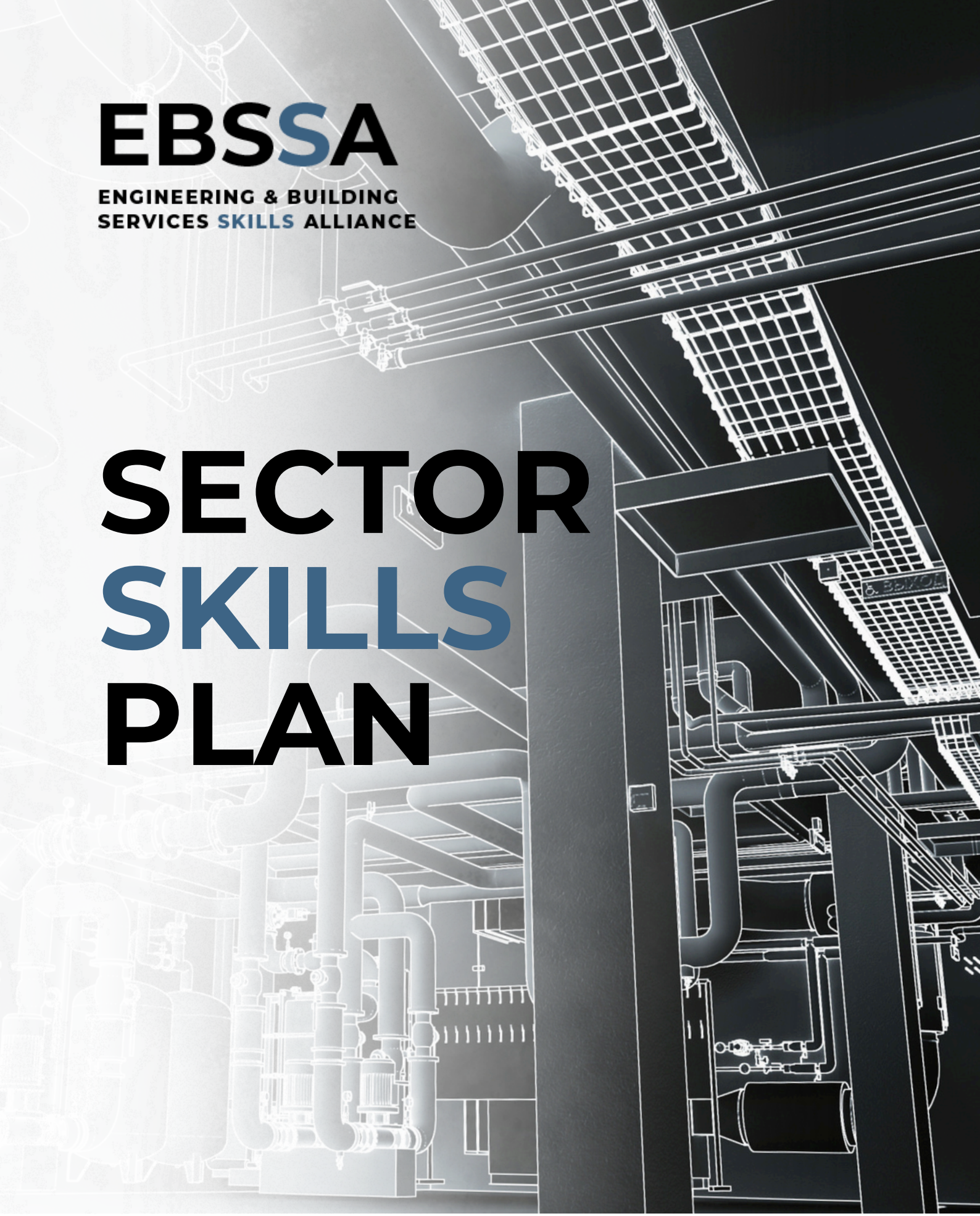
EBSSA

ENGINEERING & BUILDING SERVICES SKILLS ALLIANCE



SECTOR SKILLS PLAN

Prepared in collaboration with members of the Engineering & Building Services Skills Alliance and participating organisations.

ABOUT THE ENGINEERING & BUILDING SERVICES SKILLS ALLIANCE (EBSSA)

The Engineering & Building Services Skills Alliance (EBSSA) brings together leading organisations from across the engineering, building services and environmental technologies sectors to collaborate on shared workforce, training and skills priorities.

The current EBSSA member organisations participating in this plan are:

Actuate UK is a member organisation of EBSSA and is made up of the following member bodies:

FETA is a member organisation of Actuate UK and is made up of the following members:

Network members participating in this Sector Skills Plan:

Additional organisations contributing to this plan:

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EXECUTIVE SUMMARY

E&BS: Central to National Priorities
The UK's targets for new homes, infrastructure delivery, and clean energy depend on a skilled Engineering and Building Services (E&BS) workforce. These trades —electrical, plumbing, HVACR, fire and security, building controls, and more — are not peripheral. They design, install, and maintain the systems that make buildings safe, efficient, and compliant (Annex 1).

E&BS typically account for 40–60% of construction project value and 30–50% of whole-life maintenance costs, making them the most economically significant part of the built environment.

Sector Scale and Economic Impact
E&BS is the largest built environment subsector, employing over 433,900 workers — 28% of the built environment workforce. The real figure is likely higher, with many operatives working outside standard classifications.

The sector's size, distinctiveness and economic contribution mean it should be fully represented in government workforce planning and skills policy design.

Persistent Challenges
Skills shortages are entrenched, with over 50% of vacancies hard to fill. Apprenticeship starts overall have declined, and an ageing workforce threatens future capacity.

High levels of self-employment, limited funding for adult upskilling, and shortages of trainers and assessors are undermining workforce stability and growth.

Diversity and inclusion remain a challenge, with women and minority groups under-represented.

EBSSA: A Strategic Partner
The Engineering and Building Services Skills Alliance (EBSSA) is the umbrella body for E&BS trade associations, employers, training and assessment providers, and competence scheme partners (Annex 2). It provides a coherent, evidence-based voice for E&BS sectors on skills policy and coordinates competence frameworks across 37 occupational disciplines (Annex 3). EBSSA accordingly offers a ready-made strategic partner for government, the CSMB, mayoral strategic authorities and major clients to engage with E&BS skills.

Sector Strengths
E&BS sectors have built high-performing skills institutions, developed robust competence frameworks, and pioneered experienced worker assessment routes to validate competence.

They account for more apprenticeship starts than any other part of the built environment (Annex 4) and have strong industry-education partnerships.

Sector-led labour market intelligence provides insights unavailable from public and training board sources.

Recommendations to Government and the CSMB

The following recommendations are designed to supplement positive action already being undertaken by E&BS sectors themselves, relying on their own initiative and resources. EBSSA believes all are valuable, if not essential, to support successful delivery of one or more of the CSMB's priority objectives (i.e. Joint Skills Intelligence, Employment-Led Skills System, Strategic Coordination and/or Employer Investment and Delivery).

1. Formally Recognise EBSSA: As the lead vehicle for convening E&BS input into skills policy design and workforce planning.
2. Use Sector-Led Labour Market Intelligence: Work with EBSSA and its members to maximise the benefits of sector-specific data and analysis.
3. Support SMEs: Boost financial incentives and practical support to help small businesses recruit, train, and retain workers.
4. Strengthen Skills Requirements in Contracts: Include effective skills and employment targets in public and private sector contracts.
5. Review Worker Status: Align employment rights reforms with tax and NI reform to reduce reliance on casual labour and encourage investment in training.
6. Protect and Expand Industry-Recognised Training Routes: Work with EBSSA to safeguard and grow industry-valued apprenticeships, NVQs, and experienced worker assessment routes.
7. Reprioritise Adult Upskilling: Improve funding and access to adult NVQ and experienced worker assessment routes.
8. Develop a National Installer Skills Matrix: Clarify and rationalise skills requirements for energy efficiency and low-carbon technologies.
9. Boost Tutor and Assessor Capacity: Recruit and retain more qualified staff to deliver high quality industry-recognised training.
10. Improve Progression Rates from Classroom-Based Courses: Prioritise learners moving from classroom courses into industry-recognised training.

