future workforce required for fusion.

The breakdown is as follows:

- £1.3 billion for UKFE for the next phase of delivering STEP in partnership with industry, of which £700m will be invested in industry including construction, engineering and other contracts;
- £1.3 billion for UKAEA, comprising:
 - £190 million for programmes focused on internationally collaborative research, innovation, commercialisation and wider industry support
 - £920 million for UKAEA’s R&D infrastructure and facilities, including MAST-U operations, H3AT, LIBRTI, JET decommissioning and repurposing, Robotics, and Culham site infrastructure
 - £125 million for the Culham AI Growth Zone, including £45 million for Sunrise and £80 million for wider fusion research computing and preparations for future AI-enabled capability
 - £50 million for skills development, including over 2,000 fusion-related training and learning opportunities through FOSTER and related initiatives.

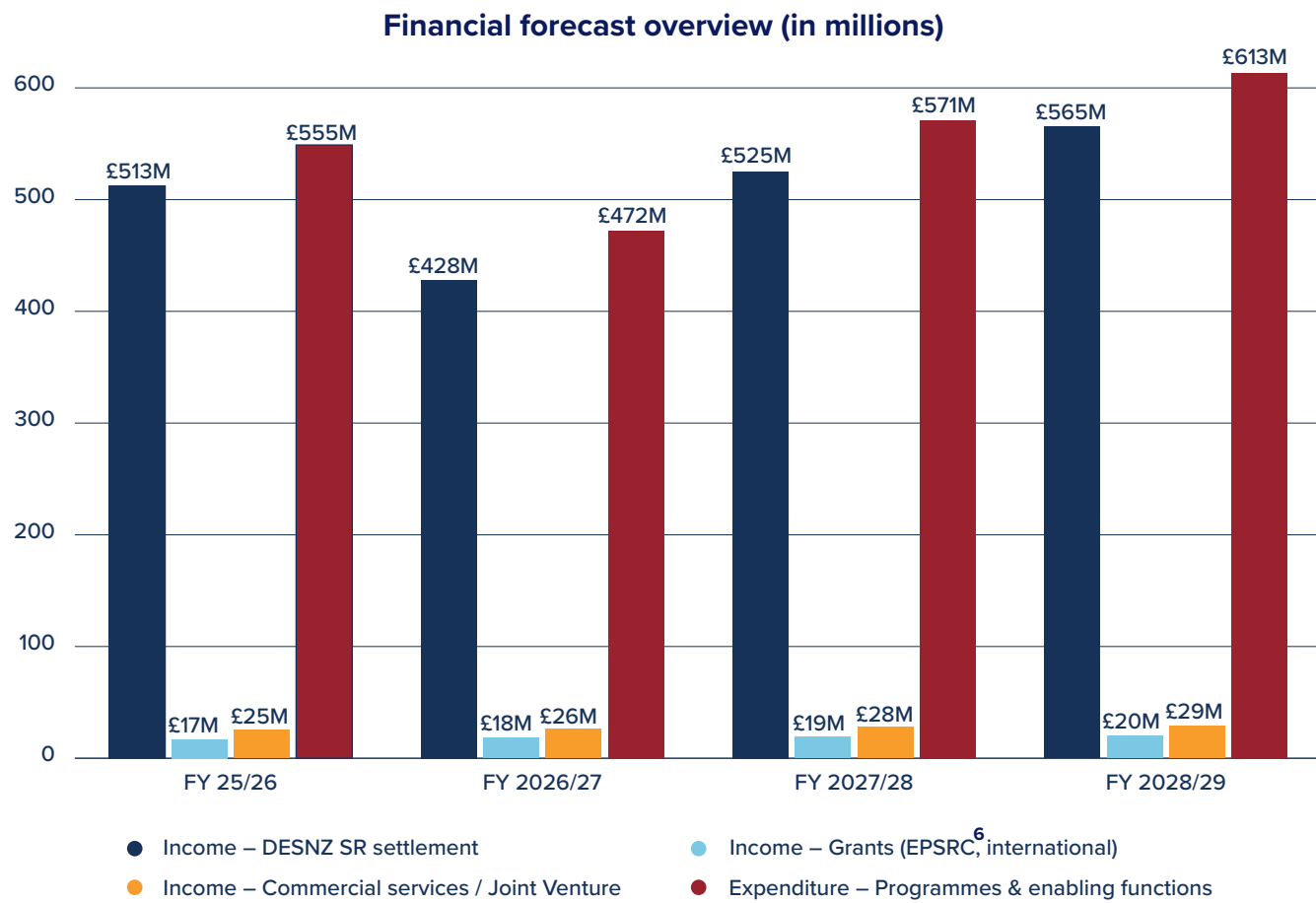
This allocation does not cover UKAEA’s other income. In 2025/26 this was:

- UKRI grants⁴
- Commercial / collaborations
- Rental and other income

In 2026/27 this is forecast to be £44.4 million in total.

