

Creating Excellence: Addressing the Employment Demands of Tomorrow

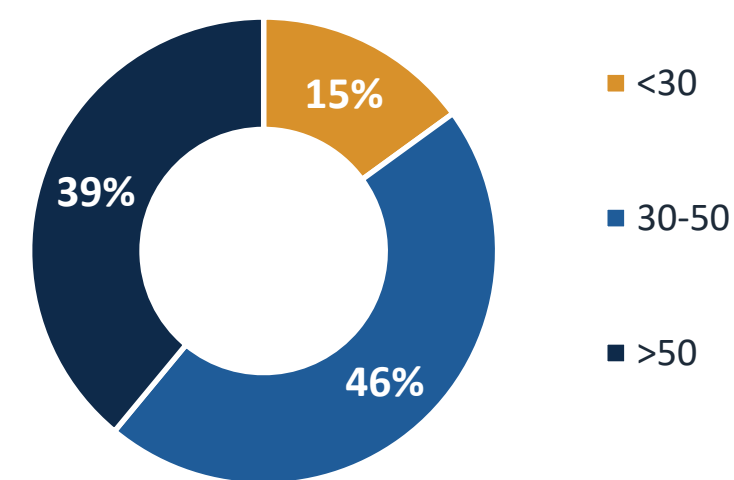
The Challenges of the Nuclear Sector

Labour Demand

40% of employees may retire within the next decade [1]

40,000 new employees needed by 2030 [1]

Ages within Industry

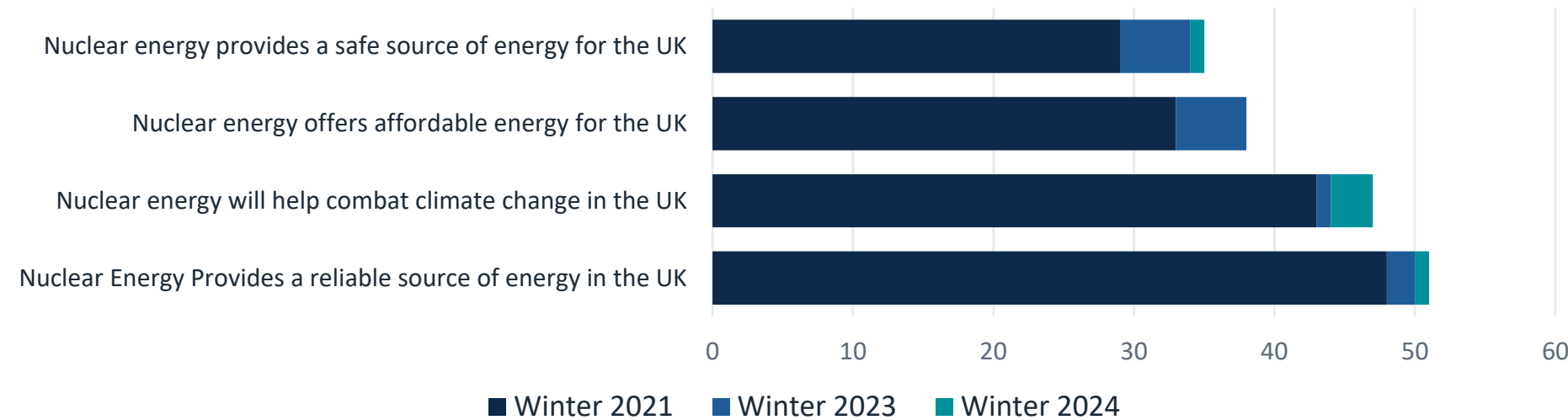


AUKUS Commitments

The Defence Select Committee's AUKUS inquiry identifies SQEP as a major risk to the AUKUS programme. [2]

Industry Perception

Percentage of public that agree with the following statements



Source: DESNZ Public Attitudes Tracker, Winter 2024, UK [7]

Perception is improving, but most of the public remain agnostic. FGS Global Radar Research [6] finds 31% have ethical concerns about working in defence — 40% among 18-34s.

The sector must improve its public perception.

SQEP Challenges

Fingleton's Nuclear Regulatory Review (2025) [1] found the SQEP shortage hits both defence and civil sectors — a gap in depth and breadth of experience, not just headcount.