Conclusion

Engineering & Building Services are indispensable to the UK's ambitions. EBSSA and the sectors it represents have shown leadership, innovation, and a commitment to high standards. With targeted support and formal recognition, E&BS can play a central role in delivering a skilled, competent, and future-ready workforce for the UK, mobilising more employers – including thousands of E&BS SMEs – to support more jobs.

1. CONTEXT: THE CENTRAL ROLE OF ENGINEERING AND BUILDING SERVICES

The UK's ambitions for housing, infrastructure and, clean energy and net zero depend fundamentally on the availability of a skilled Engineering & Building Services (E&BS) workforce. Government commitments — including 1.5 million new homes, major infrastructure delivery by 2030, large-scale retrofit programmes, and the Clean Energy Jobs Plan's 480,000 additional roles — all rely heavily on electrical, plumbing, HVACR, fire and security, building controls, thermal insulation, and other specialist installation and maintenance trades (Annex 1).

These trades are not peripheral. They design, install and maintain the systems that make buildings and other infrastructure safe, functional, efficient and compliant. Mechanical and electrical services typically account for 40–60% of total construction project value[1] and 30–50% of whole-life maintenance costs,[2] making E&BS the single most economically significant component of the built environment.

Yet the UK faces entrenched skills shortages. Over 50% of built environment vacancies are hard to fill due to skills gaps, and the Construction Skills Mission Board (CSMB) has set a target of 100,000 new workers per year to meet demand. Apprenticeship starts have declined in many parts of the built environment, including a 24% decline in E&BS starts since 2021/22. Such declines and an ageing workforce threaten future capacity.

Despite all the above, E&BS sectors have historically been under-represented in government skills policy discussions – mainly because they operate outside the Industry Training Boards (CITB and ECITB). Whilst this independence has contributed to superior skills outcomes, it has also limited the visibility within government of E&BS sectors' distinctive skills needs, their strong track record of sector-led skills development, and potential to contribute to national workforce solutions. The absence of substantial E&BS involvement on the Warm Homes Plan Taskforce – despite the Plan's reliance on E&BS installations – further highlights these visibility issues and the need for government to recognise the range of skills the future built environment will require and the businesses it must rely on to deliver them.

The Engineering & Building Services Skills Alliance (EBSSA) was created to help address this gap. As the umbrella body representing E&BS trade associations, employers, training and assessment providers and competence scheme partners, EBSSA provides a coherent, evidence-based voice for the sectors that deliver a substantial share of the UK's built environment output.

[1] Department for Business, Innovation and Skills (2013) Supply Chain Analysis into the Construction Industry: A Report for the Construction Industrial Strategy. Available at: https://assets.publishing.service.gov.uk/media/5a7c08c040f0b645ba3c6499/bis-13-1168-supply-chain-analysis-into-the-construction-industry-report-for-the-construction-industrial-strategy.pdf.

[2] Lengthorn, P. (2025) How Much Does Building Maintenance Cost? Available at: https://www.consultengsurvivor.com/the-cost-of-building-maintenance.

2. EBSSA: A STRATEGIC PARTNER FOR GOVERNMENT AND THE CSMB

Annex 2 offers more detailed background information about EBSSA, its current membership and mission. Established in 2023, EBSSA already leads Sector-Led Group 10.2 under the Industry Competence Steering Group (ICSG), coordinating competence frameworks across 37 E&BS occupational disciplines (see further Annex 3). Its wider objectives include working with member trade associations and other sector bodies and stakeholders to:

- Raise the policy profile of E&BS sectors
- Provide robust labour market intelligence (LMI)
- Support sector-led skills development
- Improve apprenticeship, NVQ and experienced worker outcomes
- Strengthen progression routes and upskilling opportunities

EBSSA's membership and network continue to expand across the UK, reflecting the all-nations footprint of E&BS employers. It offers a ready-made strategic partner for government, the CSMB, mayoral strategic authorities and major clients to engage with E&BS skills.

3. SECTOR SIZE, SCOPE AND ECONOMIC CONTRIBUTION

E&BS covers the design, installation, commissioning, maintenance and repair of systems essential to building/ infrastructure performance and safety. These include:

- Electrical power and lighting
- Heating, ventilation, air conditioning and refrigeration (HVACR)
- Plumbing and water systems
- Fire detection and suppression
- Security and access control
- Building controls and automation
- Thermal insulation
- Lifts, escalators and specialist mechanical systems
- Network cabling and digital infrastructure

ONS data shows SIC 43.2 generated £55.7 billion turnover in 2023. Given E&BS activities sitting outside SIC 43.2, this probably underestimates the true scale. The Department for Business and Trade identifies E&BS as the largest construction subsector, employing 433,900 workers — 28% of the built environment workforce.[3] EBSSA's own analysis suggests the real figure is higher, including over 200,000 operatives certified under independent, sector-led CSCS affiliated partner card schemes, with others working in domestic and other non-carded environments.

Given this scale and economic significance, E&BS sectors ought to be fully represented in government workforce planning and skills policy.

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[3] Department for Business and Trade. (2025). Construction output in Great Britain: July 2025. Available at: https://www.gov.uk/government/statistics/construction-output-in-great-britain-july-2025.

4. WORKFORCE CHARACTERISTICS AND LABOUR MARKET INTELLIGENCE

4.1 Workforce Structure

E&BS sectors are dominated by SMEs and micro-businesses (representing more than 99% of all firms). This creates agility and responsiveness but also:

- High levels of self-employment (albeit lower on average than for some other built environment trades)
- Reduced capacity for structured training
- Fewer apprenticeship opportunities

In some trades, self-employment exceeds 60%, creating structural barriers to workforce development.

4.2 Distinctive Skills Needs and Priorities

Engineering and Building Services (E&BS) trades typically require higher skill levels than general construction, accounting for nearly all Level 3 apprenticeship starts in the built environment. Training periods are longer — up to four and a half years — and E&BS roles, such as electrician and plumber, tend to be more attractive to new entrants. These features, as well as the safety-critical nature of much E&BS work, help explain why E&BS employers place a stronger emphasis on competence compared to most other built environment sectors. This emphasis in turn leads to greater E&BS engagement with the skills system, higher enrolment figures, and better outcomes.

Because E&BS needs differ from general construction, initiatives shaped by bodies like CITB do not adequately address sector-specific challenges. Government, the CSMB, mayoral strategic authorities and major clients should therefore collaborate directly with E&BS sectors through dedicated channels — such as EBSSA and its network — if they wish to design interventions that are relevant and effective for E&BS.

4.3 Regional Variation

Apprenticeship starts, workforce density and employer engagement vary significantly by region. Areas with high self-employment (e.g. Greater London and West Midlands) tend to have lower apprenticeship recruitment, reinforcing the need for regional workforce planning.

5. KEY CHALLENGES FACING E&BS SECTORS

Despite strong foundations, E&BS sectors face several persistent and emerging challenges that threaten their ability to meet national workforce demands.

