

The Forgotten Side *of the* Apprenticeship Triangle

Sustaining Scotland's safety-critical
and delivery-critical plumbing and heating
apprenticeships



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**Without
employers,
there is no
employment-
based
apprenticeship
system.**

Employers create the opportunity, pay the wage, provide skilled supervision, and carry the cost and risk. Their commitment sustains the standards, safety, and future of our profession, and the communities we all serve.





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Parliamentary Foreword

Alan Brown MSP
Kilmarnock & Irvine Valley

Scotland's future prosperity depends on a skilled workforce, and apprenticeships remain one of the most important ways in which young people can build rewarding careers while employers secure the talent they need.

Apprenticeships must be recognised as a high-value route in their own right, alongside further and higher education. They allow people to earn, learn and gain recognised occupational competence, while giving employers a direct role in developing the workforce they need.

Construction has long been a leader in this approach, with well-established apprenticeships that have supported skilled careers and maintained standards across the built environment for generations.

This is particularly true in plumbing and heating. The established apprenticeship is an employer-led route, built around real jobs, nationally recognised standards and supervised workplace learning.



It is a path known to me – my dad was a plumber, and once time served, he also became responsible for overseeing the development of apprentices. I could see how the process builds up not just practical skills for life but personal development and long-lasting friendships as well.

Plumbing and heating is essential to public health, efficient and safe water and heating systems, energy efficiency and Scotland's transition to low-carbon heating solutions. It is therefore essential that high standards of competence remain central to how we develop the next generation of skilled professionals.



This report makes a valuable contribution to the apprenticeship debate by placing the experience of employers firmly alongside that of apprentices, colleges and training providers.

Employers provide the job opportunity, pay wages, supervise learning in the workplace and carry much of the practical responsibility for an apprentice's development. Their willingness and ability to continue doing so is fundamental to a successful apprenticeship system.

The evidence gathered by SNIPEF is clear. Employers remain committed to the established four-year apprenticeship route and to the standards it delivers. However, many are finding the financial and practical pressures of training increasingly difficult to manage, particularly in the early years when apprentices need the greatest support and are least productive.

These are serious issues, but they should be approached constructively. It is as important that, as politicians, we listen to employers when they highlight concerns and issues.

Scotland has a strong record of supporting apprenticeships and investing in skills. As we consider future priorities, it is important that we recognise the particular circumstances of safety-critical, delivery-critical professions and the substantial contribution employers make to training.

The recommendations in this report are practical and proportionate. They seek to make it more sustainable for employers to create and retain apprenticeship opportunities, while protecting quality, competence and public confidence. They also recognise that the cost of inaction would be significant, both for individual businesses and for Scotland's wider skills needs.



Employers provide the job opportunity, pay wages, supervise learning in the workplace and carry much of the practical responsibility for an apprentice's development.

I welcome SNIPEF's work in bringing together the views of employers from across Scotland. I hope this report encourages a positive conversation between government, employers, colleges, trade unions and training bodies about how we can maintain a strong, high-quality apprenticeship system for the future.

Alan Brown MSP

Kilmarnock & Irvine Valley
Scottish National Party

Foreword

Fiona Hodgson

Chief Executive

Scottish and Northern Ireland Plumbing Employers' Federation

Every plumbing and heating apprenticeship begins with an employer willing to create an opportunity. Their commitment is the foundation on which the entire apprenticeship system rests.

However, that commitment matters far beyond our profession. Plumbing and heating professionals protect public health, maintain safe water and heating systems, support energy efficiency and will be essential to Scotland's transition to low-carbon heating. A strong apprenticeship pipeline is therefore vital to our customers, communities, economy and national ambitions.

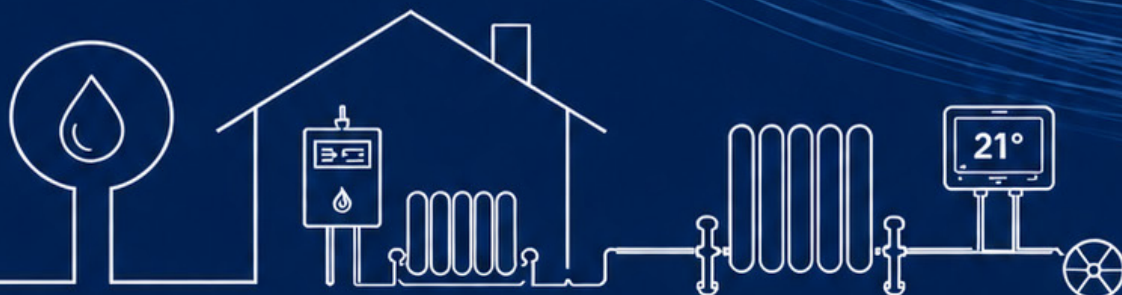
Apprentices and colleges are rightly recognised as essential parts of the apprenticeship triangle. This report focuses on its third side: the employer, whose contribution is all too often overlooked.

That is not hyperbole. It is the clear message from more than 240 employers who contributed to our research and regional working groups.



They told us about their commitment to apprenticeships, the value they place on the established four-year programme and their determination to maintain the high standards expected in plumbing and heating.

However, they also described the growing pressures they face in training apprentices. These include rising wage costs, college release, supervision requirements, limited productivity during the early stages of an apprenticeship, retention risks and, in some areas, travel and accommodation costs.



Together, these pressures influence whether businesses feel able to recruit apprentices and support them through to qualification.

This report does not call for the established apprenticeship route to be weakened. On the contrary, it seeks to protect that route by making the system supporting it more sustainable.



Our findings show that employers remain committed to apprenticeships and to the high standards expected in plumbing and heating.

It presents an evidence-based case for practical action and is intended as a constructive and apolitical contribution to finding solutions. We also recognise that public finances are under pressure, which is why our recommendations are targeted, proportionate and realistic.

However, doing nothing also carries a cost. If employers are expected to sustain the apprenticeship system, funding, policy and delivery arrangements must better reflect the contribution they make and the responsibilities they carry.

Remember, without employers, there are no apprenticeships.

I would like to thank every employer who participated in this research. Their honesty and experiences have shaped the findings and recommendations of this report. I would also like to thank SNIPEF Edinburgh and District Association for funding the research.

The challenge now is to turn this evidence into action. SNIPEF stands ready to work with government, public bodies, colleges, employers and partners across the profession to sustain a high-quality apprenticeship system that protects standards and supports Scotland's future skills needs.

Fiona Hodgson

Chief Executive
SNIPEF

Executive Summary & Recommendations

Restoring balance to the apprenticeship triangle

Plumbing and heating apprenticeships develop the skilled workforce Scotland needs to protect public health, maintain safe water and heating systems and deliver its housing and low-carbon ambitions. The profession is both safety-critical and delivery-critical: its competence protects people, while its capacity determines whether essential work can be delivered. Sustaining the apprenticeship pipeline is therefore vital to Scotland's infrastructure, energy efficiency and transition to low-carbon heat.

This report brings together two stages of employer research undertaken by SNIPEF: an employer survey completed by 188 plumbing and heating businesses, followed by five regional working groups held in Glasgow, Dundee, Aberdeen, Edinburgh and Inverness. Across both stages, more than 240 businesses contributed to the research, including SNIPEF members and non-members, and employers ranging from micro-businesses to larger contractors.

The evidence shows that employers continue to value the plumbing and heating apprenticeship as the recognised route into the profession. The issue is not that employers have rejected the apprenticeship model. Rather, the conditions required to sustain employer participation are becoming harder to maintain.

The survey showed a clear gap between past recruitment and future intentions. Some 84% of respondents had employed apprentices in the previous five years, while 53% of those expressing a definite intention expected to recruit over the next three years. Employers identified the costs of training, wages and limited funding as key barriers.

The same survey also showed that 81% supported the four-year apprenticeship model, demonstrating that concern about sustainability should not be read as opposition to the standard itself. The working groups explained what sits behind these figures. Employers described a cumulative burden of apprentice wages, college release, supervision, limited early productivity, administration, varying levels of apprentice readiness and the risk of apprentices leaving after significant investment. In rural and remote areas, employers also face college travel time and accommodation costs. These pressures are especially acute in the early years of the apprenticeship, when apprentices are least productive but employer costs and supervisory responsibilities are highest.

Are employers the forgotten side of the apprenticeship triangle?

Apprenticeships are often discussed as a relationship between the apprentice and the college or training provider. Both are essential, but the framing is incomplete. Employers create the apprenticeship place, pay wages, provide supervised workplace learning, manage risk on site, and carry the cost before any meaningful return is realised. Without employers, there is no employment-based apprenticeship system.

