LOCAL ELECTRICAL WORKFORCE AND LEARNER POPULATIONS IN ENGLAND

A report for The Electrical Skills Partnership by ECA and JTL

September 2023

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Executive Summary

Local Skills Improvement Plans (LSIPs) are a Department for Education (DfE) initiative in England. In September 2022, DfE divided England up into 38 local areas and appointed Employer Representative Bodies (ERBs) to draw up LSIPS for each.

During the latter part of 2022 and early 2023 the Electrical Contractors' Association (ECA), the main trade and employer body representing the electrotechnical sector, reached out to all ERBs and succeeded ultimately in engaging with ERBs responsible for 27 out of the 38 LSIPs.

This report uses the findings from the engagement with the ERBs, along with sector-specific data relevant for determining the existence and size of skills gaps in the electrotechnical sector locally. JTL, the not-for-profit apprenticeship training provider, researched and supplied the data. Local electrotechnical skills gaps obviously have implications as demand for electricity accelerates.

Key findings

Electrical workforce numbers vary substantially from one LSIP area to another, both in absolute terms and as a proportion of the general population.

Apprentice recruitment rates differ markedly between areas. In 24 out of 38 LSIP areas recruitment in 2021/22 fell below the 5% annual rate necessary to sustain workforce numbers.

Publicly-funded (non-apprentice) enrolments in 2021/22 outnumbered apprentice starts in 36 out of 38 LSIP areas. These publicly funded courses do not lead to fully qualified electrician status.

NVQ and Experienced Worker Assessment routes allow older and more diverse learners to achieve fully qualified electrician status, but enjoy very little public funding.

Implications

The findings are consistent with recent survey evidence indicating increased industry concerns about labour and skills shortages and weaknesses in the present technical education system.

With anticipated growth in demand for electrical skills from net zero and other new technologies, policy makers, at both national and local levels, can be tempted to support alternative, 'fast track' training routes. These are sold by their proponents as delivering ready-made 'solar PV installers' or 'EV charge-point installers' in weeks. These courses do not increase the skilled electrical workforce.

The technical complexity and safety-criticality of electrical installation work predicates against short-course training for new entrants. The inadequate training provided by such courses has implications for grid security and may lead to electrical fires and endanger life.

Solutions

- Stronger local support for specialist upskilling for competent, qualified electricians to install solar PV, EV charge-points and other net zero technologies, in line with the industry's own 'Electrician Plus' initiative.
- Closer collaboration between industry, education providers and other local stakeholders to ensure an adequate skilled electrical workforce for local needs.
- More disciplined focus on apprenticeships and other industry-recognised training routes, rather than partial routes or short courses which contribute little or nothing to the size or capability of the skilled electrical workforce in each area.

Introduction

Local Skills Improvement Plans (LSIPs) are a Department for Education (DfE) initiative in England. They are intended to help 'place employers at the heart of local skills systems' and to 'facilitate direct and dynamic working arrangements between employers and providers'.

In September 2022, DfE divided England up into 38 local areas and appointed Employer Representative Bodies (ERBs) to draw up LSIPS for each. Whilst developing their LSIPs, ERBs were instructed to 'work with other ERBs and sector bodies', including those that might 'have expertise in certain sectors, which could be a current or future priority'.

Sector engagement with LSIPs

As the main trade and employer association for electrotechnical and engineering services contractors, ECA engaged with ERBs in as many LSIP areas as possible. This reflected the key role electrotechnical businesses and skills play in supporting a wide range of sectors and activities locally, not least in the transition to net zero. It also stemmed from the importance which ECA and its Members attach to technical education, and a desire to improve the number and quality of technical education outcomes at a local level.

At the time of writing (September 2023), this first wave of exchanges had concluded, with ECA having inputted directly into 27 of the 38 LSIPs, all of which were eventually approved and published in August.

Demand for local workforce and learner data

Early on in ECA's engagement with them, it became apparent that ERBs were keen to acquire as much information as possible about particular sectors and their interactions with local skills systems. For electrotechnical and engineering services, local workforce and learner numbers represented an essential starting point for any objective, evidence-based review, but were for the most part missing.

While previous labour market intelligence reports from The Electrotechnical Skills Partnership (TESP) have sought to quantify the size of the skilled electrotechnical workforce at UK-wide and national levels, no existing industry study has sought to break these numbers down into the much smaller territorial units covered by LSIPs. Similarly, while the Institute for Apprenticeships and Technical Education (IfATE) regularly reports on the number of starts for each apprenticeship standard, this is only for England. In addition, equivalent figures for other (non-apprentice) qualification enrolments are not generally reported on, either at national or local level.

To assist with its LSIPs engagement, ECA was supported by the leading work-based learning provider, JTL. As a charity, with a wide-ranging commitment to support the engineering services sector, JTL agreed to undertake research into the numbers of electrical workers and learners (including both apprentices and others) in each LSIP area. Further details about the sources used, and statistical issues emerging, during the course of JTL's research appear in the main text of the following report and appendices.

Using the data

From the end of January 2023, ECA used the local workforce and learner population data from JTL's research to inform and enrich its discussions with each ERB about local skills challenges and priorities. Nearly every ERB welcomed such data specific to their LSIP area as a helpful way of testing, corroborating and/or qualifying anecdotal responses from surveys and face-to-face employer engagement events.

ECA and JTL wish to share their findings more widely – hence the present report. ECA has moreover drawn on its experience of engagement with ERBs and LSIPs to make recommendations and suggestions for next steps. These appear at the end of each chapter and in the Conclusions.

We trust that others will find the data interesting and insightful. We also hope that by working in collaboration, employers, providers and other local stakeholders can implement the measures necessary to improve the quantity and quality of skills development outcomes across every part of England.

1. Size of the electrical workforce

Summary:

- Electricians and the electrical contractors who employ them are key contributors to the creation and maintenance of the built environment in every part of England.
- The technical complexity and safety-criticality of electrical installation work predicates against short-course training of new entrants to become a 'domestic installer', 'EV chargepoint installer' or 'solar PV installer' in a matter of a few weeks or months.
- When assessing an area's capability for installing electrically-based net zero technologies, for example, the most important issue is how many qualified electricians are living and/or working in the area, and whether this number is enough to cover workload requirements, including (but certainly not limited to) those associated with net zero technologies.
- Using data obtained by JTL, ECA has been able to compare the number of electricians living in each LSIP area with the size of the general population for the same area.
- This comparison has revealed big differences between areas – ranging from one electrician for every 153 people in Dorset, to just one in 746 in the 'Enterprise M3' region (Surrey, North and Central Hampshire).
- ECA will use this local workforce data to stimulate further discussion and generate fresh lines of enquiry to establish why the numbers are what they are and if availability of skilled people is currently sufficient or insufficient for an area's needs.