Technical skill alone cannot deliver a safe programme in a high-hazard sector. Leadership, communication, teamwork, decision-making and resilience matter equally — behaviours the Nuclear Institute's Nuclear Professionalism Standard now recognises.

Recommendation 39, accepted by government: the Nuclear Skills Delivery Board should accelerate efforts to build knowledge and experience into a diverse workforce with greater focus on non-technical skills, alongside technical expertise.

Analysing Current Opportunities

Existing Nuclear Skills Schemes

Scheme	What it does, and who it is for
UK Nuclear Skills Delivery Board	Senior government–industry governance group. Apprentices, graduates, career changers.
National College for Nuclear	Core nuclear skills, strong industry ties. Cumbria, Somerset, Lancashire, Suffolk, Devon. [9]
Nuclear Skills Academy	Degree apprenticeships for nuclear defence, with Derby and Rolls-Royce. School leavers. [10]
National Skills Academy Nuclear	Employer-funded skills development, online and at various locations. [11]
Nuclear Doctoral Training Consortia	Doctoral scheme for fusion technology; funds circa 500 PhDs across seven universities. [12]
Nuclear Skills Strategy Group	Operational body driving day-to-day delivery of the nuclear skills plan. [13]

Gaps in the Skills Schemes

Fingleton found these schemes are undermined by fragmentation between organisations. [1] Impact concentrates where industry already sits, and weak integration blocks secondments. Little emphasis is placed on supporting learners while still in school.

Shift in Education Systems / Assessment



It's Our Future [Hayward, 2023]. Scottish assessment does not equip learners to be effective citizens. Proposes a Scottish Diploma of Achievement adding Project Learning and Personal Pathway. [3]



The Francis Review [Francis, 2025]. Finds a conflict between depth and breadth. Recommends V-levels — a vocational route with applied components, shaped with industry. The sector should back a nuclear V-level. [4]



Successful Futures [Donaldson, 2015]. The Welsh Baccalaureate promotes critical thinking and collaboration. WBQ completers were 15% more likely to secure jobs; work experience rose 25%, and 85% felt better prepared. [5]

All three reviews point the same way. Soft skills raise employability — the exact gap Fingleton identified — and every review demands collaboration between policymakers, industry and education.

Case Study: Manchester Baccalaureate



The MBacc is a 'wrapper' over existing qualifications and work experience, not a new qualification. Every learner gets 45 days of high-quality workplace experience by age 19. [15]

It runs on close industry ties. Employers co-design the curriculum, provide placements and align pathways to regional labour demand.

Year 2: 3,500+ opportunities, up 2,100 on Year 1; women up 182% in tech careers. Schools Week doubts it scales beyond Greater Manchester's economy. [14]

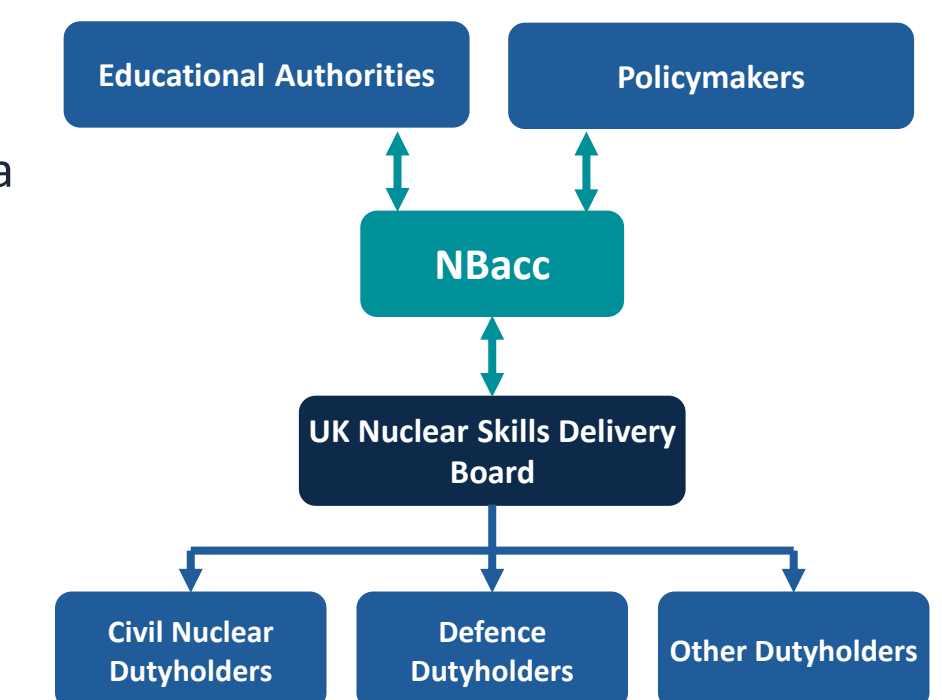
Proposal: The Nuclear Baccalaureate (NBacc)