The evidence also shows that apprenticeships should not all be treated in the same way, as their costs, risks and productivity profiles differ. All apprenticeships have value, but safety-critical apprenticeships operate differently from shorter or lower-risk programmes. Plumbing and heating apprentices cannot work independently from the outset.

They require sustained supervision, structured college learning and time to develop competence, judgement and professional responsibility. This period of development is not simply a matter of tradition. It is fundamental to protecting public safety and maintaining professional standards.

The working group evidence also highlights that employer experience is not uniform across Scotland. The Inverness working group showed how geography can intensify the burden through travel time, accommodation costs, college access and limited labour supply. Edinburgh showed that apprenticeship cost is experienced differently depending on business model, pricing structure and type of work. Aberdeen highlighted the importance of candidate readiness, matching and local labour market culture. Dundee provided particularly clear evidence of wage pressure, college time and the position of smaller firms.

The findings therefore point to a sustainability problem. Scotland depends on employers to maintain a pipeline of competent plumbing and heating professionals, but the current system does not sufficiently recognise the cost, risk and responsibility carried by those employers. This is not only an industry issue. It has consequences for public health, consumer protection, housing, energy efficiency and the delivery of low-carbon heating.

The recommendations in this report combine targeted financial assistance with practical changes to grant eligibility, public procurement and entry routes.

They recognise the constraints on public budgets and focus support on the costs and barriers affecting employers' ability to recruit and train apprentices. Inaction also carries risks: fewer apprenticeship places today would weaken the skilled workforce Scotland needs for public safety, housing and low-carbon heat. Supporting employers to sustain training now would help protect capacity that could take years to rebuild.

The report calls on government to provide targeted financial assistance towards apprentice wages during college attendance and early supervision costs, accept nationally agreed apprentice wage rates within public grants and employer support schemes and ensure public contracts explicitly cost and fund the apprenticeship commitments they require.

It also calls on the profession to examine and propose flexible, accredited entry and progression routes that recognise prior learning and experience while maintaining established standards of competence.

Together, these recommendations seek to rebalance the apprenticeship triangle, protect the established apprenticeship standard and make it more sustainable for employers to train Scotland's future workforce.

Summary Recommendations

The full recommendations are set out in detail on pages 32-35. In summary, the evidence from employers across Scotland's plumbing and heating profession supports the following recommendations:

1

For Government

Introduce targeted financial assistance for employers delivering plumbing and heating apprenticeships

Contribute towards apprentice wages during mandatory college attendance and early-year supervision costs. A straightforward funding scheme would help employers sustain four-year apprenticeships in a profession that is safety-critical and delivery-critical to Scotland's housing and low-carbon ambitions.

2

For Government

Recognise nationally agreed apprentice wage rates in public grants and employer support schemes

Accept nationally agreed apprentice wage rates as an alternative way to meet apprentice pay conditions across local, regional and national schemes. Published qualifying agreements and clear guidance would give employers consistent access to support, subject to all other eligibility conditions.

3

For Government

Ensure public procurement funds and itemises the apprenticeship commitments it requires

Where contracts require apprenticeship commitments, tender pricing and evaluation should clearly identify and fund the associated employment, training and supervision costs.

4

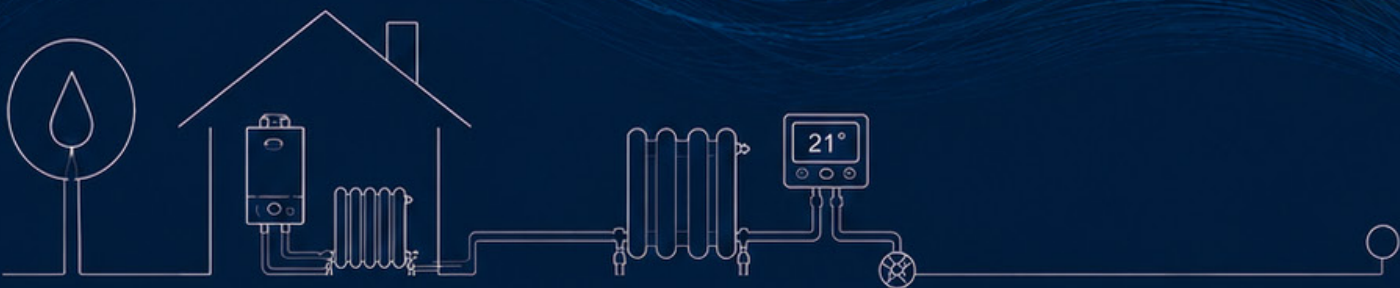
For the Profession

Examine flexible, accredited pathways into plumbing and heating while maintaining a single standard of competence

Flexible pathways should recognise relevant skills and experience while ensuring every entrant demonstrates the same competence, safety awareness and professional standards.

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A skilled plumbing and heating workforce today builds a safer, healthier and more sustainable Scotland tomorrow.



Introduction

A profession-wide evidence base for sustaining Scotland's plumbing and heating apprenticeship pipeline

Apprenticeships remain the established route through which Scotland develops the next generation of qualified plumbing and heating professionals. They combine employment, college-based learning and supervised workplace experience, and are central to maintaining the competence, capacity and continuity of the profession. In plumbing and heating, this matters not only for workforce supply, but also for public health, water safety, energy efficiency and Scotland's transition to low-carbon heating.

This report brings together two connected stages of research undertaken by SNIPEF: an employer survey exploring attitudes towards apprenticeship recruitment, training, funding, college delivery and future participation; and five regional employer working groups held in Glasgow, Dundee, Aberdeen, Edinburgh and Inverness. The working groups explored the survey findings in greater depth and examined how employers experience the practical responsibilities, costs and risks associated with recruiting and supporting apprentices.

Together, the research involved more than 240 plumbing and heating businesses across Scotland, from micro-businesses and small employers to larger contractors. It included both SNIPEF members and non-members, ensuring the evidence reflects a broad cross-section of the profession rather than the views of one membership body alone. This breadth is important because apprenticeships are created and sustained by employers, whose willingness to recruit, train and retain apprentices is central to future workforce capacity.

The research was developed in response to growing concern that the apprenticeship model, while still valued by employers, is becoming harder to sustain in practice. The survey indicated weakening future recruitment intentions. It also identified cost, wages and limited funding as key barriers. The working groups then provided qualitative depth, showing how these pressures are experienced differently according to business size, business model, geography, labour market conditions and type of work. This report is therefore not a general review of apprenticeships, nor a narrow request for additional funding. It examines the relationship between employer participation, apprenticeship quality and the wider public interest.

Plumbing and heating is both safety-critical and delivery-critical. The established apprenticeship develops the competence needed to protect public health, maintain safe water and heating systems, improve energy efficiency and support the delivery of low-carbon heat.

At the same time, the evidence shows that employers carry a substantial share of the financial and operational responsibility required to sustain the system, including wages, supervision, college release, administration, retention risk and, for remote and island employers, the wider cost and disruption of distance college attendance.

The purpose of this report is to provide an evidence-based account of those pressures and identify practical, proportionate recommendations for government, industry and training partners. In doing so, it aims to support a more informed policy discussion about how Scotland can maintain a competent, accredited and future-ready plumbing and heating workforce.

Context and Purpose

Why employer participation matters to
Scotland's safety, skills and heat transition

Plumbing and heating apprenticeships sit at the intersection of workforce development, public safety, infrastructure resilience and Scotland's transition to low-carbon heat. The profession is often discussed in terms of labour supply or skills shortages, but its significance extends much further. Competent plumbing and heating work protects public health, maintains safe water and heating systems, supports energy efficiency, and underpins the practical delivery of national housing, retrofit and net-zero ambitions.

The apprenticeship route has traditionally provided the recognised foundation for that competence. It combines technical learning with supervised practical experience over a sustained period, allowing apprentices to develop not only knowledge and manual skill, but also judgement, confidence, problem-solving ability and professional behaviours. Employers across the research continued to place value on this model. The concern raised was not that the apprenticeship standard lacks value, but that the conditions required to sustain employer participation are becoming more difficult.

This matters because apprenticeships do not exist in the abstract. They are created and sustained by employers. Colleges provide essential learning and assessment, and government sets the policy and funding environment. However, it is employers who make the four-year commitment: recruiting apprentices, paying wages, providing supervision, managing workplace learning and absorbing risk throughout the apprenticeship. In many cases, they carry these costs for a sustained period before any meaningful return is realised.

The employer as the forgotten side of the apprenticeship triangle

Apprenticeship policy is often discussed as a relationship between the apprentice and the college or training provider. This framing is incomplete. The evidence gathered through this research shows that the employer is the third and essential side of the apprenticeship triangle. Without sustained employer participation, there is no employment-based apprenticeship system.