Electricians and the electrical contractors who employ them are key contributors to the creation and maintenance of the built environment in every part of England. In particular, electricians are central to the successful transition to Net Zero, possessing the key skillsets for solar PV, energy storage systems, EV charging and other low carbon technologies – as illustrated by ECA's own Leading the Charge campaign.

Skills shortages – and the folly of 'fast-track' responses

There is plenty of evidence to suggest that there are currently not enough qualified and competent electricians in England (or other parts of the UK) to service existing needs. This does not take into account the growth in those needs occasioned by the transition to Net Zero. Skilled worker shortages represent the single greatest business challenge for electrotechnical and engineering services firms at the moment.[1]

Shortfalls in the number of appropriately qualified and competent electricians also constitute a wider challenge for society and the economy. This is because the technical complexity and safety-criticality of most electrical installation work predicates against short-course training of new entrants to become a 'domestic installer', 'EV charge-point installer' or 'solar PV installer' in a matter of a few weeks or months. Contrary to some narratives, in highly skilled technical fields, such as electrotechnical and engineering services, Skills Bootcamps and similar 'fast-track' initiatives for new-entrant learners simply won't work – in either a technical or labour market sense.[2]

In August 2023, the Electrotechnical Skills Partnership (TESP) encapsulated this key argument in the concept of 'Electrician Plus'. By awarding or withholding its Electrician Plus endorsement from short-course qualifications such as those covering solar PV, energy storage and EV charging, TESP aims to reinforce the point that these are specialist upskilling routes for already competent, qualified electricians, rather than stand-alone occupations in their own right. According to TESP:

> 'Adequate understanding of electrical scientific theory and principles and demonstrable occupational competence are critical for the safe installation of technologies such as solar photovoltaic (PV) panels, battery storage systems and electric vehicle charging points (EVCP). The core competence of a qualified electrician is the foundation from which to upskill and train in these areas.
>
> 'The Electrician Plus model highlights how once someone reaches qualified electrician status, all that is needed is top-up CPD and qualifications in specific new technologies, to enable safe, compliant and competent installations.'[3]

[1] See ECA media release, 'Impact of labour shortages worsen for engineering services', 22 May 2023.

[2] The importance of electrical competence as a precondition for upskilling in low carbon and other specialist technologies is a key theme of ECA's 'Skills for the Future' campaign.

[3] See TESP media release, launching 'Electrician Plus' on 8 August 2023.

When assessing an area's capability for installing net zero technologies, the most important question is how many qualified electricians are living and/or working in the area. And, is this number is enough to cover current and future workload requirements, including (but not limited to) those associated with net zero technologies Rather than how many solar PV or EV charging courses are being laid on, or even if the area can boast a 'green skills hub'.

Comparing the electrician and general populations

To help stimulate a dialogue with each ERB about the current size of the electrician workforce locally, and whether this might or might not be sufficient, we carried out a comparison of the number of electricians living in each LSIP area with the size of the population of that area as a whole. This exercise also allowed comparisons to be drawn between one LSIP area and all the rest.

Table 1, below, indicates the relative size of the electrical and general populations living in each LSIP area – expressed in the form of 'one electrician/ electrical fitter for every [n] of general population'. Areas are ranked so that those with the lowest differential (i.e. a proportionately higher electrical population) appear towards the top, and those with the highest differential (i.e. a proportionately lower electrical population) are placed at the bottom.

Actual figures for the size of the general and electrician population living in each LSIP area – from which the following table has been derived – are reported separately in Appendix 1.

TABLE 1: Comparing electrical workforce and general populations living in each LSIP area

No. in general population for every 1 electrician/ electrical fitter	Home LSIP area		
150-250	Dorset (153) North-East (1 84) The Marches (207) Kent & Medway (249)	Hertfordshire (155) New Anglia (198) South Yorkshire (218)	Essex (184) Stoke & Staffs. (201) Worcestershire (247)
251-300	West Yorkshire (253) Heart of the S.W. (274) Buckinghamshire (289) Leicester & Leices. (296)	Gtr. Lincolnshire (262) York & North Yorks. (280) Hull & E. Yorks. (291)	Cornwall & Scilly (271) Derbs. & Notts. (280) W. Mids. & Warks. (294)
301-400	Cumbria (303) North of Tyne (335) Tees Valley (375)	Gloucestershire (307) Liverpool City Rgn. (357)	Lancashire (331) Gtr. Manchester (368)
401-500	S.E. Midlands (419) Gtr. London (462) Oxfordshire (493)	Cambs. & P'boro. (428) Cheshire & Warr. (465)	Sussex (448) West of England (489)
> 500	Thames Valley Berks. (518) Enterprise M3 (jncl. all Surrey) (746)	Solent (563)	Swindon & Wilts. (589)

[4] To generate results for each LSIP area, JTL: (a) identified SOC 5241: Electricians and Electrical Fitters as the best available (if imperfect) indicator of the size of the skilled electrical workforce; (b) employed Office for National Statistics (ONS) estimates of the size of the SOC 5241 workforce in England between January and December 2021 (183,359), drawing on the Labour Force Survey (LFS); (c) used available home postcode information to split the all-England SOC 5241 workforce total between each of 38 LSIP areas; and (d) compared the number of SOC 5241: Electricians and Electrical Fitters living in each LSIP area with the general population for that area as a whole.

Interpreting the data

As always, statistics have limitations and care must be taken when attempting to draw conclusions from bare numbers. For one thing, LSIPs vary socially, economically and in other respects, so that a proportionally larger electrical workforce in one area and a smaller one in another do not necessarily mean that electrician numbers are adequate in the first location and/or inadequate in the second. More granular analysis of local skills supply and demand requirements are needed to reach any valid conclusion about the optimal electrical population size in each case.

Other limitations to the data include the absence of information about individuals' age (restricting our ability to judge the size and speed of any upcoming gaps in workforce); their levels of qualification and competence (anyone answering ONS surveys can call themselves an electrician); or, where individuals are employed or undertake work (in contrast to where they happen to live). Worth also noting, is that ONS has identified potentially 'significant' issues with recent workforce calculations derived from four-digit SOC codes, including 5241. These issues were not resolved at the time of finalising this report.[5]

Despite these inevitable limitations, the fact that we now have some insight, for the first time, into the size of the electrical workforce in a particular area – as well as being able to compare workforce populations in different areas – does allow us to draw fresh insights which previous national or even regional surveys could probably never have revealed.