Aims

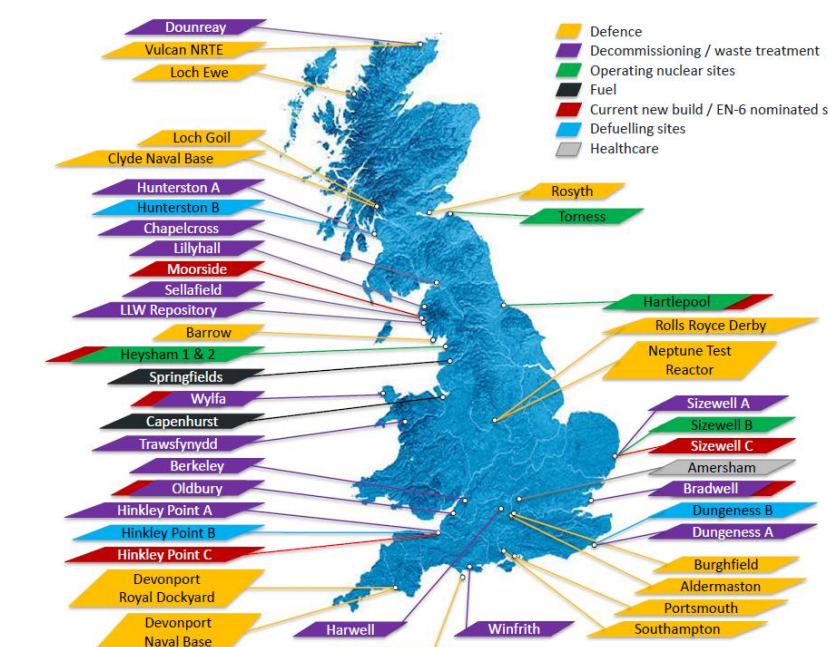
- Meet employment demand through more nuclear placements
- Answer Recommendation 39 by building the non-technical skills the sector lacks
- Strengthen political ties by linking education to employment
- Improve industry perception through education and support for learners
- Create one UK framework so regional hubs and sector-wide skills reinforce each other

Structure

- Creates a **wrapper qualification**, modelled on the MBacc, Scottish Diploma of Achievement and WBacc
- Works with policymakers and education authorities to embed the NBacc and define the curriculum
- Works with industry to locate SQEP demand, technical and non-technical
- Builds a common-skills framework across nuclear roles
- Collates industrial placements from partners and delivers them nationally



Opportunities



Links common skills across UK partners, enabling secondments and identifying shortages.

Builds soft skills through coordinated industry placements.

Engages communities and strengthens ties with policymakers.

Develops learners from school age to solve the sector's biggest challenges, including waste.

The time to act is now

The sector must employ more, improve its reputation, strengthen political ties and raise both technical and non-technical capability. Existing schemes are positive but fragmented.

Drawing on the Manchester Baccalaureate and the shifts already underway in education, the NBacc answers Fingleton and builds a curriculum that transforms the sector. **The sector must act now.**

References:

- The Nuclear Regulatory Review, Fingleton et al 2025
- AUKUS Inquiry, Defence Committee, 2026
- It's Our Future, Hayward, 2023
- The Francis Review, Francis, 2025
- Successful Futures, Donaldson 2015
- FGS Global Radar Research
- Official Statistics: DESNZ Public Attitudes Tracker: Energy infrastructure and energy security, Winter 2024, UK
- National Nuclear Strategic Plan for Skills, Bollom, 2024
- National College for Nuclear
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- Nuclear Doctoral Training Consortia
- Nuclear Skills Strategy Group
- Growing Impact from Greater Manchester Baccalaureate Year 2 [2026]
- MBacc: A 2030 Vision [2025]