Rental and other income is used primarily towards ongoing operations of UKAEA’s sites.

Non-DESNZ⁵ income in future years remains highly uncertain. As an indicative illustration, the table below uses projections based on 25/26 levels, indexed by 4% per annum.



³ This figure does not include a further £100m allocated after the Spending Review for financial year 2025/26

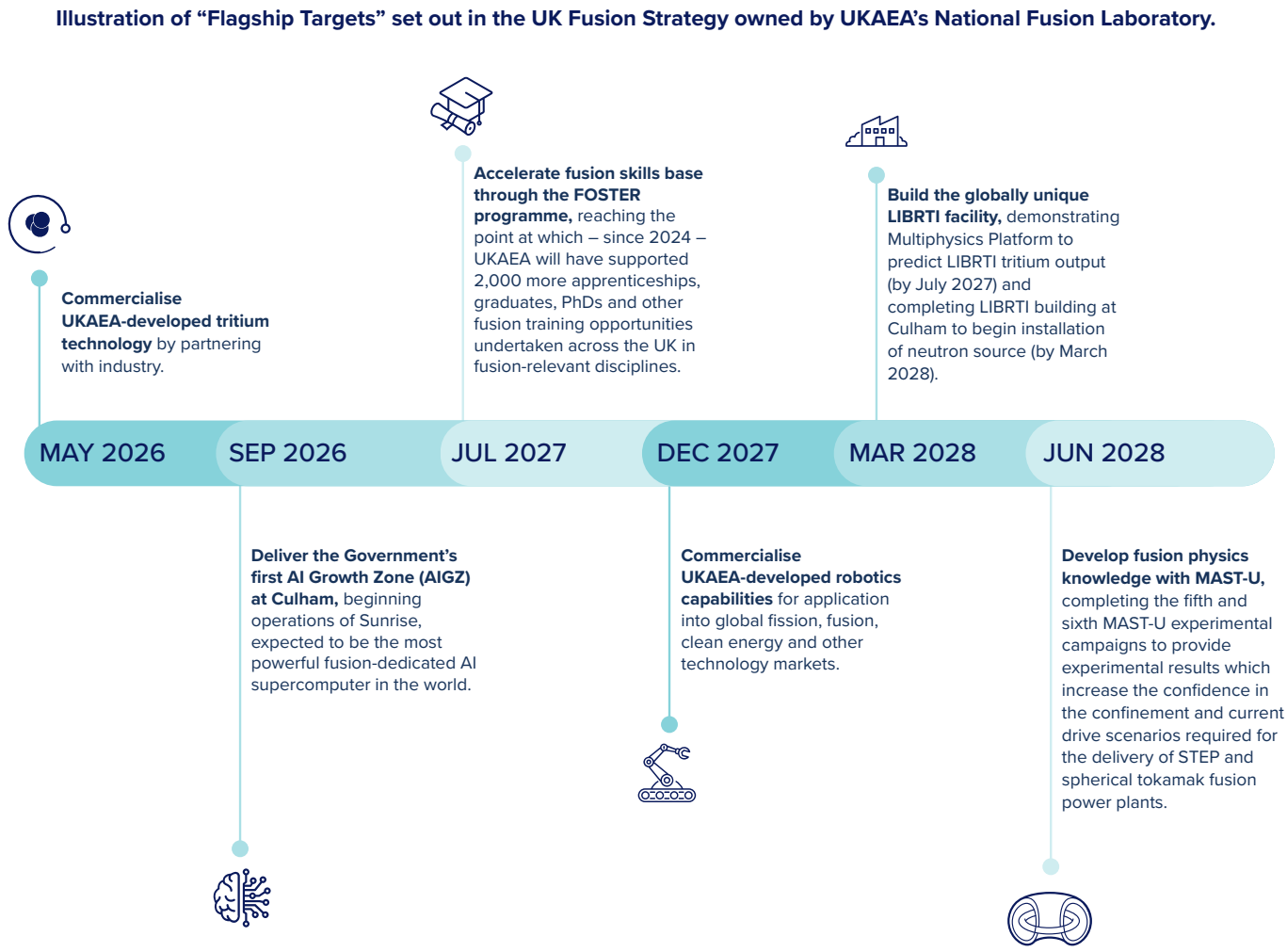
⁴ UK Research and Innovation
⁵ Department for Energy Security and Net Zero
⁶ Engineering and Physical Sciences Research Council