The sheer scale of the divergences between areas, for example, (varying at the extremes by a factor of more than 300%) begs the question why.

Proximity to large cities – and the plentiful work they have to offer – probably explains, at least in part, the very high electrical populations in Essex, Kent and Hertfordshire (London), as well as in the Marches, Worcestershire and Staffordshire (Birmingham). But, why is it such a very different story for Enterprise M3, Berkshire and SE Midlands – all with relatively low electrician populations, despite their proximity to London? Likewise, how does one explain Dorset's position at the very top of the table, or indeed the contrasting electrical populations in Norfolk and Suffolk (high), versus next-door Cambridgeshire and Peterborough (low)?

Taking action

Local workforce data can have an important role to play in stimulating further discussions and generating fresh lines of enquiry to establish why the numbers are what they are, and whether the availability of skilled people in the local area is currently sufficient or insufficient.

At an ECA branch event in Surrey in March 2023, news that the Enterprise M3 region has the smallest electrical workforce of any area as a share of the general population, did not come as a surprise to the employers present – all of whom confirmed separately their difficulties in recruiting and retaining local skilled people. Statistical backing for their own lived experience did, however, appear to persuade both the employers and the local training organisations attending the event that they had a shared interest in working more effectively together to do something about it.

[5] ONS's own account of these issues appears here

2. Electrical apprentice recruitment

Summary:

- Apprenticeships remain the electrical sector's preferred route for individuals to become a fully qualified and competent electrician.
- ECA estimates that firms need to recruit electrical apprentices at the rate of 5% of their existing skilled workforce annually in order to be sustainable.
- Using electrical apprentice starts and workforce data obtained by JTL, ECA has been able to compare the annual apprentice recruitment rate for each LSIP area.
- This comparison has revealed big differences between areas – ranging from recruitment rates of 8% or more in some places to less than 3% in others.
- ECA will use recruitment data to encourage further analysis of the resilience of electrical training in each LSIP area and consideration of what might need to be done to boost local recruitment rates where required.

A further benefit of the local workforce data cited in the previous chapter is that, once we have existing workforce numbers, we can start to assess how healthy currens of apprentice recruitment are in the area (i.e. as a proportion of the existing workforce). The results of this exercise are the subject matter of this chapter.

Interpreting the data

Apprentices remain the lifeblood of the electrotechnical sector,[6] and apprenticeships the sector's preferred route for individuals to acquire the knowledge, skills, experience and behaviours necessary to become a fully qualified and competent electrician.[7]

The Installation and Maintenance Electrician apprenticeship standard consistently attracts the highest take-up of any trade apprenticeship within construction and the built environment in England. It has been recognised as one of six essential 'green' standards.[8] Last year also saw the launch of a new apprenticeship in England, the Domestic Electrician apprenticeship standard, which it is hoped will encourage more employers operating principally in residential markets to recruit and train apprentices of their own. Both apprenticeship standards now include extensive coverage of low carbon and associated 'smart' technologies.

[6] See, for example, chapter 3 of the TESP 2023 Labour Market Intelligence report.

[7] The Electrical Careers website sets out industry-recognised training routes in England, including the Installation Electrician and Maintenance Electrician standard and the Domestic Electrician standard.

[8] DfE Education Hub blog article, 'Coronation 2023: 6 green apprenticeships and how to apply', 4 May 2023.

Nevertheless, it is also apparent that current apprentice recruitment rates are falling short of what is required. TESP in 2019 suggested that up to 3,000 extra apprentice starts were required annually just to keep up with the growth in new work,[9] and data from other bodies more recently has indicated ongoing shortfalls in recruitment at or above this level.[10]

ECA's own estimates are that electrotechnical firms need to recruit apprentices at the rate of 5% of their existing skilled workforce annually in order to be sustainable – equating to between 9,500 and 10,000 electrical apprentice starts in England each and every year. These figures are, of course, well above current start-rates in England, which in recent years have tended to plateau at between 5,000 and 6,000 per year.

Calculating apprentice recruitment rates

Table 2, below, ranks LSIP areas according to the rate of apprentice recruitment achieved during the 2021/22 academic year. In each case, the recruitment rate was calculated by comparing the number of apprentice starts with the size of the current electrical workforce living in the area covered by the LSIP. For these purposes, therefore, it is the LSIP area where apprentices live that is relevant, not where either their employer or training provider happens to be based.

Actual figures for the number of apprentice starts living in each LSIP area – covering not just 2021/2 but also starts for the three academic years before that – are reported separately in Appendix 2.

TABLE 2: Comparing 2021/22 electrical apprentice starts as % of the existing electrical workforce living in each LSIP area

2021/22 Apprentice starts as % of workforce	Home lSIP area		
> 6.0%	Enterprise M3 (jncl. all Surrey) (8.8%) Hull & East Yorks. (6.7%) Lancashire (6.5%)	West of England (8.3%) Sussex (7.1%) Oxfordshire (6.7%) Gloucestershire (6.3%)	Swindon & Wilts. (7.7%) Solent (7.1%) Cheshire & Warr. (6.7%)
5.1%-6.0%	Tees Valley (5.9%)	Cumbria (5.9%)	Liverpool City Rgn (5.6%)
4.1%-5.0%	Cornwall & Scilly (5.0%) Thames Valley Berks. (4.8%) Heart of the S.W. (4.5%) Gtr. Lincolnshire (4.3%)	S.E. Midlands (5.0%) York & North Yorks. (4.8%) Stoke & Staffs. (4.5%)	Gtr. Manchester (4.8%) Derbs. & Notts (4.8%) West Yorks. (4.3%)
3.1%-4.0%	Leicester & Leices. (4.0%) South Yorks. (3.6%) New Anglia (3.1%)	Cambs. & P'boro. (3.8%) North of Tyne (3.2%)	Buckinghamshire (3.7%) W. Mids & Warks. (3.1%)
2.5%-3.0%	Kent & Medway (3.0%) Gtr. London (2.6%)	The Marches (3.0%) Essex (2.6%)	North-East (2.8%)
< 2.5%	Hertfordshire (2.2%)	Dorset (2.1%)	

[9] See pp.37-40 of the TESP 2019 Labour Market Intelligence report.

[10] See, for example, p.16 of the CITB's January 2023 report, 'The skills construction needs'.

Interpreting the data

As with the electrical workforce data in the previous chapter, it is important not to over-interpret the figures above. Although a higher apprentice recruitment rate will almost always be preferable to a lower one, these figures need to be read alongside other relevant information. For one thing, the rates above represent starts as a percentage of the existing workforce. Where the existing workforce is currently very small (in Surrey, North and Central Hampshire, for example), the fact that apprentice starts in one year may have represented quite a high percentage is not enough on its own to suggest that the area is turning things around.