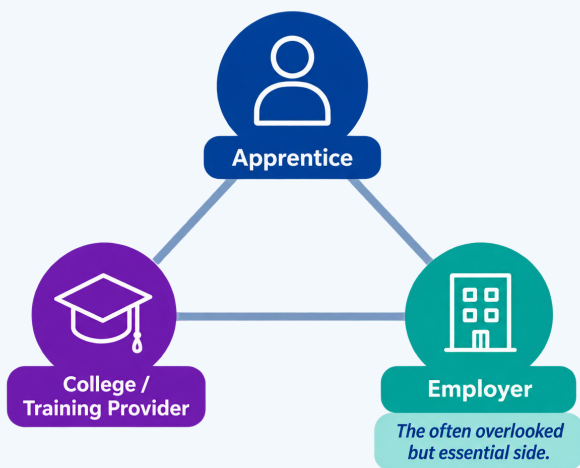
This report therefore places the employer role at the centre of the analysis, while recognising that a sustainable apprenticeship system depends on all three parts of the triangle: apprentices, training providers and employers, supported by a policy and funding environment that reflects the contribution and responsibility of each.



The aim is not to lower standards or weaken the established route, but to ensure that the system around it is capable of supporting the employers who make that route possible.

The apprenticeship triangle

A sustainable apprenticeship system depends on all three sides working in balance.



The current policy context makes this issue more urgent. Scotland's demand for skilled plumbing and heating professionals is likely to be shaped by several overlapping pressures: an ageing workforce, housing and maintenance demand, changing heating technologies, energy efficiency requirements and the transition to low-carbon systems. These pressures require a workforce that is not only numerically sufficient, but competent, adaptable and trusted.

A weakened apprenticeship pipeline would therefore have consequences beyond individual businesses. It would affect consumer protection, public safety, local economic resilience and Scotland's ability to deliver technical change at scale.

The purpose of this report is to examine whether the current apprenticeship system is sufficiently aligned with the realities faced by employers. It does so by bringing together survey evidence and regional working group evidence to assess the practical barriers affecting recruitment, training and retention. Particular attention is given to cost, college release, supervision burden, apprentice readiness, rurality, communication and the balance between maintaining standards and developing more flexible accredited routes into the profession.

This report has a dual purpose:

- 1 First, it provides an evidence-based account of the pressures currently affecting employer participation in plumbing and heating apprenticeships.
- 2 Second, it identifies practical recommendations for Scottish Government, public bodies, SNIPPEF, employers and training partners to sustain a high-quality, accredited apprenticeship system.

The aim is not to lower standards or weaken the established route, but to ensure that the system around it is capable of supporting the employers who make that route possible.

Methodology

A mixed-methods evidence base combining survey breadth with employer-led qualitative depth

This report is based on a two-stage mixed-methods research approach, designed to support a policy-facing analysis of employer participation in plumbing and heating apprenticeships. The research followed a clear logic:

- 1** Survey data was used to establish the scale and pattern of employer concerns, while qualitative working groups were used to examine the reasons behind those concerns in greater depth.
- 2** The findings were analysed thematically to develop recommendations that are directly traceable to the evidence. This ensures that the report's conclusions are grounded in employer experience while remaining focused on practical action for government, industry and training partners.

Quantitative

The quantitative stage consisted of a national employer survey designed to establish a broad evidence base on employer attitudes towards apprenticeships and the factors influencing future recruitment.

The survey was distributed across Scotland and completed by 188 plumbing and heating employers, including SNiPEF members and non-members. Respondents represented businesses of different sizes and from a range of geographic areas, providing insight into how apprenticeship pressures are experienced across the profession.

The findings provided the quantitative foundation for the research and informed the themes subsequently explored in greater depth through the regional working groups.

Qualitative

The second stage comprised five employer working groups held in Glasgow, Dundee, Aberdeen, Edinburgh and Inverness between March and April 2026. More than 50 plumbing and heating businesses took part, providing regional and operational insight to complement the survey findings. The locations were selected to provide geographic spread and reflect different labour market, business and regional conditions.

The working groups explored the survey findings in greater depth and examined the practical factors influencing apprenticeship recruitment, training and retention. Their purpose was not to generate statistically representative findings, but to provide explanation and context, identify recurring themes and highlight areas of agreement, difference and regional variation.

Analysis & limitations

The findings have been analysed thematically. Rather than presenting the evidence location by location, the report brings the survey and working group findings together under core themes. This approach allows the report to identify patterns across the evidence base while retaining important differences between business types and regions. For example, the Inverness evidence was especially important in showing how geography, travel time and accommodation costs intensify the apprenticeship burden in remote and rural areas, while Dundee provided detailed evidence on wage pressure, college time and the position of smaller firms.

There are limitations to the research. The survey provides breadth, but it reflects those employers who chose to respond. The working groups provide detailed qualitative insight, but they are not intended to be statistically representative of every plumbing and heating business in Scotland. The findings should therefore be read as a robust employer evidence base rather than a complete census of the profession. Their value lies in the consistency of themes across multiple sources, the inclusion of different business types and regions, and the depth of explanation provided by employers who are directly involved in recruiting, training and retaining apprentices.

Key Findings

What the evidence reveals about employer participation, system strain and apprenticeship sustainability

This section brings together evidence from the employer survey and five regional working groups. It identifies the issues most consistently raised across the research, while recognising variation by geography, business size and employer experience.

The findings confirm that employers continue to value the plumbing and heating apprenticeship as the recognised route into the profession. However, the conditions supporting employer participation are under increasing pressure. Cost, college release, supervision, early-year productivity loss and retention risk all influence whether employers feel able to recruit and support apprentices.

Viewed through the apprenticeship triangle, the evidence points to a clear conclusion: the employer role is essential, but its practical realities are not sufficiently reflected in policy, funding or delivery. Employers create apprenticeship places, carry much of the financial and operational burden and provide the workplace learning through which competence is developed. Yet they have limited influence over the decisions that shape the system, and their willingness and capacity to continue cannot be taken for granted. The following five key findings explain how that role is being tested and where policy and industry action should now be focused.

1

Participation under pressure

Cost and risk are making apprenticeship recruitment harder to sustain.

2

The model is valued

Employers support the apprenticeship route, but the system around it is under strain.

3

The burden is uneven

Geography, business model and local labour market conditions shape the employer experience.

4

Responsibility should be shared

Employers want a fairer balance of cost, risk and reward.

5

Flexibility must protect standards

Alternative routes are welcome only where competence and safety are maintained.



Employers remain committed to apprenticeships, but the conditions required to sustain participation are becoming harder to maintain.



Key Finding One

Employer participation is weakening because the cost and risk of apprenticeship training are becoming harder to sustain

1

A confidence gap is emerging

Past recruitment is not translating into future confidence.

2

Costs are more layered

Employers face a layered burden of wages, college time, supervision and early productivity loss.

3

A growing pipeline risk

If employer participation weakens, the apprenticeship pipeline weakens with it.

The first and most significant finding is that employers' capacity and willingness to recruit apprentices are under pressure. Employers continue to value the apprenticeship as the recognised route into the profession, but the research shows that willingness to recruit is being weakened by the cumulative cost and risk of training.

The survey evidence provides a clear indication of pressure on future recruitment. Some 84% of respondents had employed apprentices in the previous five years, while 53% of those giving a definite answer expected to recruit over the next three years. A further 24% of all respondents said it was too early to say.

This points to a weakening apprenticeship pipeline and, if sustained, a risk of negative workforce growth.

The main reasons given by employers who did not currently employ an apprentice were the costs of training, wages and limited funding support. When asked what would incentivise recruitment, the largest response was increased funding support at 93%. The survey also found that 78% of respondents considered Scottish Government support for apprenticeships to be inadequate or poor.

The working groups explain why this decline in future intention is occurring. Across Glasgow, Dundee, Aberdeen and Inverness, employers consistently identified funding or cost support as the single change most likely to make apprentice recruitment easier. However, they did not describe cost as a simple wage issue. Employers described a layered burden made up of apprentice wages, paid college time, supervision, early productivity loss, transport, tools, administration and the risk that the apprentice may leave before the business receives a return on its investment.

This risk calculation was also shaped by apprentice readiness and retention uncertainty. Employers across the working groups described the difficulty of judging whether a candidate had the maturity, motivation and resilience needed to complete the apprenticeship before the business made a four-year commitment. They also raised concern that, even where an apprentice successfully becomes productive, the employer may lose them shortly before or after qualification. These issues do not replace cost as the dominant barrier, but they intensify it by increasing the perceived risk attached to recruitment.

