# Fusion Industry Taskforce Policy Recommendations for Investment in Fusion

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Fusion Industry
TASKFORCE

# Introduction

**The UK's investment in fusion reflects a long-standing and globally influential commitment. The £410 million allocated for FY25/26, followed by a £2.5 billion pledge in the spending review, signals the government's strong belief in fusion as a cornerstone of the nation's future. Yet the impact of this funding will depend not just on how much is spent, but on where and how it is deployed. The UK now needs a cohesive plan that unites public and private sectors, driving innovation, investment, and talent towards a shared industrial and energy vision. This report outlines practical recommendations across five key themes to guide that effort.**

# Policy objectives

**The objectives of the Investment Pillar are to define a clear, coordinated strategy that positions public and private sectors as complementary forces - placing capital effectively, mobilising talent, and enabling the innovation needed to make the UK a global hub for fusion development. This report sets out a series of detailed recommendations, provided to the Government to implement a successful fusion future in the UK.**

**Balancing long-term vision with near-term impact** – fusion must be framed both as a near-term engine of technological spin-offs and as a long-term clean-energy cornerstone that will serve the UK, and the world, well into the twenty-first century and beyond.

**Catalysing innovation through shared endeavour** – fusion offers the opportunity to create a mission-driven, collaborative innovation model in which government supports early-stage risk and scientific development, while industry leads commercialisation and market delivery.

**De-risking fusion to unlock private capital** – the UK must create an environment that rewards innovation and reduces barriers to entry through initiatives such as targeted tax relief and the positioning of fusion as a mainstream clean-energy play for investment groups.

**Building a globally competitive fusion supply chain** – to stay globally competitive, Britain must develop the supply chain, infrastructure and skills base needed to design, build and run multiple fusion plants – securing its role as an indispensable contributor to a global market.

**Fusion as a pillar of energy and industrial policy** – fusion is central to the UK's net-zero and growth agendas so the industry focus must now be to deliver a programme that links fusion to energy security, sustainability goals, regional levelling-up and export ambition.

FIT Recommendation #1

# Balancing long-term vision with near-term impact

Fusion is characterised as a long-term endeavour but it can and must also deliver nearer-term returns to sustain momentum, justify public spending, and attract private investment. The government's investment approach must acknowledge this dual imperative. To achieve this, fusion must be framed both as a near-term engine of technological spin-offs and as a long-term clean-energy cornerstone that will serve the UK and the world well into the twenty-first century, and beyond. UK investment will foster advancements in sectors like materials science, clean energy, and manufacturing, amongst others, positioning the UK as a leader in fusion and related technologies.

Commercialising fusion over the next decade will demand tens of billions of pounds of global investment. The UK already leads the charge but staying ahead means acting as the sector's catalyst. Funding should therefore scale step-by-step, or milestone by milestone, rising from the hundreds of millions invested today to several billion pounds per year by the early 2030s. Public funds should target high-impact R&D, world-class regulatory capacity and the supply-chain ecosystem, while smart policy instruments, such as tax incentives, co-investment funds and green-bond frameworks attract large pools of private capital and multiply the impact of every government pound. With this graduated, partnership-based approach, the UK can continue to set the global pace on fusion and convert its scientific leadership into meaningful commercial and industrial gains.

Public support should now focus on dual-purpose projects like advancing long-term goals such as STEP and its enabling technologies while also delivering near-term spin-offs in, inter alia, materials, diagnostics, advanced manufacturing and electronics. These early successes will demonstrate value to ministers and the public, create capabilities useful across other high-value sectors and smooth the case for larger budgets in the 2030s. FIT continues to back higher overall public spending. In the near term, the immediate priority is to ensure that the £2.5 billion commitment is deployed effectively: funding allocated for STEP should be delivered at pace and to plan, while existing UKAEA programmes must be sustained and, where appropriate, augmented – rather than diluted – so that the wider UK fusion ecosystem continues to advance.