Another limitation is that the 2021/22 was something of a bumper year for electrical apprentice recruitment. Total starts in England that year amounted to 7,500: between 25% and 50% higher than the 5,000 to 6,000 starts typically achieved in earlier years. Appendix 2 sets out annual start numbers for each LSIP area dating back to 2018/19, from which one can see that in most places recruitment rates before 2021/22 were measurably lower. Initial reports for 2022/23 suggest that electrical starts so far this year are again slightly down compared to the same period in 2021/22.

Nevertheless, regardless of any limitations, apprentice recruitment rate information has already proved helpful in starting to analyse the current health of electrical training in particular LSIP areas, and what might need to be done to improve the situation locally.

For example, the Enterprise M3 LSIP area is not alone in displaying a very high apprentice recruitment rate, alongside an existing workforce population that is particularly small. Similar patterns can also be detected in Solent, Cheshire and Warrington, West of England, Sussex, Oxfordshire and Swindon and Wiltshire. This data suggests that employers in these areas are now exerting themselves to boost recruitment in an attempt to make up for shortages in the established electrical workforce locally. In these areas, therefore, the main obstacle to even higher levels of recruitment may not be any lack of employer desire to employ and train apprentices, but a dearth of already-qualified employees available to supervise and mentor them during their apprenticeship.

By contrast, there are other areas where the above situation is reversed, with an exceptionally large existing workforce sitting alongside low or very low rates of local apprentice recruitment – as can be seen in Kent and Medway, The Marches, Essex, Hertfordshire and Dorset. In some of these areas, if not all, there must be a suspicion that many of the electrical workforce currently living in the area are migrants, originating and trained elsewhere in the UK, or even further afield: drawn to these areas, no doubt, by the prospect of better work and earnings opportunities. The strategic options for these areas include whether to continue to rely on inward migration of this kind; to boost recruitment and training of the local population; or, accept that current electrical workforce levels will decline inexorably over time.

In other LSIP areas, a combination of low workforce numbers and lower than average apprentice recruitment inevitably begs the question why. Feedback from ECA members in Cambridgeshire and Peterborough, suggests that limited training provider capacity in the area is a significant factor in keeping local apprentice starts lower than they would otherwise be. Likewise, it is difficult to believe that persistently low stars in Greater London are not, at least in part, down to the very small number of London-based colleges currently offering apprenticeships.[11]

[11] As of August 2023, the Government's Find apprenticeship training website recorded just nine London-based FE colleges or college groups offering the Installation and Maintenance Electrician standard, and none at all offering the Domestic Electrician standard.

Taking action

Having established the current resilience (or otherwise) of apprentice recruitment rates in each locality, the next step in every case must be to determine what further action may be required to improve the position.

Even in areas where recent recruitmens have exceeded the ECA guideline of 5% per year, this does not mean that there are no reasons to feel concern. The size of the existing skilled workforce might be very small (as in the seven cases highlighted above), or starts have tended to fall below 5% most years, despite a 'bumper' year in 2021/2 (e.g. Tees Valley).

For most areas (24 out of 38) where, even in 2021/2, apprentice recruitment rates remained stubbornly below 5%, the challenge is how to achieve the 'gear-change' necessary to secure a more sustainable local talent pipeline over the longer term. Possible responses vary. At the larger end of the market, overhauling procurement policies to incentivise more apprentice recruitment within local supply chains could help achieve change. Meanwhile at the smaller end. offering more effective, targeted support for small employers to take on an apprentice, perhaps for the first time, could have the same effect.

Another important factor is the degree to which current FE provision locally is oriented towards or away from apprenticeships. Greater London is not the only area where colleges have arguably become too heavily reliant on delivering full-time electrical courses, with shockingly low levels of progression from these then into an electrical apprenticeship. The ongoing imbalance between full-time and apprenticeship provision in many LSIP areas provides the focus for our next chapter.

3. Balance between electrical apprentice starts and other learner enrolments

Summary:

- ECA compared apprentice starts with the number of learners enrolled on publicly supported non-apprenticeship electrical courses in the same LSIP area.
- In almost every LSIP area, non-apprenticeship enrolments outnumber apprentice starts – in some cases by very considerable margins.
- These imbalances at a local level raise significant concerns, since courses of this kind leave learners well short of the competence required to practice as an electrician.
- Data obtained by JTL confirms learners' chances of completing their training by progressing from a classroom based course into an apprenticeship are very low (10% or less).
- ECA is calling for LSIP areas to adopt measures to rebalance local provision away from potentially 'dead-end' full-time courses and towards more apprenticeship places.
- T levels potentially represent an opportunity for a 'fresh start' for FE, but ECA believes that more action is required locally to realise this opportunity and maximise learners' chances of progressing from a T level into an accelerated apprenticeship.

Having established the number of apprentice starts living in each LSIP area, ECA was able to ask JTL to compare this with the number of other, publicly supported learner enrolments during the same academic year, 2021/2.

Calculating the number of full-time learners and comparing to local apprentice starts

Table 3 on the next page expresses this comparison by reporting enrolment numbers as a percentage of start numbers. For the most part, enrolments exceed starts – in some cases by very sizeable margins.

Only certain electrical qualifications were counted for these purposes – those which, like an apprenticeship, are intended for new entrants. For the most part these are full-time, classroom-based courses and qualifications, categorised a 1, 2 or 3. Enrolments for upskilling qualifications aimed at already qualified electricians – in electrical inspection and testing, the Wiring Regulations, or low carbon technologies, – are not included in the numbers.

Also excluded are level 1, 2 or 3 qualifications which are not publicly supported (i.e. by either direct public funding or a subsidised loan). This means that learners captured in Table 3 below will mostly have fallen within the 16-19 age range, rather than career changers and other adults, who are typically expected to fund this kind of training themselves. While awarding bodies and training providers have a duty to report enrolments onto publicly supported qualifications, the same does not apply for self-funded learners. The number of self-funded enrolments – believed to add up into the thousands every year – are not publicly visible, and therefore not captured below.

As with both previous datasets (electrical workforce + apprentice starts), the enrolment numbers relied upon below relate to where both sets of learners live, rather than where their training provider or employer happens to be based.

Actual figures for the number of publicly supported non-apprentice enrolments living in each LSIP area – covering not just 2021/2 but also starts for the two academic years before that – are reported separately in Appendix 3.