5.1 Rising Employment Costs

The doubling of the apprentice wage in recent years and other increases to employment costs disproportionately affect SMEs. Apprentices 'jumping ship', either during or soon after their apprenticeship, is also a challenge. For some time now, E&BS sector bodies have been expressing concerns about the erosion of employer return on investment and a resulting diminished SME appetite to invest in apprenticeships. Without better targeted financial and practical support, apprenticeship recruitment will decline further.

5.2 Unsustainable Levels of Self-Employment

In the UK, categorising workers as 'self-employed' can reduce costs of employment by as much as 30%. This large saving, combined with complex (and mostly unenforced) employment status rules for tax and national insurance , artificially inflate levels of construction self-employment, which consequently are much higher here than in other developed economies.[4] The ready availability of 'false' self-employment has driven an excessive reliance on casualised labour arrangements, leading to reduced:

- Apprenticeship opportunities
- Investment in training
- Workforce stability[5]

Addressing this 'hollowing out' of industry's capacity to recruit and train the future workforce will require both meaningful tax and business reforms and targeted SME support.

5.3 Inconsistent Funding for Adult NVQ and Experienced Worker Routes

Viable entry routes for career changers and other adults, and experienced worker assessment, are vital for expanding the skilled workforce. In the case of experienced worker assessment, accessible and affordable solutions are also essential to avoid accelerating workforce decline as hundreds of thousands of existing part-qualified workers contemplate exiting industry in the face of increased competence standards and enforcement, driven by the Building Safety Act.

Current adult funding arrangements fall short of what is required to maintain and grow the workforce needed to deliver government and CSMB ambitions. Overly restrictive eligibility requirements and a lack of effective funding support for programmes that deliver occupational competence, rather than paper knowledge

qualifications, have rendered the Free Courses for Jobs programme ineffective for E&BS.

The funding gap particularly harms adult career changers, many of whom are exploited by unregulated trainers offering poor-quality, costly courses and qualifications.[6]

In collaboration with E&BS sectors, some mayoral strategic authorities (e.g. in Greater Manchester and West Midlands) are starting to recognise the issue and contemplating allocation of some devolved funding to assist adult new entrants and experienced workers to complete competence-based progression routes. Unfortunately, without more urgent and consistent action across the rest of England, these isolated efforts look likely to prove too little, too late.

5.4 Trainer and Assessor Shortages

Weak links with industry make it hard for many FE colleges to attract and keep suitably qualified staff to deliver apprenticeships and other industry-recognised training routes. This, combined with the higher costs and delivery risks associated with apprenticeships, are driving many colleges to focus mostly (or even exclusively) on classroom-based provision, with shockingly low progression rates subsequently into apprenticeships (10% or less). Among FE colleges in Greater London and West Midlands, for example, ratios of 20 E&BS classroom learners to one apprentice are not unusual – compounding local skill shortages and long-term workforce decline.[7]

5.5 Fragmented Training Pathways

Comparatively high achievement rates for these classroom-based knowledge courses are of little use, either to industry or learners themselves, if progression rates subsequently into apprenticeships and other industry-recognised training routes remain very low, at 10% or less. Indeed, in many places progression rates are understood now to be declining even further.

With approximately 40,000 publicly funded enrolments onto E&BS classroom courses every year, this leaky skills pipeline wastes resources and creates additional barriers. Many learners overestimate the value of FE knowledge qualifications, believing they lead directly to trade competence and higher pay. At the same time, E&BS SMEs find themselves overwhelmed, confused and unclear about how these qualifications affect apprenticeship progression.

5.6 Limited Employer Engagement with New Qualifications

Although there have been some successes (especially involving larger firms), most E&BS SMEs remain disengaged from T Levels and industry placements, due to:

- Limited capacity
- Misalignment with competence standards
- Uncertainty about employer responsibilities.

The early experience of Skills Bootcamps offers a similar salutary warning, with some courses approved for delivery without industry input and in breach of minimum legal standards on competence. New qualifications and courses purporting to improve learners' employment prospects are more likely to succeed if they are genuinely co-created with industry and serve to complement, not compete with, established, industry-recognised training routes.

5.7 Diversity and Inclusion Challenges

Women and minority groups remain under-represented across E&BS sectors. In addition to historical factors, this persistent under-representation reflects the difficulties encountered in trying to change traditional, informal methods of recruitment and selection among small and micro employers (who make up over 99% of all E&BS businesses). Tailored outreach and support for SMEs will therefore inevitably be required for any successful effort to diversify the E&BS workforce.

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[4] Behling. F. and Harvey, M. (2015). The Evolution of False Self-Employment in the British Construction Industry. Work, Employment & Society, Vol. 29, No. 6, pp. 969-988.

[5] Gospel, H. (2021). Direct Employment: A Study of Economic, Business, and Social Outcomes Based on the Electrical Contracting Sector. Available at: https://www.jib.org.uk/wp-content/uploads/2023/10/JIB-Direct-Employment-Report.pdf.

[6] See the TESP 'Rogue Trainers' campaign, for example: https://www.roguetrainers.co.uk/.

[7] See, for example, Local Electrical Workforce and Learner Populations in England: A report for The Electrical Skills Partnership by ECA and JTL (September 2023): https://www.the-esp.org.uk/wp-content/uploads/2023/12/LSIP-Report-long-form-002.pdf.

6. SECTOR STRENGTHS AND GOOD PRACTICE: WHY ENGINEERING & BUILDING SERVICES ARE UNIQUELY POSITIONED TO DELIVER NATIONAL WORKFORCE SOLUTIONS

Before setting out recommendations, it is essential to recognise that E&BS sectors are already demonstrating the capability, leadership and infrastructure needed to deliver the government's skills ambitions. With broader support and modest additional resources, these strengths make the sector an ideal partner for government, the CSMB, mayoral strategic authorities and major clients.

6.1 Effective Sector-Based Institutions

EB&S have spent more than three decades showing that sectors can build and sustain their own high-performing skills institutions outside industry training boards. Since leaving the ITB levy and grant system in 1990, E&BS trade associations have taken long-term responsibility for developing standards, qualifications and training pathways — sometimes leading the effort outright, as in thermal insulation, and sometimes working collaboratively with partners such as trade unions or other sector bodies, as seen in plumbing and electrical.

Trade association members (i.e. employers) sit at the heart of this independent, sector-led model, which has proved capable of delivering agile, credible and future-focused skills solutions at relatively little cost. E&BS sector bodies are therefore not just stakeholders but important potential partners in mobilising industry insights, energy and ideas towards achieving government ambitions for productivity, growth and national infrastructure delivery.

6.2 Labour Market Intelligence Resources

E&BS sector-based organisations – which include trade associations, certification scheme providers, education charities and skills partnerships – hold workforce data that government cannot access alone. ECA and JTL analyses of the electrical workforce and learners have already revealed major regional disparities, cross-boundary labour flows, and a significant long-term decline in qualified electricians — insights only possible by combining Labour Force Survey data with industry sources such as card and certification scheme records.[8] Studies by the Electrotechnical Skills Partnership (TESP) on EV charge-points and solar PV have also shown that technology-specific skills demand can be modelled far more credibly when industry data and insights are included.[9]

EBSSA is now working with other sector bodies to expand this capability to plumbing and mechanical building services, with new labour market information and forecasts for these disciplines due in 2026. For government, CSMB, mayoral strategic authorities and major clients this represents a critical opportunity: effective

workforce planning for housing, infrastructure and clean energy will be greatly enhanced by intelligence that only E&BS sectors themselves can provide.

6.3 High-Performing, Sector-Led Apprenticeships

Despite representing just 28% of the built environment workforce, E&BS sectors consistently deliver 40–50% of all built environment apprenticeship starts (Annex 4). In 2023/24, they accounted for 51% of all built environment starts in England.[10]

At their best, these apprenticeships are characterised by:

- Strong employer engagement
- Clear competence standards
- Higher than average achievement rates
- Well-established training providers
- Effective end-point assessment

This track record demonstrates that sector-led models can deliver high-quality training at scale outside of industry levy/grant systems.