4. Targets, Performance Measures and Outcomes

This section outlines selected flagship deliverables and thematic objectives, in line with UKAEA Strategy 2026-2030. For additional context, an overview of Corporate Performance Measures and a table summarising technical outcomes by 2030 are also included at the end of this section.

Flagships

The UKAEA Strategy sets out a number of flagship targets. These do not cover the whole of UKAEA’s portfolio, but illustrate the breadth of UKAEA’s near-term ambition and the tangible scientific and economic benefits associated with fusion.



5. Thematic Objectives 2026-2029

The UKAEA Strategy sets out high-level “Thematic Objectives”, with more detail on the 2026/27 financial year now provided in this Plan. The table below brings together divisional business and corporate planning exercises undertaken within 2025/26. Alongside this, an additional row of high-level STEP Fusion Partner delivery milestones is included to better illustrate the full portfolio of UKAEA during these years. This exercise is not intended to be used for formal portfolio oversight, but to use the framework of the strategy to illustrate how UKAEA intends to progress current activity towards broader strategic outcomes. Details will evolve over time as new opportunities are identified and progressed. Those items below which relate to “Flagships” are marked via the ► symbol.

	2026/27	2027/28	2028/29
STEP Fusion Partner	• In 2026/27, activity in support of STEP will focus on building the enabling science, data and engineering capability required for design validation and technology choices. • This includes establishing sovereign fusion data and AI infrastructure through Sunrise and wider research computing preparations; delivering the fifth MAST-U campaign and associated control, diagnostics and heating upgrades; progressing work on blanket design, neutronics, materials qualification and maintenance-strategy work; and maturing modelling, validation and digital workflows that reduce uncertainty around plasma, fuel cycle and plant integration.	• Verify key engineering model predictions by comparison against multiple experiments. • Support the development of the virtual STEP digital architecture.	► Validate STEP-relevant heating and current drive physics in MAST-U. • Deploy a plasma control testbed to validate reactor control algorithms. • In-silico qualification and neutron irradiation data available for critical STEP materials.
International	• In 2026/27 UKAEA will refresh and deepen international collaboration through formal agreements, secondments, coordinated research tasks and joint technical delivery. • Priority areas include partnerships with major laboratories and universities, alongside continued engagement through bodies such as the IAEA⁷, ISO⁸ and bilateral collaborations on issues such as regulation and safety.	• Transform key partnerships into multi-year programmes of activity and agree new cooperation agreements with major institutions.	• Increase collaborative data sharing and joint projects, and use UKAEA’s emerging Fusion Data Commons and new facilities to attract international users and undertake co-authored research.

⁷ International Atomic Energy Agency
⁸ International Organisation for Standardisation

	2026/27	2027/28	2028/29
 Research	▶ The data from MAST-U's fifth experimental campaign will be used to obtain world-first data on plasma exhaust, detachment, and ELM⁹ suppression relevant to STEP. • UKAEA will deliver the fifth MAST-U campaign with a focus on (including upgrades to control, diagnostics and heating) strengthened modelling and validation workflows (including digital and AI-enabled approaches supported by Sunrise and wider research-computing preparations). • Across the portfolio research efforts aim to build confidence in particular areas of exhaust/detachment and control, materials behaviour and qualification, tritium systems and verification, neutronics and fuel cycle integration, and maintenance strategy for plant-relevant operation.	▶ Achieve further fusion science demonstrations (including establishing MAST-U as a platform for plasma control innovation). • Establish reference digital twin and modelling frameworks to enhance knowledge capture and tool sharing across UKAEA programmes.	• Leverage integrated modelling and experiments to deepen understanding of multi-physics problems. • Increase the use of scenario analyses, improving confidence in design choices and risk assessments. • EBW¹⁰ testing on MAST-U, with the demonstration of the current drive efficiency and non-inductive start up. • MAST-U will successfully carry out and complete its sixth experimental campaign, aimed at investigating STEP relevant physics and heating and current drive schemes.
	 Commercialisation	UKAEA will accelerate commercial exploitation efforts, bringing forward new actions from the innovation pipeline, expanding technical services and training offers, progressing tritium and robotics commercial opportunities, supporting spin-out and joint venture pathways, and using IP, patents and licensing opportunities more systematically to secure future value.	▶ Grow the number of technical services contracts and licenses and broader cross-sector presence, particularly in commercialising UKAEA robotics expertise. • Secure increased "return on investment" from UKAEA innovations by leveraging of IP and commercial partnerships.