TABLE 3: Comparing 2021/22 other publicly supported electrical learner enrolments (i.e. excluding apprentices) as % of apprentice starts living in each LSIP area

Other 2021/22 learner enrolments as % of 2021/22 apprentice starts	Home lSIP area		
> 400%	Gtr. London (800%) Hertfordshire (450%)	W. Mids. & Warks. (546%)	S.E. Midlands (498%)
301%-400%	Gtr. Manchester (398%) Essex (367%)	Liverpool City Rgn. (383%) North of Tyne (356%)	Cheshire & Warr. (369%) Worcestershire (303%)
201%-300%	Kent & Medway (295%) Tees Valley (280%) Leicester & Leices. (260%) West of England (232%) Derbs. & Notts. (204%)	North-East (291%) Solent (280%) Thames V. Berks. (257%) The Marches (225%)	Cambs. & P'boro. (283%) West Yorks. (266%) Gtr. Lincolnshire (235%) Stoke & Staffs. (206%)
101%-200%	Swindon & Wilts. (195%) New Anglia (180%) Cumbria (163%) Enterprise M3 (jncl. all Surrey) (151%) Dorset (118%)	South Yorks. (189%) York & North Yorks. (169%) Sussex (161%) Lancashire (147%)	Buckinghamshire (181%) Heart of the S.W. (164%) Oxfordshire (155%) Hull & East Yorks. (146%)
< 100%	Gloucestershire (93%)	Cornwall & Scilly (81%)	

Why imbalances between local full-time enrolments versus apprentice starts matter: the limited value of current full-time provision.

Two observations are immediately apparent from the above data. First, publicly supported non-apprentice electrical enrolments outnumber electrical apprentice starts almost everywhere. Secondly, the extent of the imbalance between the two varies significantly from one area to the next, and in certain areas looks absolutely staggering.

Many electrical industry employers regard classroom-based qualifications, such as those captured in Table 3, with ambivalence at best. This is because they involve teaching and assessment of technical knowledge, but little in the way of work-based or other practical hands-on experience. For a trade which requires extensive skill and judgment acquired only through extensive experience, this means that learners who successfully complete one of these qualifications are very far off from the competence required to practice as an electrician. As the Electrical Careers 'full-time' and 'self-funded' training routes for England illustrate, such learners will still need to complete an apprenticeship or NVQ, as well as the industry-recognised AM2 assessment of competence. All these require extensive further study and work experience.

In principle, classroom-based qualifications do at least offer some grounding in the knowledge required to be an electrician, and so can allow individuals to progress into an apprenticeship, the duration of which may be shortened through recognition of prior learning. In practice, however, disappointingly few learners seem to make the transition into an apprenticeship, as amply demonstrated by Table 4, below. This sets out progression rates from a variety of publicly supported level 1, 2 and 3 knowledge qualifications.

TABLE 4: Progression rates into an apprenticeship from publicly supported electrical classroom-based qualifications (within 12 months)

Adult Education Budget & Loans funded		Level	Typical duration	Progressed to an apprenticeship		
Qual. code				2017/18	2018/19	2019/20
60104065	Award in Construction Skills (Electrical)	1	110 hrs	0%	0%	0%
60105288	Certificate in Construction Skills (Electrical)	1	160 hrs	0%	6%	~
60097905	Diploma in Electrical Installation	1	416 hrs	0%	~	2%
60104090	Diploma in Electrical Installation	1	390 hrs	0%	~	0%
60302288	Technical Certificate in Electrical Installation	2	360 hrs	0%	~	0%
6006724X	Diploma in Electrical Installation	2	486 hrs	9%	12%	4%
60054980	Diploma in Electrical Installations (Buildings and Structures)	2	454 hrs	4%	3%	3%
60145614	Intermediate Diploma in Electrical Installation	2	486 hrs	0%	14%	~
60145638	Advanced Diploma in Electrical Installation	3	480 hrs	0%	0%	~
60173075	Advanced Technical Diploma in Electrical Installation (450)	3	450 hrs	0%	~	0%
60093316	Diploma in Electrical Installation	3	478 hrs	6%	7%	4%
60054992	Diploma in Electrical Installations (Buildings and Structures)	3	480 hrs	4%	4%	3%

Interpreting the data

Some uncomfortable conclusions flow from a combined analysis of Tables 3 and 4.

First, interest in becoming an electrician in most LSIP areas almost certainly outstrips the number of apprenticeship opportunities currently available locally. Although impossible to measure without further research, some at least of those ending up on classroom-based courses have perhaps tried for, but missed out on, an apprenticeship. Or, they might not even have tried, having concluded that an apprenticeship was out of their reach. In other instances, some learners might not even be aware of the apprenticeship option, either because (through ignorance or misinformation) they believe a college course is the way to qualify as an electrician, or through the lack of providers offering apprenticeship training locally.

It seems clear that, contrary to received 'wisdom', the labour and skills shortages which electrical contractors frequently encounter are not the consequence of a lack of people wanting to join the industry.

Either, employers are failing to offer enough apprenticeship opportunities. Or, colleges and other providers are failing in their duty to support apprenticeships and/or progression into apprenticeships. In truth, both parties probably need to bear some of the blame.

A second awkward inference from the data is that a great deal of the public money currently being invested in electrical full-time qualifications, such as those listed above, may be going to waste. It certainly is, if a central goal of such investment is the eventual creation of significant numbers of competent practising electricians.

Many in industry criticise the colleges and training providers which deliver these qualifications, alleging that they are interested only in filling classrooms and careless about where learners end up after that. As a generalised criticism, this is undoubtedly unfair. There are plenty of providers which run apprenticeship cohorts alongside full-time ones and achieve much higher progression rates from one into the other than the average levels highlighted above might at first suggest.

Nevertheless, it is also true that many other colleges and independent training providers have more or less abandoned electrical apprenticeship provision as too difficult and/ or expensive – focussing instead on classroom-based, non-apprenticeship qualifications, which are perceived as easier to deliver and lower risk. In some rural districts and even in large cities, including certain boroughs of London, it is not an exaggeration to speak of 'apprenticeship deserts'. A lack of provider interest can make it almost impossible for electrical employers and learners to source provision, even if they wanted to. [12]

Taking action – including making a fresh start with T levels

These concerns have informed ECA's decision, when engaging with ERBs responsible for developing the LSIP for their respective areas, to put forward proposals designed to rebalance local provision away from full-time courses and towards more apprenticeship places. The first of these proposals is that each LSIP area should ensure that enough high-quality apprenticeship training providers are active in the area, and reasonably accessible for all employers and learners who want to start an apprenticeship.