6.4 Mature Competence Frameworks

Through SLG10.2, EBSSA has been coordinating the development of 37 competence frameworks, with 12 completed (Annex 3). These frameworks:

- Align with the Building Safety Act
- Provide clear, consistent routes to competence
- Support card scheme alignment (providing real-time digital verification)
- Improve safety and quality across the built environment

This work shows the E&BS sectors' ability to lead on activities with national significance.

6.5 Pioneering Experienced Worker Assessment

E&BS sectors developed some of the UK's earliest, most successful and most robust experienced worker assessment routes, covering:

- Electricians
- Thermal insulation
- Fire, emergency and security systems (FESS)
- Building controls
- Network cable installation
- Panel wiring

Focused on upskilling the existing workforce – and rectifying a legacy of inconsistent training from the past – these routes are essential for validating competence and mitigating potential negative workforce impacts from the Building Safety Act, supporting skills flexibility and productivity, and addressing shortages.

6.6 Strong Industry–Education Partnerships

Trade associations and other sector-based E&BS institutions have provided sustained leadership on workforce skills over the years, including bringing industry and education closer together. Examples include:

- JTL: co-founded by ECA and Unite, and now the largest E&BS training provider.[11]
- TICA's Skills Exchange: enabling experienced operatives to support training delivery.
- BESA's Skills Legacy Programme: creating clear pathways for experienced engineers to transition into roles as trainers or assessors.[12]
- ECA's regional Electrotechnical Training and Careers Alliances: involving local employers, training providers, trade unions, industry organisations and mayoral strategic authorities/ employer representative bodies working together to improve local skills outcomes.[13]
- These partnerships help address training provider staff shortages, improve curriculum relevance, and strengthen local pipelines.

6.7 Tailored Support for SME Employers

Over 99% of E&BS businesses are SMEs, which also account for a large majority of trade association members. With skills system burdens and complexities increasing, trade associations and other sector bodies have sought to redress the balance by growing their own skills-related service offerings, especially for SMEs. Examples include:

- TICA employer apprenticeship resources[14]
- BESA's Skills Advisory Service[15]
- ECA's Apprentice Engagement and Development training course[16]

6.8 Scottish Installer Skills Matrix

The safe and reliable roll-out of low carbon technologies depends on the existence of a coherent, industry-endorsed framework that sets out the minimum qualifications and competence requirements for installers. Scotland has addressed this through a nationally recognised Installer Skills Matrix, developed collaboratively with industry and aligned to PAS 2030 and PAS 2035.[17]

E&BS sector bodies in Scotland have played a decisive role in developing and maintaining the detailed contents of the Matrix, which cover heat pumps, solar PV, smart controls, hydrogen-ready boilers, battery storage and many other technologies. The Matrix defines minimum qualifications and Recognition of Prior Learning (RPL) for each trade and each technology. Benefits include:

- Improved installation quality through consistent competence standards
- Clearer workforce pathways, supporting apprenticeships and upskilling
- Better alignment between training provision and industry need, enabling education providers to design relevant courses
- Increased employer investment in training due to clearer expectations
- Enhanced consumer confidence in low-carbon technologies
- Stronger delivery capability for government-funded retrofit and heat programmes

6.9 Proven Ability to Self-Organise and Deliver

As the preceding paragraphs have demonstrated, since leaving the ITB levy system in 1990, E&BS sectors have successfully:

- Built up their own training infrastructure
- Developed their own competence systems
- Delivered high apprenticeship volumes
- Maintained strong employer engagement

This independence has fostered innovation, agility and high standards. It has also consistently demonstrated superior outcomes and value for money.

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[8] See, for example: JTL (2025) Powering the Future: Securing a skilled electrical workforce to deliver growth. Available at: https://jtltraining.com/wp-content/uploads/2025/10/Powering-the-Future-Securing-a-skilled-electrical-workforce-to-deliver-growth.pdf.

[9] TESP (2022) Electric Vehicle Charging: Labour Market Information Study. Available at: https://www.the-esp.org.uk/wp-content/uploads/2023/06/TESP-EV-charging-LMI-report-230922.pdf; TESP (2025) Powering the UK's Future: Achieving the 45 - 47 GW Solar Power Generation Target by 2030. Available at: https://www.the-esp.org.uk/wp-content/uploads/2025/11/TESP-Powering-the-UKs-Future-October-2025.pdf.

[10] Department for Education. (2025). Apprenticeships: Academic year 2024/25. Explore Education Statistics. https://explore-education-statistics.service.gov.uk/find-statistics/apprenticeships/2024-25.

[11] See further: https://jtltraining.com/about-us/.

[12] See further: https://www.thebesa.com/skills-and-training/skills-legacy-assessor.

[13] See further: https://www.eca.co.uk/member-support/education-skills/local-skills-partnerships. ETCAs are currently up and running and delivering in Greater Manchester, West Midlands, Cambridgeshire & Peterborough, Cheshire & Warrington, and Kent and Medway. Several more are expected during 2026, including two (South Yorkshire and North-East) launching in National Apprenticeship Week.

[14] See further: https://tica-acad.co.uk/apprenticeship-faq/.

[15] See further: https://www.thebesa.com/besa-academy/skills-advisory-service.

[16] See further: https://www.eca.co.uk/member-support/growth-hub/growth-hub-courses.

[17] See further: https://esp-scotland.ac.uk/scottish-installer-skills-matrix/.

7. RECOMMENDATIONS: BUILDING ON SECTOR STRENGTHS TO DELIVER NATIONAL PRIORITIES

Because E&BS sectors already demonstrate strong leadership, high-quality training, robust competence systems and effective partnerships, they are ideally placed to collaborate actively with government, the CSMB, mayoral strategic authorities and major clients to deliver the following recommendations. EBSSA believes all are valuable, if not essential, to support successful delivery of one or more of the CSMB's priority objectives (i.e. Joint Skills Intelligence, Employment-Led Skills System, Strategic Coordination and/or Employer Investment and Delivery).

7.1 Formal Recognition of EBSSA

Government and other stakeholders should formally recognise EBSSA as the lead convening authority for more meaningful E&BS input into skills policy design, consultation and workforce planning, and implement a regular communication channel for this purpose. Because E&BS institutions and skill needs differ from general construction, such dialogue and collaboration should be through a separate, dedicated channel, rather than subsumed (then submerged) within existing training board-led arrangements.

Rationale: EBSSA's terms of reference include explicit commitments to enhance workforce skills development in E&BS sectors and to improve dialogue and collaboration with government and other stakeholders by bringing all parts of EB&S together. E&BS sector-based approaches already demonstrate a strong record of achievement through effective partnerships and collaboration. Strong ties into trade associations, employers and other sector-based organisations offer government, CSMB, mayoral strategic authorities and major clients an unrivalled opportunity to mobilise and benefit from as-yet untapped resources, insights and expertise.

Alignment with CSMB priorities: Joint Skills Intelligence/ Employment-Led Skills System/ Strategic Coordination/ Employer Investment and Delivery.

7.2 Draw on Sector-Led Labour Market Intelligence

Government, the CSMB, major clients and mayoral strategic authorities should collaborate with EBSSA to leverage sector-specific labour market intelligence (LMI) at national and regional levels.

Rationale: Relying solely on public and training board data risks missing the detailed insights available from sector sources, especially in the economically significant E&BS sectors, which operate mostly outside the training boards. The electrical sector already produces high-quality LMI and is building regional partnerships to improve local skills outcomes. EBSSA is now working to extend this approach to plumbing and mechanical disciplines.