Glasgow participants described the early years as a period of high costs and limited productive return. Employers recognised college learning as essential, but highlighted the cost of paying wages during more than 1,000 hours of mandatory college attendance across the apprenticeship, alongside supervision costs at work. For some, additional travel time and expenses increased that burden.

Dundee provided some of the clearest operational evidence on how cost affects recruitment decisions. Employers there described the issue as a mismatch between mandated cost and productive value, particularly when apprentices are away at college or still require close supervision. The group also highlighted the position of smaller firms, where the cost and uncertainty of a four-year commitment can be difficult to absorb within tight margins.

The clearest and most commonly stated pressure point was college time, where employers continue paying wages but receive no billable work in return. As one participant put it: “The biggest cost is when they’re away at college and you’re still paying them.”

Employers acknowledged that college learning is essential to developing apprentices' knowledge and competence. Their concern was the combined financial and time commitment during the early years, when wage costs, including paid college attendance, and the cost of supervision can outweigh an apprentice's productive contribution. Employers described this period as lasting two or sometimes three years, making the commitment harder to justify financially.

This finding matters because it shows that the apprenticeship challenge is not simply about employer attitude or short-term reluctance to train. The evidence suggests that many employers remain committed in principle, but are making increasingly constrained decisions within a cost environment they regard as difficult to justify. Viewed through the apprenticeship triangle, the employer side is carrying a substantial share of the cost, risk and operational responsibility required to sustain the system. If that side weakens, the apprenticeship pipeline weakens with it.

Key Finding Two

The apprenticeship model is valued, but the system around it is under strain

1

Standard supported

Employers continue to back the four-year apprenticeship as the recognised route.

2

Emerging system strain

The issue is not the standard itself, but the cost, delivery and coordination around it.

3

Better visibility needed

Employers need clearer information on attendance, progress and assessment requirements.

The second key finding is that employers continue to support the principle of a substantial, competence-based apprenticeship, but have growing concerns about whether the surrounding system is organised in a way that allows them to sustain it. The evidence does not suggest a rejection of the four-year apprenticeship. Instead, it shows a distinction between support for the standard itself and frustration with the cost, delivery and administrative arrangements around it.

The survey evidence supports this distinction. It found that 81% of respondents identified four years as the appropriate apprenticeship length, indicating strong continued support for the established model. At the same time, the survey showed that only 62% believed current college provision was correct. This suggests that employers are not opposed to college-based learning in principle, but that there is no settled consensus that the current delivery model is working as effectively as it should.

The working groups developed this point in more depth. In Glasgow, employers broadly supported the four-year apprenticeship as the core route into the profession, but raised concerns about college communication, scheduling, progress visibility and the management of assessment requirements.

The discussion on gas portfolios was particularly important because employers did not argue against rigorous assessment. Their concern was that portfolio requirements were sometimes explained too late, difficult to manage alongside day-to-day work, or added avoidable complexity to completion.

Aberdeen reinforced the same distinction between standard and system. Employers strongly supported the four-year apprenticeship as the core route and were resistant to fast-track models, especially where gas competence and safety were concerned. However, the group also argued that the route through the apprenticeship should be better organised, better matched to real work patterns and more supportive of employers. This included earlier evidence capture, stronger communication and clearer links between college, employer and training officer.

Dundee and Edinburgh added further weight to this finding. Dundee employers described the four-year apprenticeship as the “gold standard” and emphasised that competence, workplace exposure and time in the trade should not be lost.

Edinburgh similarly supported the established standard but questioned whether a single pathway should apply to every entrant in the same way, particularly for candidates with relevant transferable skills or prior practical experience. In both cases, the issue was not whether standards should be lowered, but whether the system around the standard is sufficiently flexible, coordinated and realistic for employers.

College communication and visibility were recurring issues across the working groups. Employers did not reject the role of college learning, but they wanted clearer and more timely information on attendance, progress, upcoming requirements, assessment expectations and emerging concerns. The evidence suggests that employers often carry the operational and financial consequences of college attendance without always having sufficient visibility over what is happening during that time. This reinforces the wider finding that the apprenticeship model itself remains valued, but the coordination between the employer and training provider sides of the triangle requires improvement.

This finding matters because it prevents the evidence from being misread. Employers are not asking government or training partners to dismantle the apprenticeship model. They are asking for the system around the model to work better. Viewed through the apprenticeship triangle, the employer side remains committed to competence and standards, but is experiencing strain from delivery arrangements that often feel designed around the apprentice-training provider relationship rather than the full reality of workplace training.



System reform is underway

SNIPeF has been undertaking a full review of the Modern Apprenticeship in Plumbing and Heating to ensure the programme remains robust, relevant and aligned with the needs of employers, apprentices, colleges and the wider profession.

However, delays in the awarding and approval process have slowed progress, postponing improvements that could strengthen delivery, communication and evidence gathering across the apprenticeship system.

Key Finding Three

Employers' experience of apprenticeships is not uniform across Scotland; geography, business models and labour market conditions shape the burden

1

Experience varies

The same core pressures affect employers differently, influencing both the cost of training and their willingness to recruit.

2

Context matters

Geography and business model determine how apprenticeship costs and disruption are experienced.

3

Targeted response needed

Policy must reflect where costs and disruption are greatest rather than assume one approach will work for every employer.

The third key finding is that employers do not experience apprenticeship pressures evenly across Scotland. While the same core issues appeared throughout the research, including cost, college release, supervision, early-year productivity, retention and candidate readiness, their scale and nature varied according to geography, business model, workforce availability and the type of work undertaken. This matters because a single national policy response may not fully address the different conditions in which employers decide whether to recruit and train apprentices.

The working groups illustrated these differences clearly. Inverness provided the strongest example of geographical variation. Employers described the same pressures around wages, supervision and productivity as elsewhere, but these were intensified by remoteness, lengthy travel, accommodation costs, limited college access, a smaller labour pool and difficulty attracting qualified workers to rural and island areas. In this context, taking on apprentices was not simply a contribution to the future of the profession but the only realistic way to build a local workforce.

As one participant put it: "If we don't take apprentices on and train them and manage to retain them, we can't really trade."

The Inverness group also showed that concerns about college delivery are heightened in remote areas, where attendance can involve lengthy travel, accommodation and greater disruption to already limited workforce capacity.

The Edinburgh group highlighted a different form of variation: how the business model affects the way apprenticeship costs are calculated and absorbed. Employers described apprentices as an overhead, a direct labour cost, a tender cost or an investment in future capacity, depending on the nature of the business and the work undertaken.

The employer burden is therefore real, but not uniform. A larger contractor working on priced units may experience apprentice costs differently from a domestic firm whose customers may not accept paying for a learner on site.



Aberdeen also showed that local labour market culture can shape employer confidence. Its discussion placed greater weight on candidate readiness, family support, city and shire differences, and the practical challenge of matching apprentices to the right type of employer experience. The tone was less pessimistic than some other groups, but employers still identified the same underlying pressure: the apprenticeship can work, but only where candidate fit, employer support and delivery arrangements are sufficiently robust.

This finding matters because it cautions against treating employer participation as a single, uniform decision. The survey provides the broad pattern, but the working groups show that employers reach recruitment decisions through different cost structures, local labour conditions and operational realities.

Viewed through the apprenticeship triangle, the employer side is not one fixed category. It includes micro-businesses, SMEs, larger contractors, rural firms, domestic installers, renewables businesses and specialist employers, each carrying the apprenticeship burden in different ways. A credible policy response should therefore combine national support with targeted measures for the circumstances where the burden is greatest.

Key Finding Four

Employers are not simply seeking funding; they are asking for a fairer distribution of responsibility

1 Fairness gap

Employers carry the cost, but the benefits are shared more widely.

2 Shared responsibility

Most employers believe apprenticeship training costs should be shared more equally between employers and government.

3 System design issue

This is not just about funding, but how cost, risk and reward are distributed.

The fourth key finding is that employers' concerns about apprenticeship funding are also concerns about fairness. Employers consistently raised the financial burden of training, but the working group evidence shows that this was not expressed only as a request for additional subsidy. It was also framed as a question of who benefits from apprenticeship training, who pays for it, what happens when trained apprentices move elsewhere, and whether the current distribution of responsibility is sustainable.

The survey evidence points clearly to this issue. When asked who should bear the cost of training, 63% of respondents said costs should be shared equally between employers and government. Responses to a potential CITB-style plumbing levy were more mixed: 30% supported a levy if it guaranteed more consistent funding across Scotland, while 18% supported it if it meant everyone contributed to apprenticeships rather than only those who employ apprentices. However, 47% were either opposed or unsure. This suggests that employers recognise the principle of shared responsibility, but remain cautious about any mechanism that could become another cost without delivering clear value back to those who train.