[12] Research by JTL in March 2023 allowed ECA to analyse imbalances between full-time enrolments and apprentice starts in individual London Boroughs. Several boroughs exceeded the general London imbalance of 800% by a considerable margin. Examples of this included Newham (3,688%), Merton (4,766%) and Enfield (22,133%).

The importance of accessibility, in particular, should not be underestimated. For example, small businesses – which tend to predominate in the electrotechnical and engineering services sector – often require more help than larger businesses when taking on and supporting an apprentice. Providers therefore need to be willing and able to provide such assistance. Similarly, young learners especially may struggle to become or remain an apprentice if training facilities are not located reasonably close to their home or on a route regularly served by public transport.

ECA's second proposal is for LSIP areas to tackle the long-running scourge of 'dead-end' electrical courses by monitoring providers' progression rates from classroom- based courses into apprenticeships. ECA also supports closer collaboration between providers and local employers to facilitate more consistent transition into an apprenticeship or equivalent work-based training. If progression rates do not substantially improve, ECA's stark recommendation is that public funding for these courses should be cut.

In practice, there are grounds to hope that the wastefulness of the present system will become a thing of the past, as traditional full-time courses give way to T levels. Under current plans, funding for the former will cease in September 2025, leaving apprenticeships and T levels the predominant publicly funded vocational options for learners aged 16-19.

With a curriculum aligned more closely to apprenticeship requirements, and inclusion of 45 days' mandatory work experience, there are grounds to hope that learners completing the electrical pathway of the Building Services Engineering (BSE) T level will be better placed to progress into an electrical apprenticeship. The apprenticeship can then be 'accelerated' to take account of their prior learning and experience.

As such, the BSE T level represents a welcome opportunity for a 'fresh start' for all concerned. For this opportunity to be fully realised, however, ECA believes that there is an urgent need for much more active and effective collaboration between industry and education at local level to ensure:

- More local colleges (and schools) start to deliver T levels, especially in technical subjects such as BSE (to include a realistic assessment of the funding, staffing and facilities required to do this properly);
- Many more local employers sign up to provide T level work placements (to include more generous funding and administrative support, especially for small and micro employers);
- Higher progression rates from T levels into apprenticeships (to include active monitoring of local progression rates and (possibly) specific, structured bridging pathways for T level graduates, to help them make the transition).

4. Career changers and experienced workers

Summary:

- The data collated by JTL highlighted the very low numbers of electrical NVQ and Experienced Worker Assessment (EWA) enrolments to attract public funding support in England.
- The absence of support conflicts with the value which both training routes bring - allowing adult career changers and existing workers to complete their training and become fully qualified electricians.
- Insufficient understanding among funding bodies about the valuable role of the NVQ and EWA routes and a shortage of providers offering these routes has contributed to their 'Cinderella' status.
- ECA is keen to work closely with ERBs and other stakeholders to do more to promote the NVQ and EWA routes to potential learners. And to expand the number and geographical range of providers and employers involved in assisting learners towards successful completion.

Two other categories of electrical learner captured by the JTL research were those enrolled onto an NVQ programme and those undertaking the electrical Experienced Worker Assessment (EWA).

NVQ and Experienced Worker Routes

For individuals who have already completed a full-time or self-funded level 3 knowledge qualification, the NVQ represents their opportunity to demonstrate the practical skills and experience elements required of a competent electrician outside of an apprenticeship, ahead of then sitting the AM2 industry-recognised final assessment of competence.[13]

The reasons why someone might sign up to the NVQ, rather than an adult apprenticeship, are many and varied. Learners are, however, typically older and might already be working in the industry in an unskilled or semi-skilled capacity. Or, they may need to acquire their experience piecemeal outside of a conventional employment structure, for example, as agency workers or through work experience (either paid or unpaid) with a friend or other contact.

[13] The self-funded/ NVQ route is the third of four industry-recognised training routes for England outlined on the Electrical Careers website.

Numbers of NVQ learners can be difficult to estimate. There seems little doubt that many adult career changers – including a comparatively large proportion of women – aspire to join the industry later in life.[14]

Individuals undertaking the EWA are different from NVQ candidates. They are not new entrants, but people who have already worked in the electrical industry, or a closely related field, for a substantial period (typically five years or more). The EWA allows such people – provided they can demonstrate adequate existing knowledge, skills and experience – to collate evidence of this and fill in any minor gaps through top-up training and experience, before undertaking the AM2 assessment of competence.[15] The length of time this takes differs from individual to individual. In some cases, it can be as short as three months and in others up to the maximum permitted period of 18 months.

From an industry perspective, the EWA is an especially valuable tool. It opens doors which were previously closed to an individual because they had not completed an industry-recognised training route before (e.g. because they possessed just a knowledge qualification). Since it mirrors the apprenticeship standard, everyone can be confident that a qualified electrician who has successfully passed the EWA can be treated as on par (at least) with others who have completed the apprenticeship.

With an ever-greater emphasis by industry employers, clients and certification bodies on the importance of proving competence, there are now typically hundreds of electrical EWA enrolments every year. This number looks likely to grow even larger with the launch in July 2023 of a separate Domestic Electrician EWA. This is aligned to the new Domestic Electrician apprenticeship standard in England and aimed at raising standards of competence in the large, but lightly regulated, residential electrical market.

Limited public funding support

The end-products of the NVQ and EWA processes are therefore potentially highly worthwhile, since following AM2 completion, both produce fully qualified electricians. Whereas individuals undertaking the NVQ in England are entitled to have this paid for through the Government's Skills for Life initiative, EWA candidates enjoy no central source of public funding support, and so either need to fund this for themselves or get it paid for by their employer.

The consequences can be seen in the table in Appendix 4. Like the other tables in this report, it captures only learners enrolled with some degree of public support, in the form of either funding or a loan. EWA enrolments appear hardly at all – with zero returns almost everywhere, apart from tiny numbers recorded in 2021/22 for Greater Manchester and West Midlands. NVQ enrolments, perhaps surprisingly, also tend to be quite thin on the ground – reaching double figures annually in only a few places (Greater London; West Yorkshire; Heart of the South-West; Solent; Worcestershire), and even there not consistently.

[14] See, for example, results from a survey of potential career changers

[15] EWA is the fourth and final industry-recognised training route for England outlined on the Electrical Careers website. Moreover, a dedicated EWA microsite provides more details about what EWA involves and where to start.

[16] Confirmed by information supplied by the Electrotechnical Certification Scheme (which issues site cards to a proportion of EWA learners).