To ensure this new investment delivers maximum impact, government should establish clear oversight and delivery mechanisms such as milestone-based funding releases, industry-access targets, and an independent fusion delivery board to track progress, ensure accountability, and adapt investment flows in line with outcomes. Clear "wins" from this tranche will build the evidence base for future funding rounds. Importantly, more of the new money should reach industry through open, competitive channels, so firms can win funding without being confined to UKAEA frameworks, while UKAEA itself concentrates on convening, oversight and shared infrastructure. Achieving this will require light-touch reforms and sustained, transparent engagement between UKAEA, private developers and the wider supply chain.

New funding initiatives such as the £100 million "Starmaker One" fund under East X Ventures are welcomed by FIT. Such initiatives should be considered part of a broader strategy to link investment to public-good impact and measurable commercial readiness. A UK fusion investment roadmap should clearly outline the future funding trajectory, identify where risk-tolerant capital is most needed, and ensure effective programme governance. Anything less risks squandering the UK's strong position in the new fusion paradigm.

FIT Recommendation #2

# Catalysing innovation through shared endeavour

FIT believes that public and private investment must reinforce each other and not exist in isolation. Fusion presents a generational opportunity for a mission-led approach to build a dynamic, collaborative innovation model in which government supports early-stage risk and scientific development, while industry drives commercialisation and delivery of technology to market.

The UK should scale up and diversify its public-private programmes, moving beyond simple procurement. Inspired by successful international initiatives, such as ARPA-E and INFUSE in the United States, the UK must establish similar mechanisms for co-developing technologies with clear market potential. It can absorb the lessons of these schemes without cloning them, leveraging its own "UK edge": a tightly knit research base, agile regulators and the ability to align funding, facilities and policy decisions across a single, coherent system far faster than larger federal jurisdictions. This is facilitated by the fact that the UK's version of ARPA-E already exists; ARIA was set up under the last government and support should continue with the establishment of a fusion-oriented programme, to incubate early-stage ideas to be spun out of laboratories and universities. In parallel, an INFUSE-style programme which allows companies to compete for time on publicly funded facilities and expertise, would benefit both government and industry, accelerating R&D through shared risk and reward. Together, these initiatives would attract investment, deepen collaboration and speed the commercialisation of UK fusion technologies.

More broadly, government-backed fusion programmes should structure a significant portion of their industry-facing calls around open problem statements, rather than relying solely on rigid tenders for pre-defined deliverables. This approach invites a diverse field of established firms, start-ups and research consortia to compete on ideas and execution, creating the healthy rivalry essential for rapid, cost-effective progress. Winners would secure development funding while retaining foreground IP (free to commercialise), with government receiving a royalty-free licence for public purposes (or, in some cases, equity). Anchoring the model in genuine market competition, and ensuring the ecosystem is large enough to sustain multiple capable bidders, avoids the pitfalls seen in some regulated-utility schemes where innovation stalls. By coupling flexible IP terms with contestable, mission-oriented challenges, the UK can establish a self-reinforcing loop: government defines ambitious goals, a dynamic private sector races to meet them, and breakthrough technologies move swiftly from lab to global market while UK innovation remains both competitive and commercially rewarding.

Several FIT members have emphasised that UKAEA's LIBRTI programme has piloted a collaborative model with strong potential. However, it is the principles underpinning that model that deserve broader adoption. These include a solution-agnostic, openly problem-led structure; alignment with a clearly defined R&D programme; and terms that allow industry to retain IP and capture commercial upside. In return, government advances its public mission through access to world-leading solutions without having to prescribe them in a rigid manner upfront. Such frameworks actively drive innovation, rather than constrain it through overly narrow specifications. Formalising and embedding these principles, through scaled-up challenge programmes and clearer IP and co-development frameworks, would give the UK a durable, innovation-positive template for fusion delivery.