This is an opportune moment for government, regions and major projects to strengthen direct relationships with E&BS sectors, with EBSSA well positioned to coordinate these efforts.

Alignment with CSMB priorities: Joint Skills Intelligence/ Strategic Coordination.

7.3 Support SMEs to Recruit, Train and Retain Workers

The government should:

- Offer financial incentives to SMEs – for example, through tax/ NIC credits, as recently proposed by the Centre for Social Justice.[18]
- Provide targeted, practical support – for example, through support and encouragement for E&BS trade association to expand their services.

Rationale. These measures will help to strengthen SME participation in apprenticeships and workforce development. Enhanced incentives and accessible, sector-specific support will encourage investment in skills. Wider SME adoption of more objective, structured recruitment and selection processes will also improve fairness, opportunity, and diversity across the sector. See Annex 5 for further details about what E&BS sectors would seek to deliver in collaboration with government and the CSMB.

Alignment with CSMB priorities: Employer Investment and Delivery.

7.4 Strengthen Employment and Skills Requirements in Contracts

Contracts in both public and private sectors should be improved to set clear, enforceable targets for skills and employment. EBSSA supports wider industry calls for the inclusion of stronger social value requirements in procurement, as this will encourage greater investment in workforce development across the supply chain.[19] Using existing sector-based data sources and digital tools, including certification schemes such as ECS, SKILLcard, TICA and PMES, offers a scalable way to assure outcomes and support these requirements.

Rationale: Any model contract clauses must be developed with substantial, direct input from E&BS and other employing sectors, and also take full account of SME perspectives (i.e. not just those of client/ consultant/ Tier 1 social value ‘experts’). This more robust and inclusive approach – backed up by more effective and monitoring and enforcement – will better promote training, strengthen workforce stability, and reduce dependence on casual labour. Over the longer term, it should also give a much-needed boost to employers’ confidence to invest in workforce development and encourage changes to business models, with, greater emphasis on direct employment, career progression and training.

Alignment with CSMB priorities: Employer Investment and Delivery.

7.5 Address Tax/ National Insurance as well as Employment Rights Dimensions of Worker Status

CSMB and interested government departments should join with industry to champion the case for a wider review of worker status than that currently envisaged by the Employment Rights Act 2025. Such a review would encompass not just employment rights, but consideration of employment status for tax and NI purposes too.

Rationale: Aligning employment rights reforms with tax and NI reform will be much more effective at removing the easy cost savings that currently encourage misclassification of individuals as 'self-employed', creating a level playing field for responsible employers. It will also support a shift back toward directly employed, stable workforces — conditions under which firms are far more willing and able to invest in apprenticeships, upskilling, and long-term workforce development. Over time, these investments in people will also help the broader built environment address and overcome long-standing challenges with productivity, innovation, wellbeing and attractiveness to new entrants.

Alignment with CSMB priorities: Employer Investment and Delivery.

7.6 Protect and Expand Industry-Recognised Routes to Competence

Government and CSMB should work with EBSSA and E&BS sectors to safeguard and expand take-up of valued training pathways:

- Apprenticeships
- NVQs
- Experienced Worker Assessment routes

Rationale: Both Skills England and the Clean Energy Jobs Plan have highlighted that starts and completion rates must rise substantially to meet workforce demands for housing, infrastructure, and clean energy. Apprenticeships, NVQs, and experienced worker assessments are the established, preferred and most effective routes to competence, widely used across E&BS sectors – with ample scope to scale up further once the right supports are in place.

Alignment with CSMB priorities: Employment-Led Skills System/ Employer Investment and Delivery.

7.7 Reprioritise Funding for Adult NVQ and Experienced Worker Routes

Government, the CSMB and mayoral strategic authorities should work with E&BS sectors to improve the availability and affordability of targeted upskilling training for:

- Adult career changers
- Experienced workers seeking full trade qualifications

Rationale: Although adult NVQ and experienced worker assessment routes are well-established within many E&BS sectors, a lack of consistent funding is currently stopping them fulfilling their full potential. Removing self-defeating eligibility barriers to financial assistance and injecting greater urgency into what is fast becoming a race against time to minimise the

exodus of experienced workers due to the Building Safety Act now need to be key strategic priorities. In return, more individuals and businesses in priority sectors, such as E&BS, will be encouraged and empowered to invest in upskilling – growing the number of qualified, competent workers in a cost effective and relatively rapid way. See Annex 5 for further details about what E&BS sectors would seek to deliver in collaboration with government and the CSMB.

Alignment with CSMB priorities: Employment-Led Skills System/ Employer Investment and Delivery.

7.8 Develop a National Installer Skills Matrix to Support Retrofit, Clean Heat and Net Zero Delivery in England

Designed collaboratively between DESNZ, Skills England, EBSSA members and other installer representative bodies (e.g. FIS and IAA), the Matrix will aim – like its Scottish counterpart – to clarify, simplify and rationalise a currently fragmented and inconsistent skills landscape.

Rationale. England currently lacks a single, coherent, industry-endorsed framework that sets out the minimum qualifications and competence requirements for installers of energy efficiency and low-carbon technologies. Benefits of establishing an Installer Skills Matrix will include:

- Supporting net zero and clean heat deployment
- Strengthening building safety and retrofit quality
- Driving higher training standards and employer investment
- Improving efficiency and reliability of clean energy installations
- Providing a strategic workforce planning tool

Alignment with CSMB priorities: Employment-Led Skills System/ Employer Investment and Delivery. The Matrix will also contribute directly to priority workforce objectives set out in the DESNZ Clean Energy Jobs Plan.

7.9 Boost Tutor and Assessor Capacity for Industry-Recognised Training Routes

Closer collaboration is required between industry and education to recruit and retain enough occupationally competent tutors and assessors to deliver more apprenticeships and other industry-recognised training routes. Such collaboration can and should draw on existing E&BS sector good practice.

Rationale: Attracting, rewarding and retaining credible, high quality teaching staff is a necessary and fundamental precondition for growing high quality delivery capacity in a consistent and sustained fashion. Many E&BS sectors already have strong partnerships with providers and can scale delivery if capacity is increased. See Annex 5 for further details about what E&BS sectors would seek to deliver in collaboration with government and the CSMB.

Alignment with CSMB priorities: Employment-Led Skills System.

7.10 Improve Progression from Classroom-Based Courses into Industry-Recognised Training Routes

Government should collaborate with education providers and EBSSA to clarify the purpose and value for money of classroom-based E&BS courses. This work should also involve a review of entry requirements for these courses, the suitability of learners who are being enrolled onto them, and more open, rational and consistent measurement and reporting of progression rates into apprenticeships and other industry-recognised training routes. Alternative options should also be considered to help bridge the current gap, including revising curriculum content to dovetail much more effectively with the apprenticeship, and piloting delivery of funded classroom provision by a small number of high-quality independent apprenticeship training providers. All the above can then form the basis for a joint action plan to improve progression rates and moving resources and away from provision that delivers low value to learners and/or employers towards provision delivering much higher value.

Rationale. With progression rates from classroom-based E&BS courses continuing to fall, at the same time as sector skills gaps are worsening, a new, more open, inclusive and rational approach is now urgently required. This will necessarily entail moving away from counting paper qualification achievements and towards the skills system's fundamental role serving learners and employers. Once in place, this new approach will also deliver better value for money through higher progression rates and more and better employment outcomes. See Annex 5 for further details about what E&BS sectors would seek to deliver in collaboration with government and the CSMB.