The working groups developed this point in practical terms. In Glasgow, employers described the unfairness of training firms carrying the cost of apprenticeship only for other firms, including those that do not train, to benefit from the labour pool once apprentices become productive or qualified. The group did not support punitive approaches, but it did identify a fairness problem where investment and benefit are not aligned.

Dundee gave this issue particular force. Employers there described the risk of funding an apprentice through several years of training only for the individual to leave just as the business begins to see a return. Participants also discussed the wider market effect, where firms that do not recruit apprentices can still employ workers trained by others. This was not presented as simple resentment. It was used to explain why apprenticeship recruitment can feel commercially irrational for smaller firms unless there is a more visible sharing of cost and risk.

Aberdeen and Edinburgh also supported this finding, but with different emphasis. Aberdeen employers could see the attraction of a pooled or levy-style approach if it meant training employers received visible support in return, but were concerned about enforceability and whether such a model would simply become another burden. Edinburgh placed more emphasis on the absence of clear external incentives and the ethical dimension of training, loyalty and responsibility.

The evidence across both groups suggests that employers are not opposed to collective solutions in principle, but they need to see a system that is transparent, proportionate and clearly linked to supporting those who train.

A further concern is access to public funding. Employers have reported that some grant schemes do not recognise nationally agreed apprentice wage rates, even where these are lawful and collectively negotiated between employers and trade unions. Such agreements provide progressive pay throughout a four-year apprenticeship, reflecting developing competence and responsibility. Where grant conditions do not recognise these arrangements, employers can be excluded from support despite their commitment to providing structured, accredited training.

This finding matters because it reframes funding as a system-design issue rather than a narrow financial complaint. Apprenticeships produce benefits for apprentices, employers, consumers, government and the wider economy. However, much of the immediate cost and risk is concentrated on the employer who creates the apprenticeship place. Viewed through the apprenticeship triangle, the employer side is not asking to withdraw from its responsibilities. It is asking for the responsibilities of the whole system to be shared more fairly.

The wider return on apprenticeship investment*

£82,500: *Estimated wage cost of employing an apprentice over four years.*

£8,700: *Approximate public contribution towards college training of an apprentice.*

£8,000: *Estimate of Income Tax and employer and employee National Insurance contributions*

The public contribution should therefore be considered alongside the tax revenues and wider economic activity generated by an employed apprentice. This is before accounting for apprentice spending within local economies or the longer-term economic and tax contribution of a qualified professional.

Invest early or pay later

The 2026 interim Milburn Review found that for every **£1** spent by DWP on employment support for young people, about **£25** was spent on benefits for young people.

Supporting employers to create skilled employment should therefore be viewed not simply as a training cost, but as an investment in employment, skills and economic participation.

**Illustrative estimate based on current SNIJIB apprentice wage rates and a 40-hour working week. Tax and National Insurance receipts accrue to different parts of government and should not be interpreted as a direct offset against Scottish Government apprenticeship expenditure.*

Key Finding Five

There is appetite for flexibility, but only where competence, safety and recognised standards are protected

1

Flexibility with safeguard

Employers support flexibility only where competence, safety and standards are protected.

2

Readiness matters

Alternative routes should improve candidate readiness, not dilute the recognised apprenticeship route.

3

Same standard, different pathways

Candidates with relevant transferable skills or prior experience need accredited routes that recognise prior learning.

The fifth key finding is that employers are open to greater flexibility in how people enter the plumbing and heating profession, provided this maintains standards of competence and safety and protects the recognised status of qualified plumbing and heating professionals. The evidence shows a clear distinction between flexibility that improves access, readiness and progression, and flexibility that risks diluting the established standard.

The survey evidence shows this tension clearly. While 81% of respondents supported the four-year apprenticeship model, views on alternative pathways were more divided, with 36% supporting alternatives, 28% opposed and 36% undecided.

The most supported alternatives were a one-year to 18-month plumbing and heating college course before employment, followed by a three-year apprenticeship, and pre-apprenticeship content that could be formally recognised within the apprenticeship model. This suggests that employers are not closed to reform, but remain cautious about changes that could undermine the recognised route.

The working groups further explain that caution. Their interest was in whether different entry points or preparatory routes could reduce early-stage risk, improve candidate readiness and avoid unnecessary duplication, while still leading to the same standard of competence.

Glasgow employers were open to pre-apprenticeship models where these reduced employer risk, improved candidate readiness and avoided duplication in the early stages of training. The strongest value would come from a route in which relevant college learning is completed before employment and then formally recognised within the apprenticeship. This could allow a capable entrant to progress directly into a later stage of the apprenticeship. In practice, that would reduce the employer's exposure to paid college time while still preserving a structured route into the trade. However, employers were clear that any such model would need meaningful workplace exposure and clear progression into employment, rather than becoming a purely college-based course with limited practical value.



Dundee employers expressed similar reservations. They wanted pre-apprenticeship programmes to give participants a realistic route into employment and a skilled career. Their concern was that programmes could become exercises in participation without meaningful opportunities to progress, offering limited value to either the individual or the employer.

In both Glasgow and Dundee, employers wanted better ways to test readiness, commitment, maturity and practical aptitude before taking on the full risk of a four-year apprenticeship.

Edinburgh provided the strongest evidence on candidates with relevant transferable skills and prior practical experience. Employers questioned whether every entrant should always follow exactly the same route as a 16-year-old school leaver, particularly where they already have relevant workplace experience, practical skills or comparable technical exposure. This did not amount to support for lowering standards. Rather, it pointed to the need for accredited routes that recognise prior learning and assess competence rigorously. Edinburgh also raised the idea of shared exposure or a passport-style model, where apprentices could gain broader experience across different types of employer while remaining within a recognised pathway.

Inverness added a further dimension by linking flexibility to changing industry relevance. Employers there remained strongly supportive of the four-year apprenticeship as the recognised route, but some questioned whether the curriculum and delivery model are adapting quickly enough to renewables and changing business models. This again points to flexibility in structure and relevance, not dilution of competence.

This finding matters because it shows that the debate is not simply between tradition and reform. Employers want the apprenticeship route to remain credible, substantial and safety-focused. However, they also recognise that a single pathway may not suit every entrant, business or area of work.

Viewed through the apprenticeship triangle, flexibility will only command employer confidence if it helps the system work better while preserving the standards employers rely on when they train, employ and certify the next generation of plumbing and heating professionals.

Analysis of Key Findings

The employer as the forgotten side of the apprenticeship triangle

The key findings show that the apprenticeship challenge is not simply a matter of funding, recruitment or college delivery. It is a structural question about whether the system properly recognises the employer's role. The evidence from the survey and working groups shows that employers remain committed to apprenticeships and to the recognised plumbing and heating route, but that the financial and operational pressures on that commitment are increasing.

This analysis therefore returns to the central argument of the report: the employer is the forgotten side of the apprenticeship triangle. In an employment-based apprenticeship, the employer creates the place, pays the wage, provides supervision, supports workplace learning, bears the costs of limited early productivity, and carries the risk that the apprentice may not complete or may leave once trained.

The evidence suggests that current policy does not always distinguish sufficiently between different types of apprenticeship. All have value, but they do not carry the same costs, supervision demands, safety risks or timescales for productive return. In a four-year, safety-critical apprenticeship such as plumbing and heating, competence is built over time through sustained college learning, supervised workplace practice and progressive responsibility.

The analysis that follows considers what the evidence means for apprenticeship sustainability, employer risk, public policy and reform. It does not repeat the findings, but explains their wider significance and how they should shape the recommendations.

The apprenticeship model remains valued, but its operating conditions are weakening

The evidence distinguishes between employers' support for the four-year apprenticeship and their ability to provide places. Employers value the established route but question whether the system recognises the time, cost and supervision required to develop a competent plumbing and heating professional.

These demands reflect the nature of the work. Apprentices must learn to install and maintain systems where mistakes can endanger public health and safety. Their productive contribution increases as they gain knowledge, experience and the judgement needed to work with greater independence.

The four-year apprenticeship combines college learning, supervised workplace practice and assessment. Employers commit wages and skilled supervision well before apprentices make a substantial productive contribution. Funding and policy should recognise these demands and support employers through to qualification, alongside encouraging recruitment.

Plumbing and heating is both safety-critical and delivery-critical. Scotland's public safety, housing delivery and transition to low-carbon heat depend on employers being able to sustain this training.

This has direct implications for public procurement. Where councils, public bodies or major clients require apprenticeship commitments within tenders, contract pricing and structure should reflect the cost of delivering them.

Employers reported that some public clients expect these commitments without accepting the associated costs in tender pricing.

Apprenticeships are sought as a community benefit or social value outcome, while wages, supervision and paid college attendance are not fully recognised. Contract requirements must account for these costs and apprentices' developing productivity.