To support this, FIT also recommends expanding UKAEA's Technology Transfer Office and evolving UKAEA's role from "programme owner" to "sector convener" which will actively enable external delivery while maintaining scientific leadership and infrastructure stewardship. With the right structure and policy backing, these steps would signal a confident, long-term shift in the UK's fusion model: one where government catalyses innovation and industry scales it, thereby reinforcing pursuit of national success.

UKAEA's decades-long record of scientific leadership has been, and should remain, the anchor of the UK fusion ecosystem. Building on that strength, the establishment of UK Industrial Fusion Solutions (UKIFS) now offers a timely opportunity for UKAEA to evolve from sole programme owner into the sector's chief enabler. In practice, UKAEA is already performing much of this role through its "Fusion Partner" work with UKIFS; the next step is simply to signal the shift more explicitly and extend it. By leveraging its unmatched facilities, talent and convening power to support IP commercialisation and flexible co-development agreements, UKAEA can accelerate the wider fusion market which includes, but is not limited to, STEP while continuing to set the gold standard for safety, science, and engineering excellence.

FIT Recommendation #3

# De-risking fusion to unlock private capital

Following from Recommendation 2, FIT asserts that private capital will be essential to scale fusion technologies from demonstration to deployment. To attract that capital, the UK must create an environment that rewards innovation and reduces barriers to entry. At present, UK fusion companies often face challenges in accessing investment at growth stages, particularly when competing with well-capitalised American firms or state-backed Chinese ventures.

Several measures can help redress this. First, targeted tax relief, expanded R&D credits and accelerated allowances for fusion-aligned capital, would stretch venture cash and cut early-stage risk. Second, the City of London must be fully enlisted: systematic outreach to pension funds, insurers and sovereign investors can position fusion as a mainstream clean-energy play. Third, durable, proportionate regulation on siting, safety and licensing will give institutional capital the predictability it needs; FIT recognises that government is already taking active steps in this direction and welcomes the recent publication of the National Policy Statement for fusion. Fourth, government should create a dedicated fusion window inside the British Business Bank's £4 billion Growth Capital programme and the National Wealth Fund's £27.8 billion mandate, providing cornerstone equity for spinouts and project developers, and signalling long-term state commitment. The announcement of a first fusion-related investment with National Wealth Fund involvement within 18 months, for example, would provide a major signal of momentum.

Fusion's mix of hard tech, long lead times and scientific complexity makes purely private financing untenable, yet government cannot shoulder all commercial risk. The goal is therefore to crowd in private money by de-risking early stages and offering a credible path to scale across, not just within, headline projects like STEP. In that context, the National Wealth Fund and the British Business Bank should act as anchor investors, using their capital to unlock far larger flows of private finance.

FIT Recommendation #4

# Building a globally competitive fusion supply chain

FIT agrees with the report from the Tony Blair Institute that "the UK cannot compete with the deep capital markets of the US or the sheer scale and speed of Chinese state-sponsored programmes"; instead, the UK should play to its distinctive strengths. Fusion's success will be shaped not just by headline machines or start-ups but by the wider industrial ecosystem. To stay globally competitive, Britain must build the supply chain, infrastructure and skills base needed to design, construct and operate multiple fusion plants, accepting that another nation may reach commercial fusion prior to the realisation of STEP and what follows, but all the while positioning itself as an indispensable contributor to a global market.

Achieving this calls for deliberate, long-term industrial policy. The UK should strive to become the globally best-in-class in strategic, enabling domains such as advanced materials science, AI and computation, component testing, and "soft-power" assets such as insurance, licensing and regulatory expertise, rather than trying to cover every niche. A national capability-mapping exercise would pinpoint strengths, expose gaps and guide targeted investment; it would also highlight areas where in-kind partnerships with international programmes can substitute for domestic capability, potentially trading UK technologies for complementary foreign contributions to projects like STEP. Such a capability mapping exercise should be time-bound and used to identify priority technology areas for scale-up, with targeted funding or co-investment launched in one or two high-impact domains such as tritium handling, advanced blanket systems, or automated component manufacturing, as testbeds for broader supply chain mobilisation.