Alignment with CSMB priorities: Employment-Led Skills System/ Employer Investment and Delivery.

[18] Centre for Social Justice (2025). Skills to Build: Fixing Britain's Construction Workforce Crisis, November 2025. Available at: https://www.centreforsocialjustice.org.uk/wp-content/uploads/2025/11/CSJ-Skills_to_Build.pdf.

[19] See, for example, widespread E&BS sector support for a recent letter sent to government ministers by the electrical JIB. The letter calls for much stronger employment and skills provisions in contracts: https://www.jib.org.uk/wp-content/uploads/2026/01/Joint-letter-to-Ministers-for-Procurement-and-Construction-16-1-26.pdf.

8. CONCLUSION

Engineering & Building Services are indispensable to the UK's housing, infrastructure and clean energy ambitions. They deliver the systems that make buildings safe and efficient, account for the largest share of construction project value, and provide some of the strongest examples of sector-led skills development in the built environment.

EBSSA and the E&BS sectors it represents have demonstrated leadership, innovation and a commitment to high standards. Their proven ability to self-organise, deliver high-quality apprenticeships, develop competence frameworks and pioneer experienced worker routes makes them the ideal partner for government and the CSMB.

E&BS sectors are rightly proud of their track record of superior outcomes and value for money. With targeted additional support and formal recognition of EBSSA, these sectors can play a central role in delivering a skilled, competent and future-ready workforce for the UK, mobilising more employers – including thousands of E&BS SMEs – to support more jobs.

ANNEX 1: MAIN ENGINEERING & BUILDING SERVICES OCCUPATIONAL DISCIPLINES

The following table lists the main E&BS occupational disciplines, including relevant SOC/ SIC codes and skill levels.

Trade/Discipline	Job Title/Description	SOC Code(s)	SIC Code(s)	Skill Level
LV Electrical	Electricians and electrical fitters	5241	43210	Medium Skilled
Electrical Engineering	Electrical engineers	2123	43210	Higher Skilled
Power Distribution and Controls	Electrical/electronic trades n.e.c.	5249	26110, 27120, 43210	Medium Skilled
Fire Emergency and Security Systems	Electrical/electronic trades n.e.c.	5245	43210	Medium Skilled
Building Controls and Automation	Electricians and electrical fitters/plumbers and heating and ventilation installers	5241/5305	43210, 43220	Medium Skilled
Network Infrastructure	Telecoms and related network installers and repairers	5242	33200	Medium Skilled
Cabling and Jointing	Electrical/electronic trades n.e.c.	5241	43210	Medium Skilled
Telecoms	Telecoms and related network installers and repairers	5242	33200	Medium Skilled
Electrical Products Servicing	Electrical/electronic trades n.e.c.	5249	33140	Medium Skilled
Mechanical Building Services Engineering	Mechanical engineers	2122	43220	Higher Skilled
Commercial Heating	Heating and ventilating engineers	5315	43220	Medium Skilled
Commercial Plumbing	Plumbers and heating/ventilating engineers	5315	43220	Medium Skilled
Ductwork	Plumbing/heating engineers	5315	28250, 43220	Medium Skilled
Ventilation Hygiene	Heating and ventilating engineers	5315	81229	Higher Skilled
Refrigeration	Heating and ventilating engineers	5315	28250, 43220	Higher Skilled
Air Conditioning	Heating and ventilating engineers	5315	28250, 43220	Higher Skilled
Service and Maintenance	Engineering technicians	3113	33190	Medium Skilled
Fluorinated Greenhouse Gases	Heating and ventilating engineers	5315	43220	Medium Skilled
Heat Networks	Energy engineers	2122	43220	Higher Skilled
Domestic Plumbing and Heating	Plumbers and heating/ventilating engineers	5315	43220	Medium Skilled
Lifts and Escalators	Electrical/electronic trades n.e.c.	5249	28220, 43290	Medium Skilled
Thermal Insulation	Construction trades n.e.c.	8159	43290, 43999	Medium Skilled
Heatpumps	Heating and ventilating engineers	5315	28250, 43220	Medium Skilled

ANNEX 2: EBSSA

The Engineering and Building Services Skills Alliance was convened in 2023 by Actuate UK members (BESA, BSRIA, CIBSE, ECA, LEIA) together with other leading sector bodies, such as BEAMA, CIPHE, TICA-ACAD and the standards organisation MCS. Its mission is to provide a credible authoritative voice for skills across all engineering and building services.

Key objectives of this skills coalition are to provide analysis based on transparent data on the sector skills demand and supply, and utilise this evidence to highlight needs, educate, influence policy makers and providers to close the skills shortage gaps with measurable interventions.

Underpinning this work is a shared commitment to support the transformation towards a safer and healthier built environment and achieving UK's net zero targets within both domestic and non-domestic buildings. As well as Actuate UK and EBSSA member organisations, this will involve commitment and collaboration from right across engineering and building services, including employers, trade union representatives, other specialist trade bodies, certification organisations, professional institutions, education and government.

Our work on Engineering Services Competence Frameworks
EBSSA is already leading Sector-Led Group 10.2 under the Industry Competence Steering Group (ICSG), coordinating competence frameworks across 37 E&BS disciplines. This places us at the heart of wider industry and government efforts to 'raise the bar' on individual competence within the built environment in line with the post-Grenfell competence regime established by the Building Safety Act. More information here.

- EBSSA supports cultural change on competences and standards for built environment under new structure

Construction Skills Mission Board
EBSSA is one of the industry organisations recognised by CSMB as supporting its work, submitting detailed responses to the CSMB questionnaire in June 2025 and advising and assisting Mark Lawrence on behalf of E&BS sectors.

- EBSSA welcomes the launch of the Construction Skills Mission Board (CSMB)
- EBSSA & Actuate UK ready to support Government's plan for skills change in construction

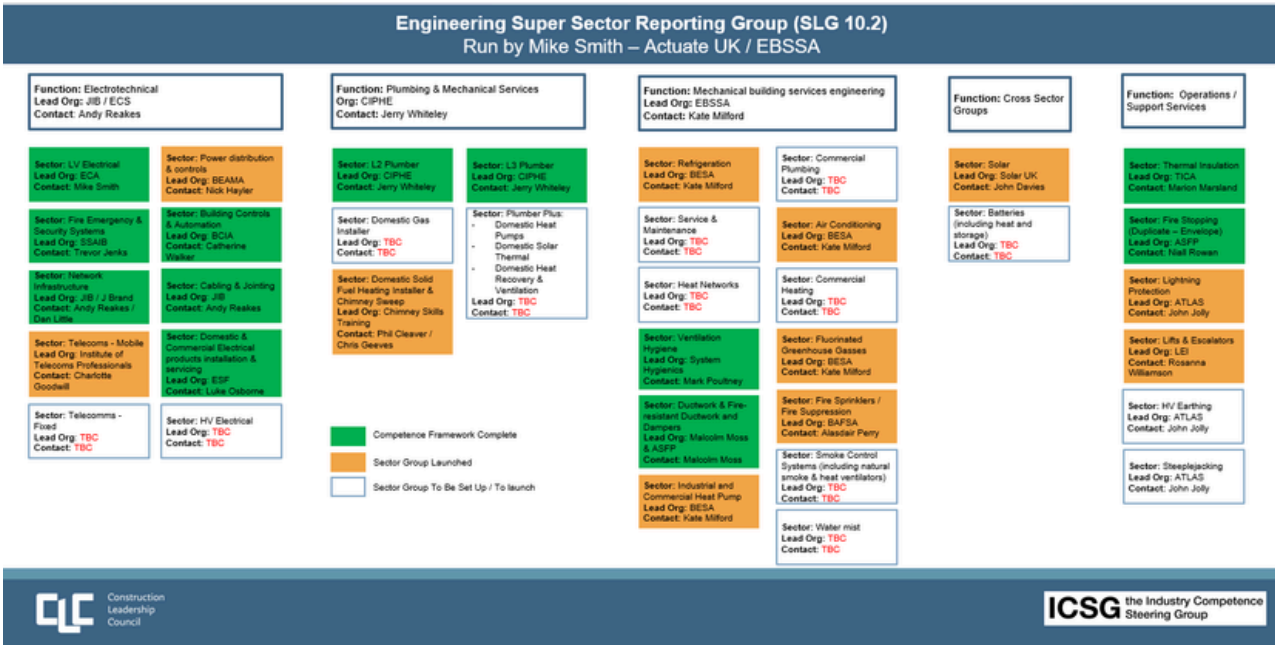
Wider policy engagement
EBSSA is also contributing to government and parliamentary consultations to represent our collective voice and inform education and skills policy.