The evidence points to a funding and delivery problem that threatens a valued model. Employers carry substantial costs and risks, while the benefits extend to apprentices, consumers, public services and the wider economy. Sustaining the apprenticeship triangle requires that contribution to be recognised in funding decisions and public contracts.

Employer risk is cumulative

Employers assess the combined demands of wages, paid college attendance, supervision, limited early productivity, apprentice readiness, administration and retention uncertainty. Each may be manageable individually, but together they shape whether a business can commit to recruiting and training an apprentice.

Increasing candidate numbers or college places alone will not resolve these pressures. Employers must consider the full four-year commitment: whether they can provide sustained supervision, absorb college absences and retain the apprentice long enough to secure a return on their investment.

The pressures are greatest in the early years, when apprentices need close supervision, have limited capacity to work independently and spend substantial time at college. Employers carry these costs while the apprentice's productive contribution is still developing.

Retention adds further uncertainty. Even after successful training, an apprentice may leave shortly before or after qualification. Their skills may continue to benefit the profession and wider economy, but the employer that funded and supported their development may lose the opportunity to recover its investment.



The system depends on employers to sustain the route, but the employer side is not yet supported in proportion to the value it delivers.

Apprenticeship support should therefore address the combined pressures across the four-year commitment, particularly wages during college attendance and early supervision costs. Support focused only on recruitment starts will not address the sustained demands of training. It must also reflect the additional pressures facing smaller, rural and remote employers.

The current system under-recognises the employer role

The evidence suggests that the employer role is still not fully recognised in apprenticeship policy and delivery. Public discussion often presents apprenticeships as a route for learners, supported by colleges and funded through government programmes. That framing is necessary, but incomplete. In plumbing and heating, the employer is not simply a placement provider. The employer is the point at which the apprenticeship becomes real.

The central imbalance is not only financial. Employers carry much of the responsibility for successful delivery but have too little influence over how the system is designed.

Employers should therefore be recognised as core delivery partners. They are accountable for the quality and safety of workplace learning, while having limited influence over many of the decisions that shape delivery.

That mismatch matters. Policy can support apprenticeships in principle while failing to address the practical conditions that determine whether a business recruits, trains and retains an apprentice. If employers' costs, constraints and experience are not visible when decisions are made, interventions risk missing the point at which an apprenticeship place becomes sustainable or fails.

Under-recognition is therefore not simply a matter of language. It affects how the system is funded, delivered and governed.

This under-recognition is visible in three areas:

- First, funding and support often appear more closely associated with the learner or training provider than with the employer who creates the job.
- Second, college delivery can impose real cost and disruption on employers, while employers often lack timely visibility of attendance, progress and emerging concerns.
- Third, procurement and social value expectations can require apprenticeship commitments without consistently recognising the cost of employing, supervising and paying apprentices properly.

The procurement point is particularly important. Where public bodies require apprenticeships within tenders, they should also recognise the genuine cost of delivering those apprenticeships. It is not fair or sustainable to require employers to support policy objectives on skills and workforce development while pricing contracts in a way that does not reflect apprentice wages, supervision, college release and reduced productivity. This is especially problematic where the work is safety-critical and apprentices cannot be treated as fully productive labour.

The central policy implication is that the employer side of the apprenticeship triangle must be designed into the system rather than assumed. Apprentices, colleges and employers all matter, but the employment-based apprenticeship cannot function if one side is expected to absorb disproportionate cost and risk. Recognising the employer role more explicitly does not weaken the public purpose of apprenticeship. It strengthens it by making the route more sustainable.

Comparison: Employer recognition in the Swiss apprenticeship system (OECD)

In Switzerland, a nation of 9 million citizens, its vocational education and training system is often cited internationally because employers are structurally embedded in apprenticeship delivery rather than treated as peripheral participants.

Private sector employers are described by the OECD as the cornerstone of the apprenticeship system, with more than 58,000 companies training apprentices in 2020. Host companies employ apprentices and deliver in-company training according to a national training plan, but they must also be officially licensed by the canton. This requires the company to have qualified trainers and the necessary work scope and equipment to cover the occupational profile.

The relevance for Scotland is not that the Swiss model should be copied wholesale. The lesson is that successful apprenticeship systems formally recognise the employer as a core delivery partner, with responsibilities, standards and support built into the design of the system. This contrasts with systems where employers are expected to create apprenticeship places but are not always given equivalent influence over funding, delivery, assessment or policy design.

The comparison reinforces the central argument of this report. If employers are expected to sustain a safety-critical apprenticeship route, their role must be more explicitly recognised in policy, funding and delivery arrangements.

The employer is not simply a beneficiary of apprenticeship. The employer is one of the system's core institutions.

Reforms must support the system without weakening the standard

The evidence points towards reform, but not deregulation or dilution. Employers were clear that the plumbing and heating apprenticeship should remain a recognised, competence-based route into the profession. Their concern is not that the standard is too high. Their concern is that the system around the standard is becoming too difficult to sustain.

This matters because safety-critical apprenticeships need a different policy response from shorter or lower-risk routes. Plumbing and heating work affects public health, water safety, heating safety, energy efficiency and the delivery of low-carbon systems. The case for reform should therefore be framed around sustaining competence, not reducing the time, supervision or practical exposure needed to achieve it.

Reforms should focus on the points where the system is weakest. That includes targeted support during college release, stronger early-year employer support, better rural and island support, improved communication, and accredited pathways for candidates with relevant transferable skills or prior practical experience. These are not alternatives to competence. They are ways of making competence more achievable and sustainable.

The same principle should guide any discussion of flexible pathways. Employers showed interest in pre-apprenticeship learning, recognition of prior learning, mature entrant routes and more relevant curriculum content, particularly around changing technologies.

However, flexibility will only command confidence if it is accredited, assessed and visibly equivalent in outcome. A flexible route that produces uncertainty about competence would undermine the very public-interest argument on which this report rests.

The purpose of reform, therefore, should be to strengthen the apprenticeship triangle. Apprentices need accessible, high-quality routes into skilled work. Colleges and training providers need to deliver consistent and relevant learning. Employers need the support, visibility and confidence to create and sustain apprenticeship places. Reform should rebalance those responsibilities without lowering the standards that make plumbing and heating apprenticeships valuable to Scotland.

Sustainability of the apprenticeship triangle

Taken together, this analysis shows that the apprenticeship challenge is not a lack of commitment from employers, nor a rejection of the established standard. It is a sustainability problem within the apprenticeship triangle.

The employer side is carrying a level of cost, risk and operational responsibility that is not sufficiently reflected in funding, delivery or policy design.

The recommendations that follow are therefore intended to rebalance the system, support employer participation and protect the competence standards on which the profession and the public rely.

“

**Apprenticeships
in safety-critical
professions are not
simply labour supply.**

**They are regulated,
supervised
workforce
development.**



Recommendations

Rebalancing the apprenticeship triangle while protecting competence and standards

The evidence in this report points to a clear conclusion: Scotland needs to sustain its plumbing and heating apprenticeship and the standards it protects. That requires stronger support for the employers who create places and carry much of the cost and responsibility for training.

Employers remain committed to the established four-year route. However, wages, paid college attendance, supervision and uncertain returns are making that commitment harder to sustain. When employers cannot justify taking on an apprentice, opportunities for individuals and future workforce capacity are both reduced.

The four recommendations address these pressures through targeted financial assistance, clearer access to existing support, properly funded commitments in public contracts and examination of flexible entry and progression options. They recognise constrained public budgets and focus on practical changes that would help employers recruit and sustain apprentices through to qualification.

The first recommendation calls for targeted assistance towards apprentice wages during mandatory college attendance and supervision costs in the early years. Support should be straightforward to access and complement existing funding. This recognises plumbing and heating as a safety-critical and delivery-critical profession whose workforce is essential to public health, housing and the transition to low-carbon heat.

The second calls for nationally agreed apprentice wage rates to be accepted as an alternative way to meet apprentice pay conditions across local, regional and national grants and employer support schemes. Published qualifying agreements and clear guidance would help councils and other funders apply these conditions consistently, while retaining all other eligibility and employment requirements.

The third calls for public contracts to explicitly cost and fund any apprenticeship commitments they require through social value or community benefit conditions. Contract pricing should recognise the wages, supervision and paid college attendance needed to deliver those commitments.

The fourth calls on the profession to examine and propose flexible entry and progression options that recognise prior learning, relevant experience and transferable skills. Any proposals must maintain the established standards of competence, safety and professional judgement required of a qualified plumbing and heating professional.