⁹ Edge Localised Mode
¹⁰ Electron Bernstein Waves

	2026/27	2027/28	2028/29
 Industry	UKAEA will strengthen the fusion supply chain by finalising and launching new agreements with industrial partners, particularly in tritium fuel cycle, robotics, advanced manufacturing, components testing and computing. This will be supported by wider outreach to new suppliers, targeted industry stimulus, supplier-facing facility access, and collaboration models that help companies build fusion-relevant capability while supporting delivery of UKAEA programmes.	• Increase UK supply chain involvement in UKAEA fusion projects.	• Host multiple external test campaigns in UKAEA facilities (e.g. ELSA¹¹ magnet test facility and high heat-flux rigs) for industry partners. Advance UK capabilities in specialty materials, to enhance UK's sovereign supply in critical areas.
	 Facilities	UKAEA will focus on turning major facilities from concept and design into visible delivery. That means beginning operations of Sunrise; completing LIBRTI design and achieving first concrete; progressing H3AT through long-lead procurement, fabrication partnership activity and integrated planning; and continuing enabling works across complementary facilities and laboratories such as DICE¹², MRF¹³ upgrades, proton beamline, and improvements for tritium R&D capability. UKAEA will also commission or expand key rigs and facilities that underpin future exploitation, including LIBRTI- and H3AT-aligned test capability and materials qualification infrastructure.	▶ Demonstrate Multiphysics Platform to predict LIBRTI tritium output. • DBB¹⁴ and EBW assembly and installation - this is key to the STEP physics campaign in 2028. • Assemble H3AT's key systems and receive delivery of Uranium beds. ▶ Complete LIBRTI building at Culham to begin installation of the neutron source. • Receive delivery of gloveboxes for H3AT, and commence inactive commissioning.
			

ELSA is a wide-bore superconducting magnet system that will be used to test and develop magnet component designs for STEP and other projects.

¹¹ [ELSA: Frozen temperatures required for latest research into fusion technology | UKAEA Fusion Energy](#)
¹² Diagnostics Innovation Centre of Excellence
¹³ Materials Research Facility
¹⁴ Double Beam Box

	2026/27	2027/28	2028/29
 Infrastructure	Infrastructure delivery will prioritise the next phase of JET decommissioning and repurposing and the enabling site works needed for future growth at Culham. This includes governance and preparatory activity for decommissioning and waste handling, cabling and power works through STRIDE¹⁶, improvements to utility and site systems, and continued work to improve cyber resilience, operational reliability and management information so that facilities and programmes can operate safely and effectively.	- Progress JDR, including disposal of five tonnes of legacy solid waste and handover of several de-planted JET worksites. - Complete installation and energisation of new high-voltage substation and power cabling at Culham.	- Progress JDR, including manufacture of intermediate-level waste buffer storage, completion of remote handling system design and commissioning, and handover of additional de-planted JET worksites. - Implement new site-wide electrical supply control and data systems, so new grid infrastructure at Culham is fully operational.
	 Skills	UKAEA will expand the people and capability base needed for delivery by recruiting additional PhD and EngD candidates in critical R&D areas, rolling out the CROSS¹⁷ robotics apprenticeship offer, developing fusion training content through FOSTER and related initiatives, and strengthening workforce planning, skills frameworks and career pathways across technical and enabling disciplines. ▶ Increase the number of people undertaking technical training and apprenticeships in fusion relevant disciplines. Establish new fusion career pathways.	- Expand UKAEA's assorted training initiatives through collaboration with academic institutions, technical institutions and skills stakeholders. - Assess progress of targeted programmes to improve wider participation and skill uptake.