- Engineering & Building Services Skills Alliance welcomes calls for more incentives for employers to train.

To contact us regarding EBSSA: contact@ebssa.uk.

ANNEX 3: ICSG SECTOR LED GROUP 10.2 (ENGINEERING SERVICES)

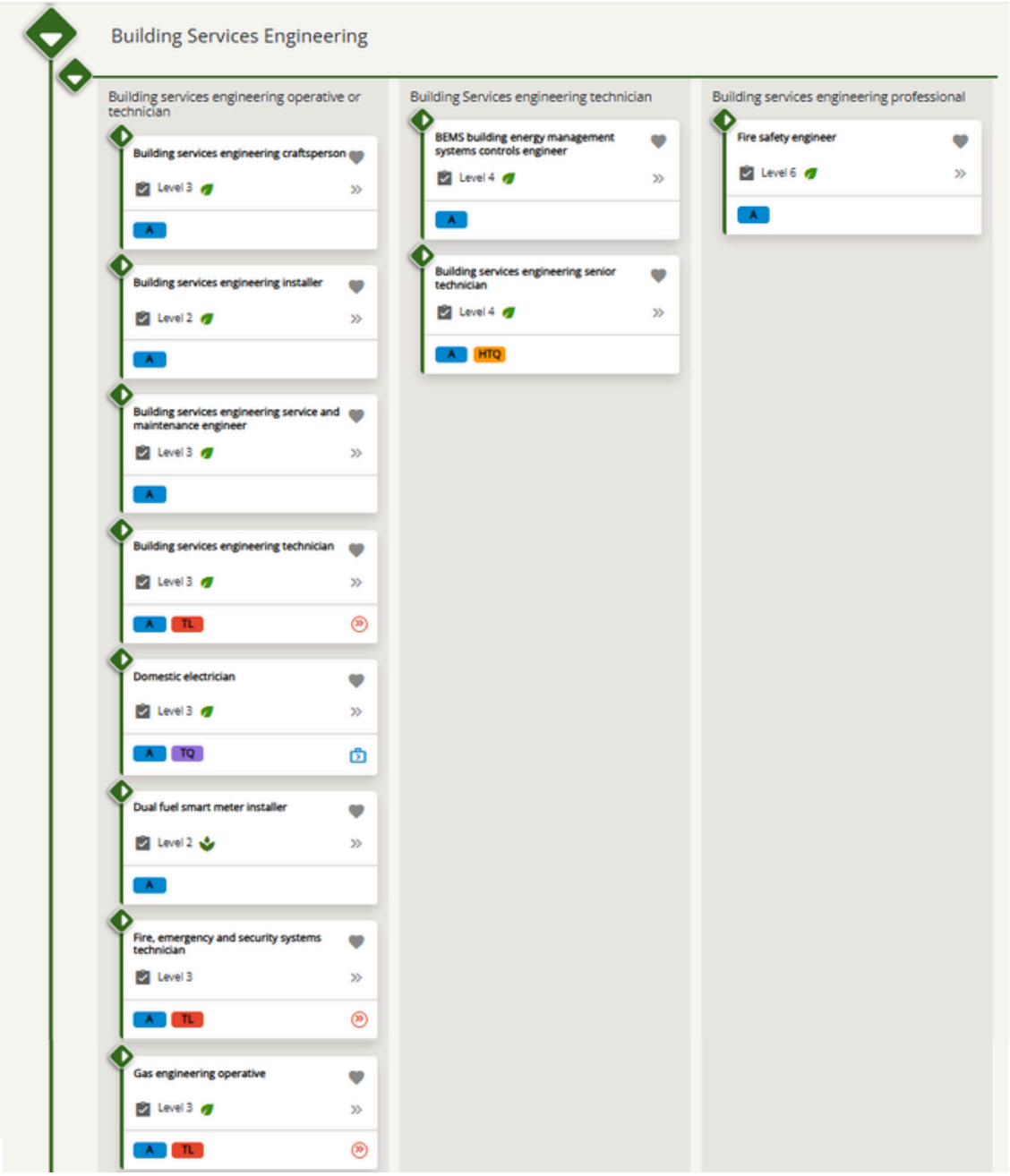
The following diagram illustrates the number, range and progress of disciplines involved in E&BS competence framework development work, led by EBSSA members since establishment of the SLG 10 ‘Super Sector’ programme in 2023.