Together, these recommendations seek to rebalance the apprenticeship triangle by recognising employers' contribution in funding, policy and delivery. Supporting their capacity to train now would help protect apprenticeship opportunities and the skilled workforce on which Scotland's public safety, housing ambitions and low-carbon transition depend.



Recommendations for Scottish Government and public bodies

1

Introduce targeted financial assistance for employers delivering plumbing and heating apprenticeships

The Scottish Government should establish a dedicated funding scheme to help employers recruit and retain apprentices through the four-year plumbing and heating apprenticeship. It should contribute towards wages paid during mandatory college attendance and the cost of supervision in the early years, when apprentices need close support and have limited productivity.

Employers should be able to apply directly or through an employer-led apprenticeship body, with clear eligibility criteria and a simple application process. Funding should supplement existing support and reach the businesses employing and training apprentices.

Plumbing and heating is both safety-critical and delivery-critical. Scotland needs these professionals to protect public health, maintain safe water and heating systems, support housing delivery and install low-carbon heating.

Targeted investment in offshore wind skills and aerospace recruitment and training at Prestwick provides a precedent. The Scottish Government should provide equivalent recognition of plumbing and heating's strategic importance through financial support tailored to its apprenticeship costs. Delivering Scotland's housing and climate ambitions depends on employers being able to train this workforce.

2

Recognise nationally agreed apprentice wage rates in public grants and employer support schemes

The Scottish Government should work with councils and other public funders to accept nationally agreed apprentice wage rates as an alternative way to meet apprentice pay conditions across local, regional and national grants and employer support schemes. A published list of qualifying agreements and clear guidance should ensure consistent application.

Progressive pay structures negotiated by employers and trade unions are designed to fairly reflect apprentices' developing competence and responsibility over four years, alongside the sustained supervision and substantial paid college attendance required throughout their training.

Employers report councils and funding bodies being unable to support apprenticeship positions despite paying lawful, agreed rates. Consistent recognition would remove this barrier for employers offering sustained routes into skilled careers. All other grant eligibility and employment conditions would continue to apply.



Recommendations for Scottish Government and public bodies

3

Ensure public contracts explicitly cost and fund the apprenticeship commitments they require

Public bodies should require apprenticeship commitments to be explicitly costed in tenders and funded through the agreed contract price. Tender documents should clearly state the employment and training requirements and allow bidders to itemise the costs of delivering them.

These costs should include apprentice wages, skilled supervision and paid college release, with realistic allowance for apprentices' developing productivity. Requirements should reflect the value, duration and scope of the contract so that smaller businesses can make achievable commitments.

Employers report being expected to provide apprenticeship opportunities without adequate recognition of these costs in contract pricing. Public procurement should make it financially viable for businesses to deliver the training commitments required of them.

Each commitment should have clear responsibilities, timescales and measures of delivery. Public bodies should monitor whether the promised employment and training opportunities are delivered throughout the contract.



Recommendation for the plumbing and heating profession

4

Examine and propose flexible, accredited pathways while maintaining recognised standards of competence

SNiPEF and the plumbing and heating profession should work with employers, training providers and relevant awarding and standards bodies to examine options for flexible entry and progression routes.

This work should consider how prior learning, relevant experience and transferable skills could be recognised, particularly for mature entrants and people with existing technical experience. It should identify the further training, supervised workplace experience and assessment needed to achieve full occupational competence.

Any proposals should maintain the recognised standards of competence, safety and professional judgement expected through the established apprenticeship. They should be developed through consultation and submitted for the necessary approval before implementation.

The aim should be to widen access to skilled careers while protecting the quality and standing of the plumbing and heating profession.

Conclusion

Sustaining the employer side of the apprenticeship triangle

The message from the more than 240 employers who contributed to this research is clear: *apprenticeships have not lost their value, but the system supporting them is becoming harder to sustain.*

Employers remain committed to the recognised four-year apprenticeship and the competence it develops. They are not asking for standards to be lowered or training to be shortened. They are asking for the cost, risk and responsibility involved in creating an apprenticeship place to be properly recognised.

That commitment cannot carry an increasingly uneven burden indefinitely. Wage costs, college release, supervision, limited early productivity and retention risk all fall heavily on the employer, while their influence over funding, delivery and policy remains limited.

The warning is straightforward. When employers lose confidence and stop recruiting, the apprenticeship pipeline contracts. Once training capacity, experienced supervisors and employer participation are lost, they will be difficult and expensive to rebuild.

This matters far beyond the profession. Scotland needs a continuing supply of competent plumbing and heating professionals to protect public health, maintain safe homes and water systems, improve energy efficiency, deliver new housing and support the transition to low-carbon heat.

The report's title, *The Forgotten Side of the Apprenticeship Triangle*, reflects its central conclusion. Apprentices and colleges are essential, but neither can create an employment-based apprenticeship without an employer willing and able to provide the place, wages, supervision and workplace learning.

The recommendations offer a practical route forward. They combine targeted support, recognition of agreed wage rates, procurement that funds the commitments it requires and flexible pathways that maintain a single standard of competence. Some require investment, while others require existing funding and systems to work more effectively. None requires the established apprenticeship to be weakened.

The employer can no longer remain the forgotten side. Without the employer, there is no apprenticeship place, no workplace learning and no next generation of plumbing and heating professionals.

Acknowledgements & Supporting Businesses

Employer Survey Participants

SNIPEF would like to thank the **188 employers** who completed the employer survey, providing a strong evidence base for the next stage of the research. Participation included SNIPEF members and non-members, from micro employers to larger contractors, helping to build a broad picture of the pressures affecting apprenticeship recruitment, training and retention.

As participants were advised that their responses would be treated confidentially, individual businesses have not been named. SNIPEF is grateful to all those who took the time to contribute.

Working Group Participants

SNIPEF would also like to thank all employers and stakeholders who gave their time to attend the regional working groups in Aberdeen, Dundee, Edinburgh, Glasgow and Inverness. Their openness, practical experience and willingness to discuss the realities of employing apprentices added depth and context to the survey findings.

The working groups were central to understanding not only what employers are experiencing, but why those issues matter and how they affect future recruitment decisions.

Research and report author: Richard Campbell, Marketing and Communications Manager, SNIPEF.

Aberdeen Working Group

Attendee	Company	Location
Daniel Cowie	D Cowie Plumbing & Heating	Aberdeen
Derek Duncan	James Duncan Plumbers	Aberdeen
Andrew Moir	NESCoI	Aberdeen
Garry Shand	Hutcheon Services Ltd	Aberdeen
Brian Warrender	B&B Warrender Ltd	Laurencekirk
Martin Will	A R Will	Aberdeen

Dundee Working Group

Attendee	Company	Location
Jim Butter	Jim Butter Plumbing & Heating	Broughty Ferry
Wendy Butter	Jim Butter Plumbing & Heating	Broughty Ferry
Daniel Craig	Pitkerro Plumbing & Heating	Dundee
Bill Dorward	W H Dorward Limited	Arbroath
Gary Jamie	PME Group	Dundee
Chris MacDonald	Pitkerro Plumbing & Heating	Dundee
Jamie McCunnie	Hillcrest	Dundee
Steve Park	Park Plumbing & Heating	Perth
Duncan Sharp**	Grange Energy Services	Linlithgow
Ryan Wiseman	Pitkerro Plumbing & Heating	Dundee

Edinburgh Working Group

Attendee	Company	Location
Stuart Blackhall	P Blackhall Ltd	Edinburgh
Jordan Laird	A M Reid Plumbing & Heating Ltd	Dunfermline
Colin Langley	John N Dunn Group Ltd	Broxburn
Gary McDonald	G P McDonald Plumbing & Heating	Edinburgh
Carol Rettie	JMR Plumbing Services Ltd	Stirling
Barry Sharp	Renewable Heat Ltd	Falkirk
Duncan Sharp**	Grange Energy Services	Linlithgow

Glasgow Working Group

Attendee	Company	Location
Alan Callaghan	B S Plumbing & Heating Services	Glasgow
Neil Campbell	CCG Scotland Ltd	Glasgow
David Dempsey	Malcolm McArthur & Son Ltd	Kilsyth
John Doherty	John Doherty & Co Ltd	Old Kilpatrick
Eddie Fergus	Emtec Building Services	Uddingston
Roddy Frew	James Frew Ltd	Stevenston
Shirley McIntyre	B S Plumbing & Heating Services	Glasgow
Scott Murphy	Precise Installs Group Limited	Blantyre
Andrew Peden	Optimum Heating and Renewables	Newton Stewart
Jamie Stephen	CHAPS	Cambuslang
Alex Waldron	A W Plumbing & Heating	Irvine

Inverness Working Group

Attendee	Company	Location
Grant Boyd	G M Boyd BPH Services	Fort William
Garry Cowie	Cowie Plumbing and Heating	Turriff
Neil Foxcroft	SNIEF Local Association Secretary	Aberdeen
Mark Galbraith*	Plumbing and Renewables Ltd	Elgin
Miguel Gomez	McDonald & Munro Ltd	Elgin
Eric MacRae	ESM Skye Ltd	Portree
Donald L Matheson	D Matheson & Son Ltd	Inverness
Maria Morrison*	Morrison Plumbing & Heating Engineers	Fort William
Duncan Sharp**	Grange Energy Services	Linlithgow

* Submitted written evidence in advance of the Inverness working group

** SNIEF President, 2025-26

*** Supports recommendations one and two only

**** Supports recommendation four only

Supporting Businesses

The businesses listed below have reviewed the report's recommendations and agreed to be named in support of some or all of its proposals. Their backing demonstrates wider employer support beyond SNIPEF and the original research participants, strengthening the case for action.