Corporate Performance Measures 2026/27

The UKAEA Strategy sets the medium to long-term direction and intended outcomes for the organisation. The plan translates that direction into near-term delivery priorities. UKAEA's Corporate Performance Measures (CPMs) then act as the annual measures used to monitor delivery against those priorities, helping to ensure that delivery remains aligned with what UKAEA has said it will achieve. In this way, CPMs act both as a management tool during the year, supporting oversight, accountability and timely intervention where needed, and as a reporting framework at year end.

The Annual Report and Accounts completes this chain by reporting performance against those measures and explaining the progress made against the commitments set out in this Plan.

This Plan summarises the 2026/27 CPMs within the framework of the above section, to explain how these drive organisational performance towards the broader targets in 2026/27.

Thematic Objective category	Example 2026/27 CPMs
STEP Fusion Partner	The CPMs related to the STEP Fusion Partner are centered on the effectiveness of the Fusion Partner relationship with UK Fusion Energy Ltd. They measure delivery against Service Level Agreements, monitoring and evaluation initiatives, and the mechanisms in place for actioning lessons learned. These measures assess how well UKAEA is supporting STEP through joined-up governance, coordinated planning and collaborative technical delivery. Performance against these ensures that UKAEA's research, facilities and enabling capabilities are aligned to STEP needs, providing the scientific evidence, data and engineering confidence required.
International	The International related CPMs comprise several measures focused on strengthening UKAEA's role within the global fusion landscape. Together, they track progress in establishing and delivering formal international collaborations, joint research activity and partner-led technical work. These CPMs support delivery of the Plan by ensuring UKAEA is both accessing and contributing to international facilities, data and expertise, while aligning collaborations with UK strategic and economic objectives.
Research	The research-related CPMs form a core component of the 2026/27 performance framework, covering both overall research quality and delivery of priority scientific outputs. Taken together, these measures assess the excellence, breadth and impact of UKAEA's research, alongside the successful exploitation of key facilities such as MAST-U. They ensure that UKAEA is delivering world-leading fusion science, generating data and insight relevant to maintaining international scientific leadership in line with the objectives set out in the Plan.
Commercialisation	The commercialisation related CPMs focus on growing revenues from technical services, progressing priority commercialisation pathways (notably in robotics), and embedding a more systematic approach to IP, licensing and partnerships. Performance against these measures demonstrates how UKAEA is delivering on the Plan's ambition to accelerate innovation, support UK economic growth and create sustainable commercial routes alongside its core research mission.
Industry	The Industry related CPMs focus on tracking progress in the launching of new partnerships and ventures with industry, and in bringing UK-developed technologies into commercial supply chains. They support delivery of the Plan by ensuring that UKAEA programmes actively contribute to the growth of UK suppliers, help de-risk emerging fusion markets, and create enduring industrial capability aligned with future fusion deployment.
Facilities	Facilities-related CPMs track readiness and delivery of critical assets including Sunrise, MAST-U upgrades and the LIBRTI build programme. Performance against these provides assurance that UKAEA is safely and effectively delivering complex facilities on which future research, international collaboration and STEP-relevant validation depend.
Infrastructure	The Infrastructure related CPMs focus on enabling and sustaining UKAEA's operational estate. Collectively, they assess progress in JET decommissioning and waste management, alongside the development of supporting infrastructure required for growth at Culham. These CPMs ensure that delivery of new programmes and facilities is underpinned by safe, compliant and resilient infrastructure, consistent with the operational and assurance principles set out in the Plan.
Skills	Skills-related CPMs include a focused set of measures that track growth of the fusion skills pipeline. They assess delivery of training, apprenticeships and learning opportunities aligned to UKAEA and wider sector needs. Performance against these CPMs demonstrates how UKAEA is building the workforce capability required to deliver the Plan, support STEP and strengthen the UK's long-term fusion talent base, in line with the Strategy's emphasis on people, skills and organisational resilience.

¹⁶ Strategic Investment & Development for Energy & AI
¹⁷ Cumbria Robotics Operations Skills

Technical Outcomes 2030

The table below reproduces from the UKAEA Strategy the summary of individual technical outcomes UKAEA will deliver by 2030, framed by the area of technical focus and by the

strategic themes and associated benefits. Items which relate to “Flagships” are marked via the  symbol.