Interpreting the data

The low overall numbers of NVQ enrolments (just 100-200) each year, despite the potential benefits to the individual and availability of Skills for Life funding, begs the question why. The NVQ, it must be admitted, is a not a quick or easy route to qualified electrician status, involving up to twice as many learning hours as a typical level 2 or level 3 classroom-based knowledge qualification. On the other hand, the patchy geographical coverage of recorded enrolments perhaps suggests an alternative explanation – namely, a shortage in many areas of providers willing and capable of offering support to learners through the NVQ route. Very few FE colleges advertise NVQ provision. Instead, it tends to be a niche offering by certain independent training providers, specialising in career changers and other adult learners.

Similar capacity constraints may represent a drag on EWA take-up too: especially if, as anticipated, potential demand expands with the launch of the new domestic electrician EWA. As with the NVQ, small independent training providers tend to dominate delivery of the EWA. Some parts of the country are better provided for than others, but there are large areas with no locally-based provision at all.[17]

Taking action

In its exchanges with ERBs around the country, ECA has highlighted the 'Cinderella' status of the EWA and argued that more public promotion and financial support for the EWA route could yield substantial (and comparatively rapid) upskilling returns, including in the domestic market. This will continue as a major theme of ongoing exchanges as LSIPs start to be implemented and evolve. In particular for LSIP areas with substantial numbers of part-qualified practitioners, it may offer one source of 'new' workers to help fill local electrotechnical skills gaps.

Boosting NVQ take up, and the infrastructure to support completion of the NVQ, also need to be priorities. As a first step, industry and awarding bodies need to conclude work that has already started to bring current electrotechnical NVQ qualifications up to date, to align more closely with apprenticeship and EWA new technology content. Secondly, ECA will seek to work with ERBs and other local stakeholders to promote the self-funded/ NVQ training route to potential career changers and to encourage more colleges and independent training providers to add this and the EWA to their portfolio of learning products. There is also a pressing need to recruit many more employers to assist career changers and other adults with the work experience necessary for them to complete their NVQ.

[13] See 'Find an EWA Provider' on the EWA microsite

Findings, implications, recommendations and next steps

ECA's primary intention in obtaining local electrical workforce and learner data, and in asking JTL to assist with this, was to improve the quality of the evidence and insights it could provide to individual LSIPs.

Above all, ECA was keen to secure appropriate recognition within each LSIP of the importance of electricians and electrical contractors to local economies, not least in connection with achievement of local net zero targets and policy objectives.

To this end, JTL was able to collate and supply data on the following:

Size of the current population of electricians and electrical fitters living in each LSIP area – including comparison of this figure with the size of each area's population as a whole.

- Recent electrical apprentice recruitment in each LSIP area – consisting of both the number of annual apprentice starts living in an area and comparison of this with the size of the existing electrical workforce population (allowing the calculation of an annual apprentice recruitment rate).
- Other publicly-funded (non-apprentice) learner enrolments – including comparison of this figure with the number of apprentice starts (allowing an assessment of the local balance between the two).
- National progression rates from these non-apprentice qualifications subsequently into an apprenticeship.
- Number of publicly-funded adult learner enrolments – including both electrical NVQ learners and individuals undertaking an electrical Experienced Worker Assessment (EWA).

Findings

Using the above data, ECA was able to highlight the following findings for potential inclusion in each of the 27 LSIPs with which it managed to engage between Q4 of 2022 and Q2 of 2023:

a) **Electrical workforce numbers** vary substantially from one LSIP area to another, both in absolute terms and as a proportion of the general population. Although a small local electrical workforce does not necessarily mean that numbers are too small for local needs (or indeed a large one that numbers are adequate), every ERB that engaged with ECA is now aware – most of them for the first time – of the size of their current electrical skills-base and how this compares with other LSIP areas.

b) **Apprentice recruitment rates** also differ markedly between areas, although in 24 out of 38 LSIP areas recruitment in 2021/22 (a bumper year) fell below the 5% annual rate which ECA believes is necessary to sustain workforce numbers. Further evidence and analysis are necessary before any definitive conclusions emerge to account for lower numbers in one place and higher numbers in another. Two factors, however, which potentially help to explain lower than average apprentice recruitment in at least some places, seem to be: (i) a heavy reliance on UK internal migration (resulting in an inflated local electrical workforce and lower demand for new entrants), especially in or around some of our largest cities; and, (ii) gaps in apprenticeship training provision, caused by an increasing number of providers shying away from 'difficult' apprenticeships, such as electrical apprenticeship standards.

   In Greater London and the surrounding areas of Essex, Kent, Hertfordshire and South East Midlands, for example, a combination of both (i) and (ii) may go a long way towards explaining exceptionally low levels of apprentice recruitment by local employers.

c) **Other publicly-funded (non-apprentice) enrolments** in 2021/22 outnumbered apprentice starts in 36 out of 38 LSIP areas. Given that the Level 1, 2 and 3 classroom-based qualifications captured by these enrolments do not in themselves lead to fully qualified electrician status, this imbalance is a serious concern, especially in those LSIP areas where apprentice starts are outnumbered by anything between three and eight times. The impression of wastefulness of talent, as well as of time and money, is further reinforced by other data indicating that typically fewer than 10% of learners enrolled on these classroom-based qualifications subsequently progress into an apprenticeship.

d) Despite their value as vehicles for older learners to achieve fully qualified electrician status, both the **NVQ and EWA routes** seem to have attracted very little in the way of public funding support – and, in a majority of LSIP areas, none at all.

Implications

Although the above findings are not in themselves enough to establish the scale of any shortfall in local electrical workforce and/or learner numbers, they are consistent with recent survey evidence indicating increased industry concerns about labour and skills shortages and weaknesses in the present technical education system.

Given these concerns, as well as the anticipated growth in demand for electrical skills from net zero and other new technologies, it is perhaps unsurprising if policy makers, at both national and local levels, feel tempted to support alternative, 'fast track' training routes, sold by their proponents as delivering ready-made 'solar PV installers' or 'EV charge-point installers' in a matter of weeks.

As explained already (in Chapter 1), the technical complexity and safety-criticality of most electrical installation work – including that required for solar PV and EV charge-points – predicates against short-course training of this sort for new entrants. Rather, as the industry's own 'Electrician Plus' campaign argues, training for solar PV, EV charge-points and other net zero technologies needs to take the form of specialist upskilling for already competent, qualified electricians.

The main implication flowing from this conclusion is that ERBs and other stakeholders cannot afford to ignore, or attempt to bypass, concerns about the size of their current local electrical workforce or weaknesses in local apprenticeship and FE systems. Instead, their focus needs to be on working with industry, education providers and others to ensure an adequate skilled electrical workforce for local needs and a sustainable flow of new entrants into skilled electrical employment via apprenticeships and other industry-recognised training routes.