Company	Location	Company	Location
D Cowie Plumbing and Heating Ltd	Aberdeen	Heating Care Dumfries Ltd	Dumfries
NHS Grampian	Aberdeen	Nithsdale Plumbing and Heating***	Dumfries
ONLYHEATING.COM Ltd	Aberdeen	RRM Plumbing and Heating	Dumfries
Space Solutions	Aberdeen	W Johnstone & Sons Ltd***	Dumfries
Iain Bruce Ltd	Aberdeen	APS Dundee Ltd	Dundee
Airdrie Mechanical Services Ltd	Airdrie	Hillcrest	Dundee
W H Dorward	Arbroath	Jim Butter Plumbing & Heating Ltd	Dundee
J W Grieve Border Gas Ltd	Ashkirk	PME Group	Dundee
William Kennedy Plumbers Ltd	Ayr	PME Dundee Ltd	Dundee
Barratt North Scotland	Balmedie	Robert Cameron Plumbing Heating and Electrical	Dundonald
Graeme Davidson Plumbing & Heating Ltd	Banchory	A M Reid Plumbing & Heating Ltd	Dunfermline
Peter M Drummond Ltd	Blairgowrie	D Marriott Plumbing & Heating	East Kilbride
Renewable Installation Solutions Ltd	Blantyre	R McKenzie Plumbing & Heating Ltd	East Kilbride
Precise Installs Group	Blantyre	Plumb Squad (Scotland) Ltd	East Kilbride
K and D Plumbing Services Ltd	Bonchester Bridge	Heating Scotland Ltd	East Lothian
Immaculate Bathrooms	Bonnyrigg	Aspire Trade Services Ltd***	Edinburgh
James Lammond Ltd	Brechin	Blair Paton Plumbing & Heating Ltd	Edinburgh
John N Dunn Group Ltd (Scotland)	Broxburn	Boland Jarrett Ltd	Edinburgh
Thistle Plumbing & Heating Services	Buckie	Building Finishing Services UK Ltd	Edinburgh
The Findlay Group	Cambuslang	Celsius Plumbing and Heating (Edinburgh) Ltd	Edinburgh
John Doherty & Co Ltd	Clydebank	G-Tech Mechanical Services	Edinburgh
James Aird & Sons	Crail	Heatfactors Ltd	Edinburgh
Comfort Systems Plumbing & Heating Ltd	Cumbernauld	Plumbfix Plumbing Services	Edinburgh
ARCK Plumbing & Heating***	Cumbernauld	The Green Bathroom Company	Edinburgh
Axwell Technical Services Ltd	Cumbernauld	Thermatek Heating	Edinburgh
William Dent and Son Ltd	Cumbernauld	McDonald & Munro Ltd	Elgin
R D Hall Plumbing and Heating Engineers Ltd	Dalkeith	Plumbing and Renewable Ltd	Elgin
James Paterson and Sons Plumbing and Heating Ltd***	Denny	Renewable Heat Ltd	Falkirk
		Matheson Plumbing Co	Falkirk
		ABN Services Co. Ltd	Fenwick

Company	Location	Company	Location
Lochaber Energy Ltd***	Fort William	Derek Campbell Plumbing Heating & Gas Services***	Largs
Aquatech Plumbing & Drainage	Glasgow	B&B Warrender Ltd	Laurencekirk
BRB Electrical Ltd	Glasgow	GC Heating & Plumbing Ltd	Leven
Cleartech Group Ltd	Glasgow	Grange Energy Services	Linlithgow
Emtec Building Services	Glasgow	Response Building Maintenance Services (Scotland) Ltd	Livingston
Global Eco Energy Solutions Ltd	Glasgow	B Barron Plumbing & Heating	Macduff
HF Mechanical and Electrical	Glasgow	D Blake & Co Ltd	Musselburgh
John Crawford & Co (Mechanical)	Glasgow	TKS Plumbing Services Ltd	Musselburgh
R G Gibb Plumbing & Heating	Glasgow	A Falconer Plumbing and Heating	Musselburgh
Tom Findlay & Company Ltd***	Glasgow	Eric Hyslop Ltd	Newton Stewart
Flow-Tech Scotland Ltd	Glasgow	G Woods Bathrooms Ltd***	Paisley
J H Horn Glasgow Ltd***	Glasgow	Stron Renewables Ltd****	Paisley
Optimus Plumbing and Heating	Glasgow	R A Walter Plumbing & Heating Engineers Ltd	Peebles
Quality Renewables Ltd	Gourock	Interzone Heating Solutions Ltd	Penicuik
A Thomson Plumbing & Heating Services Ltd***	Hawick	CK Plumbing Solutions Ltd	Perth
W R Thomson	Hawick	Colco Plumbing	Perth
C Ramsay Heating Services	Helensburgh	Gerry Morgan Plumbing and Heating Ltd	Perth
FAT Plumbing and Heating Ltd	Inverclyde	IMS Heat Pumps Ltd	Perth
D Matheson & Son Ltd	Inverness	LW Haddow	Perth
Mode Plumbing and Heating Services Ltd***	Inverness	McDonald Plumbing and Heating	Perth
Orbis Services Ltd	Inverness	Park Plumbing & Heating	Perth
MFS Plumbing & Heating Specialists Ltd	Inverurie	RTM Plumbing and Heating	Perth
A&W Plumbing & Heating Ltd	Irvine	Thermal Comfort Ltd	Perth
Gary Blair Ltd	Irvine	McNicol Plumbing and Heating Services Ltd	Perth
John Murray	Isle of Bute	E & R Plumbing & Heating Services	Peterhead
Lee Cruickshank Plumbing and Heating	Isle of Islay	ESM Skye Ltd	Portree
Gillies Group Ltd	Isle of Skye	Gibson and Son Plumbing	Sanquhar
C Rowley Plumbing & Heating Services	Keith	South East Heating Services Ltd	Selkirk
Cook Plumbing and Heating Ltd	Kennoway	Brown and Muir Ltd	Selkirk
McRoberts Plumbing and Heating Engineers	Kilmarnock	GasMark1 Plumbing & Heating Ltd	Stevenston
Malcolm McArthur & Son	Kilsyth	James Frew Ltd	Stevenston
Fife Council Building Services	Kirkcaldy	Aquazen Plumbing Ltd	Stirling
R Sloss Plumbing and Heating Arran Ltd***	Lamlash	JMR Plumbing Services Ltd	Stirling
John Frood & Sons	Lanark	Mech A Tech	Stoneyburn
D W F Plumbing & Heating Ltd	Larkhall	Precision Plumbing and Heating	Thurso
		Mar Plumbing and Heating	Yoker

Supporting Documents & About SNIPEF

Evidence and supporting documents

This report brings together findings from the employer survey and five regional working groups held in Glasgow, Dundee, Aberdeen, Edinburgh and Inverness. To keep this report concise and accessible, the full supporting materials have not been reproduced as appendices.

The detailed survey tables, individual working group summaries and supporting evidence documents are available online at:

snipef.org/publications

About SNIPEF

The Scottish and Northern Ireland Plumbing Employers' Federation is the representative body for plumbing and heating businesses in Scotland and Northern Ireland. SNIPEF supports its members through advice, training, representation, standards and professional development, and works to promote a competent, sustainable and trusted plumbing and heating profession.

SNIPEF also operates SNIPEF Training Services Ltd, the managing agent for the plumbing and heating apprenticeship in Scotland. Established by employers for employers, SNIPEF Training Services supports businesses and apprentices through the apprenticeship journey and plays a central role in helping the profession develop the skilled workforce it needs.

This report forms part of SNIPEF's wider work to support a competent, safety-critical plumbing and heating workforce. It reflects the organisation's commitment to ensuring that apprenticeship policy is grounded in employer experience, protects professional standards and supports the long-term sustainability of the profession.

snipef.org



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