UKAEA groups and facilities		High-level summary of technical outcomes by 2030 that...			
Technical Focus Main Programmes	 Anchor facilities	 ...access collaborative international capabilities and opportunities	 ...advance science and secure UK knowledge leadership through research	 ...secure UKAEA-originated capabilities for future commercial exploitation	 ...grow UK-based industry capabilities
Plasma UKRI research, STEP (fusion partner)	MAST-U	Reinforced strategic plasma collaborations with the US and European partners	- Generated understanding in plasma design and performance  Enhanced plasma simulation codes	 Exploitation of MAST-U to develop control and operational solutions - Harnessed datasets for AI-driven modelling and system development	Engaged UK supply chain in advanced fusion diagnostics
Fuel cycle UKRI research and grants, STEP (fusion partner), JDR & Waste Innovation	H3AT Tritium Loop (under development), Active Tritium R&D Lab facility, Material Detritiation Facility	- Established the H3AT loop as an international user-access facility - Implemented Canadian strategic collaborations - Reaffirmed collaboration with European partners in tritium	 Generated datasets to underpin digital modelling and design	- Delivered experimental facilities and data to help develop tritium subsystems and components - Improved process plant technologies to inform power plant scale systems	- Increased capability across Tier 2 and 3 suppliers in tritium technologies  Partnered with industry to realise new tritium-related opportunities
Materials UKRI research and other research grants, LIBRTI fusion fuel capability programme, STEP (fusion partner)	Materials Research Facility, LIBRTI (under development)	- Collaborated in materials research using facilities in, and links with, USA, Japan, Belgium and Germany  Established via the LIBRTI programme a UK breeder blanket engineering test capability, with an in silico capability to iterate breeding prediction, for international collaboration	 Developed machine learning strategies, data and models for understanding fusion materials and environments	- Established LIBRTI multi-physics platform know-how - Developed a range of nuclear (fission and fusion) relevant composites, coatings and shielding	Developed new industrial capabilities in fusion steels, tungsten and composites
Robotics JDR & Waste Innovation, STEP (fusion partner), ESS Active Cells Facility, LongOps, UKRI	RACE ¹⁹ (Culham), RAICo ¹²⁰ (Whitehaven)	- Handover of ESS²¹ active cell facility to ESS - Completion of ITER²² hotcell service contract - Operated Large Hadron Collider beamline inspection at CERN²³ - Supported early remediation activities at Fukushima Daiichi²⁴	Developed adaptive control systems for dynamic loads in confined space, in-situ repair technology, and novel welding and cutting tooling and processes	- Demonstrated solutions in maintainable magnet technology and mechanical seals - Completed JET in-vessel decommissioning with robotic techniques	 Realised commercial opportunities originating in UKAEA robotics - Developed radiation hardened electronics
Fusion Technology UKRI research and other research grants, STEP (fusion partner)	Fusion Technology Facility, including ELSA , HIVE and HHF Laser	- Secured qualification routes for fusion materials using global standards bodies - Reinforced UK thought leadership in integrated design via work on international fusion programmes	Generated datasets, models and skills in fusion technology verification and validation	Expanded commercial service provision in understanding the qualification and development of specific fusion components and systems	Completed delivery of a suite of facilities for the testing and qualification of components and systems

¹⁹ [Remote Applications in Challenging Environments](#)

²⁰ [Robotics and Artificial Intelligence Collaboration](#)

²¹ European Spallation Source

²² [ITER - the way to new energy](#)

²³ [Home | CERN](#)

²⁴ [Fukushima-Daiichi Decommissioning Research 2024 | UKAEA Fusion Energy](#)

6. Impact

UKAEA Group's mission is to lead the delivery of sustainable fusion energy to maximise scientific and UK economic benefit. As a publicly funded organisation, UKAEA Group has a responsibility to maximise the value for money of its activities. To achieve this, benefits realisation must be embedded across its activities. Capturing this insight requires high-quality monitoring and evaluation at the project, programme and portfolio level.