New entrants such as start-ups, SMEs, and non-traditional suppliers must be encouraged to widen and deepen the supply chain. Support for university spin-outs, funding to bridge the R&D-to-market gap, and training in entrepreneurship for fusion scientists and engineers will all stimulate innovation. At the same time, attracting large firms from adjacent sectors (aerospace, defence, oil and gas, etc) will add scale, capital and know-how, giving the UK fusion ecosystem both breadth and resilience.

FIT Recommendation #5

# Fusion as a pillar of energy and industrial policy

Fusion is no longer a speculative research project: the Government's June 2025 Industrial Strategy positions it at the heart of the UK's net-zero and growth agendas. The next task is the execution of turning strategic intent into a coordinated delivery programme that links fusion to energy security, sustainability goals, regional levelling-up and export ambition, while cross-fertilising with AI, advanced manufacturing and other priority technologies. In this framing, fusion is both a future baseload energy source and a powerful economic engine that can create high-value jobs, grow supply chains and drive innovation across the wider clean-energy sector. A firm, long-term commitment will assure global investors that Britain is the place to build.

Delivering on that promise means embedding fusion objectives across existing innovation plans and creating well-funded regional clusters that knit together academia, industry and local talent pipelines. STEP at West Burton and the Culham campus provide a strong foundation, but further hubs, drawing on initiatives such as the Fusion Power CDT (York) and the Fusion Engineering CDT (Birmingham), should be developed to leverage local strengths in advanced manufacturing and clean tech, spur inward investment and anchor public engagement.

Technology lock-in must be avoided. While STEP remains the flagship, funding and regulation should stay technology-neutral so that magnetic, inertial, stellarator and hybrid concepts can advance on merit, and so cross-cutting capabilities such as materials, fuel-cycle technologies, and AI-enabled control systems receive sustained backing irrespective of reactor type. Government should actively review regulatory frameworks to ensure they do not inadvertently create pathway lock-in, particularly as STEP and other concepts advance.

Finally, international collaboration is the force-multiplier. As an agile, independent nation, the UK should treat partnerships with Japan, South Korea, countries in the EU and the United States as integral to its delivery plan where they share risk, avoid duplication and secure complementary capabilities. Adopting the Agile Nations principles of collaborative rule-making, proportionate regulation and public-interest innovation will ensure these alliances accelerate progress and bolster public trust at home.

# Industry commitments

While the recommendations in this report are directed at government, FIT recognises that partnership must be mutual. The fusion industry, including academic and non-governmental institutions, is prepared to support the national mission through a range of voluntary actions that reflect its commitment to the UK's long-term success. These could include, inter alia, matching public R&D investment with private capital where feasible, contributing to the creation of high-skilled jobs, supporting talent development through PhDs, apprenticeships and internships, and providing data to assist regulatory development.

Industry is already active across many of these areas, but with the right policy environment, it stands ready to expand and deepen its contributions. Such actions will naturally vary by organisation and evolve over time, but the sector's shared ambition is to work in close partnership with government to help build a thriving, globally competitive fusion industry.

# Conclusion

The UK has already assembled the essential ingredients for fusion success: world-class research facilities, a vibrant cohort of private developers, an agile regulatory framework and wide public and political backing. Yet global competition is accelerating. The coming years will determine whether Britain turns this strong foundation into a self-sustaining industry or cedes talent, intellectual property and market share to better-capitalised nations.

The recommendations in this document meet that challenge directly: scaling public investment against clear milestones, embedding open public-private collaboration, crowding in institutional finance, strengthening the supply chain and delivering an integrated national plan that links fusion to energy security, regional growth and export leadership. Industry and academia stand ready to play their part, not just through delivery, but through deepening collaboration and co-investment where policy enables it.

By amplifying what Britain already does best and closing the gaps that remain, the UK can move from pioneering experiments to commercially viable power plants, converting scientific leadership into lasting economic and strategic advantage. The task is formidable but so too is the prize, and with a decisive investment strategy it is firmly within reach.

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