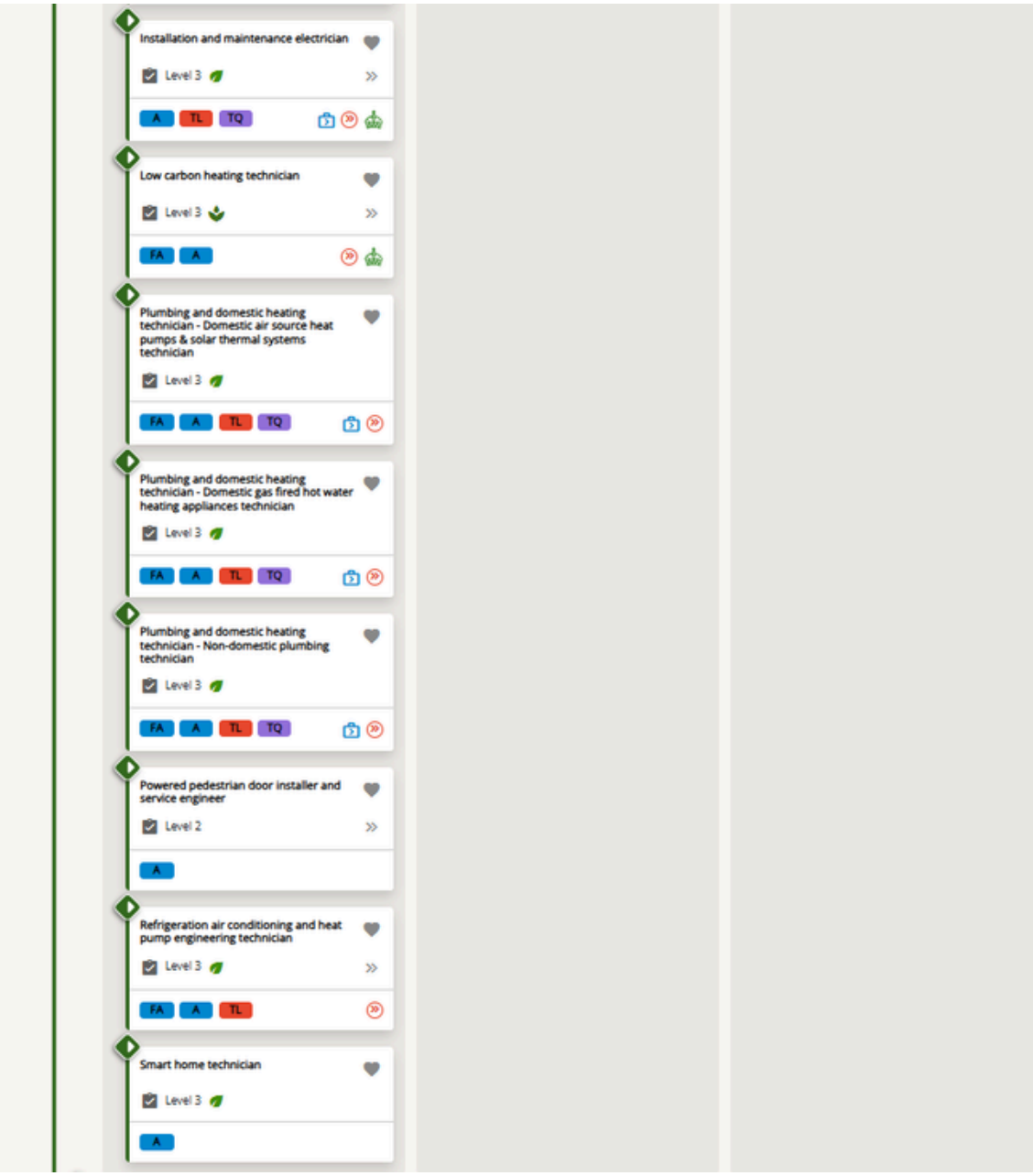


ANNEX 4: ENGINEERING & BUILDING SERVICES APPRENTICESHIPS

The following lists 18 current apprenticeship standards (ranging from L2 and L3 to L6), extracted from the Skills England Occupational Maps. Collectively, take up of these standards accounts for 40%-50% of all construction and built environment starts every year.

It is also worth noting that some E&BS standards do not appear below, since Skills England has assigned them to sectors outside Construction and the Built Environment (e.g. Network Cable Installer, currently assigned to Digital Support and Services).




Installation and maintenance electrician
Level 3
A TL TQ
Low carbon heating technician
Level 3
FA A
Plumbing and domestic heating technician - Domestic air source heat pumps & solar thermal systems technician
Level 3
FA A TL TQ
Plumbing and domestic heating technician - Domestic gas fired hot water heating appliances technician
Level 3
FA A TL TQ
Plumbing and domestic heating technician - Non-domestic plumbing technician
Level 3
FA A TL TQ
Powered pedestrian door installer and service engineer
Level 2
A
Refrigeration air conditioning and heat pump engineering technician
Level 3
FA A TL
Smart home technician
Level 3
A

ANNEX 5: ADDITIONAL DETAILS ON KEY EBSSA RECOMMENDATIONS AND PROPOSED DELIVERY

Following feedback on an earlier version of this Plan, EBSSA is happy to offer additional details on how some of its key recommendations might be implemented.

Recommendation 3: Support SMEs to Recruit, Train and Retain Workers (as 7.3 above)

Current support provision remains too fragmented and resource-intensive for SME and micro employers to access at scale. The main structured support currently available is via CITB, including initiatives such as NEST and the Employer Network. However, EBSSA disciplines (and some others) do not have access to these CITB initiatives, and have no wish to be absorbed within them.

EBSSA considers that an effective response requires a sector-specific, regionally delivered intermediary function to reduce friction for SMEs. We are interested in exploring the availability of funding to establish an equivalent capability within EBSSA, for example resourcing a small team, to work alongside E&BS trade associations, to provide employer and candidate support, match vacancies to candidates, and help SMEs navigate what support they can access to recruit or upskill. The existing system is currently too complicated and time-consuming for SMEs (particularly micro businesses) to engage with without practical, hands-on support. A locally delivered model, akin to former “skills adviser” functions (c.f. via LEPs / Business Link), would materially improve uptake.

EBSSA is aware that DWP offers work trials, where employers do not pay during the trial period and the candidate continues to receive their normal benefits. EBSSA supports this approach in principle, but take-up will be limited unless an intermediary is funded to undertake coordination, interpretation and administration for sector SMEs.

EBSSA also recognises that government proposals relating to the Growth and Skills Levy may eventually increase flexibility and funding flows to SMEs, although there is concern over emerging proposals for apprenticeship units. However, additional funding alone will not resolve the practical barriers. EBSSA’s view is that E&BS sectors should be resourced to organise and scale support through their trade bodies, working directly with DWP to ensure delivery is targeted, sector-relevant and regionally implemented. The ECA Electrotechnical Training and Careers Alliance model provides a useful example of how sector support can be delivered locally and consistently.

Recommendation 7: Reprioritise Funding for Adult NVQ and Experienced Worker Routes (as 7.7 above)

EBSSA does not consider current provision sufficient for those already in work, career changers, or experienced workers who require competence-based routes. We are not clear what DWP proposals are intended beyond investments into 10 CTECs and funding awarded to CITB (which, by definition, E&BS cannot benefit from).

The Free Courses for Jobs programme is currently limited in reach, as it primarily supports the unemployed or those earning under £25,750. EBSSA suggests Free Courses for Jobs funding is diversified to include accredited qualifications (particularly competence-based routes), and that the current earnings cap is removed or meaningfully increased so in-work adults can access support. EBSSA would also support diverting funding towards competence-based routes such as NVQs and Experienced Worker Assessment, which are better aligned to addressing skills gaps and improving productivity.

As part of our general call for closer direct dialogue and collaboration between government and E&BS, EBSSA would welcome a more structured mechanism to feedback strategically to DWP and DfE on adult skills priorities, including how the CTEC investment can best support E&BS disciplines and regional shortages.

Recommendation 9: Boost Tutor and Assessor Capacity for Industry-Recognised Training Routes

EBSSA agrees that this initiative now needs to move from policy intent into targeted implementation. While current funding proposals address this partially, the next step is to identify what is needed, where, and how it will be delivered. EBSSA can strengthen this process with specific examples of initiatives already in operation across member organisations and what is required to scale them, including:

- “Industry to education” pathways (including examples from BESA and TICA) that support experienced practitioners to become trainers and assessors.
- Data gathering from training providers and colleges delivering E&BS provision to map tutor/assessor shortages (where this does not already exist) – particularly in regions where labour market intelligence indicates acute deficits.
- Scaling proven models such as the BESA Skills Legacy programme, including emerging requirements to upskill the FE workforce in heat networks.
- Potential collaboration with DESNZ, noting prior “train the trainer” activity (for example in heat pumps).
- Practical incentives to improve recruitment and retention of tutors, including supported induction packages and workload models (such as reduced timetables in the first year for career changers).

EBSSA considers that targeted, ring-fenced funding for these approaches – focused on E&BS trades – is necessary to move from intent to implementation.

Recommendation 10: Improve Progression from Classroom-Based Courses into Industry-Recognised Training Routes (as 7.10 above)

EBSSA supports the intent of CSMB work placement proposals. However, we understand these will primarily support companies and trades linked to CITB, despite E&BS accounting separately for around 40,000 classroom-based enrolments every year. If support can be widened to E&BS trades, then it could have impact, but delivery will need to be appropriately designed for E&BS micro and SME employers.

EBSSA would therefore call for:

- Explicit inclusion, and where necessary ring-fenced funding, for E&BS disciplines within the £132 million programme for 40,000 work placements.
- Delivery mechanisms that allow EBSSA and E&BS organisations to facilitate placements and reduce the administrative burden on employers, using messaging and approaches appropriate to our sectors.
- Clear measures of success focused on progression into apprenticeships and other industry-recognised competence routes, not only placement numbers.