UKAEA Group's activities lead to:

- **Productivity growth, realised in the short-term** through jobs, skills and suppliers, enabled by UKAEA Group's existing expertise.
- The **continued maturation of fusion technologies technically and increasing exploitation commercially in the medium-term**, driven by UKAEA Group within fusion and adjacent markets.
- **The growth of economic clusters** of innovation sectors at Culham, South Yorkshire, Cumbria and West Burton.

The ultimate aim is to secure UK market advantage in key adjacent markets and in a future fusion market potentially worth £tns.

What UKAEA Group expects to have achieved by 2029/30:

- Thousands of jobs are directly supported within the UKAEA Group, with many more sustained across the wider supply chain. An increasing presence regionally, such as around the STEP site in West Burton.
- At least 2,000 newly trained individuals in the sector through FOSTER leading to a higher-skilled and growing industry.
- Continued world-leading research performance in terms of highly cited research, collaborations and presentations.
- A maturing supply chain, already encompassing thousands of organisations, with an increased focus in realising enduring value and growth. Significant growth in UKAEA Group's innovation and commercialisation activity, demonstrated by the creation of around 15 spinouts and 8 joint ventures, alongside the issuance of approximately 54 licences and the establishment of 40 collaborations with industry. Collectively, these activities are expected to translate into the creation of new jobs, the delivery of new products and services to market, a more diversified and engaged investor base, and the attraction of substantial private investment. In turn, this will generate meaningful turnover from new ventures, contributing demonstrable economic value to the UK economy.

UKAEA Group continues to improve the quality of its impact reporting programme. Overall, it is designed to:

- **Demonstrate Accountability:** provide clear evidence of the impact of public investment and the benefits delivered.
- **Support External Scrutiny:** meet the requirements of the public, Ministers, and Parliament by evidencing progress and delivery.
- **Inform Decision-Making:** assess the effectiveness of investments and explore opportunities for enhanced delivery, creating a feedback loop for programme refinement.
- **Build the Evidence Base:** collect and analyse data to support the case for fusion.

How UKAEA Group measures its impact:

- An overarching portfolio logic model indicates how all activities contribute to UKAEA Group achieving impact, its goals and mission providing a golden thread from activities to the overall portfolio. This was set out in the UKAEA Group Strategy.
- An Impact Reporting Framework reports key metrics at the organisational level e.g. jobs, skills, supplier growth.
- Major UKAEA National Fusion Lab programmes are undergoing significant transformation (including additional resource) to mature their Monitoring and Evaluation capabilities.



HIVE - The Heat by Induction to Verify Extremes facility is a unique test platform that forms part of a suite of testing rigs and facilities.

7. Risk landscape

UKAEA Group is operating within a rapidly evolving environment and will be implementing some organisational changes over the coming years. Within this context, there are notable areas of strategic risk:

- The breadth of fusion's technical challenges means that not demonstrating sufficient progress to funders and collaborators constitutes a strategic risk for UKAEA Group.
- An increased emphasis on commercialisation and new forms of collaboration mean that the ability to protect knowledge assets and intellectual property will require complex strategic and operational management over the next period.
- UKAEA Group is working to ensure that the Fusion Partner Relationship between UKAEA's National Fusion Laboratory and UKFE continues to flourish, to underpin the delivery of key technical and scientific outcomes.
- Finally, increasing volatility within the broader geopolitical risk landscape will require continued vigilance, for instance in relation to potential impact on global supply chains.

UKAEA Group will maintain and strengthen cyber resilience as a core enabler of safe and effective operations. This includes protecting sensitive research, safeguarding operational technology across facilities, and ensuring resilience of critical digital infrastructure such as AI and data platforms. Cyber capability will be developed in line with the increasing digitalisation of fusion research, including the deployment of advanced computing and AI-enabled systems.

At the operational level, over the years covered by this Plan, UKAEA Group will continue to focus on maintaining appropriate levels of broader operational security, simplifying internal control frameworks and supporting processes, and embedding mature workforce planning.

Across its sites, UKAEA Group is investing in new and existing complex infrastructure to deliver opportunities such as STRIDE, to respond to changes required to achieve other key deliverables, all while ensuring safe and reliable facility operations and the timely decommissioning of the JET estate.

Further detail on UKAEA Group's approach to risk is covered in the Annual Report and Accounts published on gov.uk.



Both MAST-U Gyrotrons in place.

The UK Atomic Energy Authority's mission is to lead the delivery of sustainable fusion energy to maximise scientific and UK economic benefit



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