Recommendations for action

With this focus in mind, ECA submitted a series of recommendations for action to the ERBs responsible for the 27 LSIPs with which it engaged over the period Q4 of 2022 to Q2 of 2023. Chapters 1-4 above describe each of these recommendation in some detail, but for present purposes they can be summarised as follows:

a) Use the local electrical workforce data to stimulate further discussions and generate fresh lines of enquiry to establish why the numbers locally are what they are, and whether the availability of skilled people is currently sufficient or insufficient for each area's needs.

b) Use the electrical apprentice recruitment rate data to encourage further analysis of the resilience of electrical training in each LSIP area, and consideration of what might need to be done to boost local recruitment rates where this is what is required.

c) Adopt measures to rebalance local provision away from potentially 'dead-end' full-time courses and towards more apprenticeship places. This should include more action locally to realise the opportunity presented by T levels.

d) Do more to promote the NVQ and EWA training routes and to expand the number and geographical range of providers and employers involved in assisting career changers and other adult learners towards successful completion.

Next steps

Having invested considerable time and effort in engaging with as many ERBs as possible during the LSIP development phase, ECA remains committed to collaborate with ERBs and other local stakeholders to progress each of the four main recommendations, (a) to (d), listed above.

Publishing this report represents the first step, and we hope that ERBs and others with an interest in the success of LSIPs will welcome the workforce and learner data gathered by JTL, and ECA's commentary and recommendations arisng therefrom, as each LSIP shifts into its implementation phase.

Where ECA has already received invitations to participate in ongoing local LSIP forums – as in the cases of Surrey, Greater London, Berkshire and Oxfordshire, – we will certainly do so, and will seek to encourage our Members and other electrical industry partners to play their part as well.

In other cases, where recently published LSIPs identify electrotechnical skills development as a local priority and propose improvements aligned to one or more of our own recommendations for action, ECA will seek to re-engage with the ERB during Q4 of 2023 and explore ways in which we and our members locally might support and assist.

APPENDIX 1: ELECTRICAL WORKFORCE IN EACH LSIP AREA

As previously outlined in Chapter 1, the following table, compiled by JTL, compares the general populations for each LSIP area with the number of 'electricians and electrical fitters' (SOC 5241) reported as living in the same area. This comparison then generates a 'ratio' of one electrician for every n of general population, which, as can be seen below, differs markedly from one place to another.

LSIP Code	LSIP Name	Census 2021 (remapped to LSIP areas)	SOC 5241 'Electricians and electrical fitters'	Ratio
	All England	**56,489,800**	**183,359**	308
LSIP1	Cambridgeshire and Peterborough	894,400	2,089	428
LSIP2	Greater London Authority	8,800,000	19,054	462
LSIP3	Greater Manchester	2,867,900	7,792	368
LSIP4	Liverpool City Region	1,551,500	4,345	357
LSIP5	North-East	1,140,200	6,196	184
LSIP6	North of Tyne	829,800	2,479	335
LSIP7	South Yorkshire	1,375,000	6,304	218
LSIP8	Tees Valley	677,100	1,807	375
LSIP9	West Midlands (with Warwickshire)	3,516,400	11,968	294
LSIP10	West of England (with North Somerset)	1,172,900	2,401	489
LSIP11	West Yorkshire	2,351,600	9,292	253
LSIP12	Brighton and Hove, East Sussex, West Sussex	1,705,800	3,810	448
LSIP13	Buckinghamshire	553,100	1,914	289
LSIP14	Cheshire and Warrington	966,900	2,080	465
LSIP15	Cornwall and the Isles of Scilly	572,400	2,114	271

LSIP Code	LSIP Name	Census 2021 (remapped to LSIP areas)	SOC 5241 'Electricians and electrical fitters'	Ratio
LSIP16	Cumbria	499,800	1,652	303
LSIP17	D2N2 (Derbyshire and Nottinghamshire)	2,204,400	7,881	280
LSIP18	Dorset	779,900	5,090	153
LSIP19	Enterprise M3 (including all of Surrey)	1,971,300	2,644	746
LSIP20	Essex, Southend-on-Sea and Thurrock	1,859,800	10,095	184
LSIP21	G First (Gloucestershire)	645,100	2,102	307
LSIP22	Greater Lincolnshire	1,136,000	4,342	262
LSIP23	Heart of the South-West	1,787,200	6,522	274
LSIP24	Hertfordshire	1,198,900	7,736	155
LSIP25	Hull and East Yorkshire	609,300	2,097	291
LSIP26	Kent and Medway	1,855,900	7,450	249
LSIP27	Lancashire	1,531,200	4,628	331
LSIP28	Leicester and Leicestershire	1,080,800	3,651	296
LSIP29	New Anglia (Suffolk and Norfolk)	1,676,600	8,469	198
LSIP30	Oxfordshire	725,300	1,472	493
LSIP31	Solent	1,230,300	2,185	563
LSIP32	South-East Midlands	1,777,000	4,238	419
LSIP33	Stoke on Trent and Staffordshire	1,134,300	5,638	201
LSIP34	Swindon and Wiltshire	743,800	1,263	589
LSIP35	Thames Valley Berkshire	949,700	1,834	518
LSIP36	The Marches	696,300	3,363	207
LSIP37	Worcestershire	603,600	2,442	247
LSIP38	York and North Yorkshire	818,300	2,920	280

APPENDIX 2: ELECTRICAL APPRENTICE STARTS

The following table, compiled by JTL, records the number of new electrical apprentice starts living in a particular LSIP area for each of the academic years 2018/19 to 2021/22. In Chapter 2 above, the 2021/22 start figures have been combined with the workforce figures reported in Appendix 1, to generate an annual apprentice recruitment rate for each LSIP area. Once again, this exercise has highlighted major differences in the relative performance of particular areas.

		Home Location			
		Sum of electrical apprenticeship starts (4 yrs)			
LSIP Code	LSIP Name	2018/19	2019/20	2019/20	2020/21
	All England	6121	5594	5594	5362
LSIP1	Cambridgeshire and Peterborough	75	62	61	80
LSIP2	Greater London Authority	538	448	391	504
LSIP3	Greater Manchester	313	312	284	378
LSIP4	Liverpool City Region	224	178	178	237
LSIP5	North-East	129	109	115	171
LSIP6	North of Tyne	65	51	74	81
LSIP7	South Yorkshire	154	145	141	229
LSIP8	Tees Valley	74	70	79	108
LSIP9	West Midlands (with Warwickshire)	281	346	280	373
LSIP10	West of England (with North Somerset)	134	112	133	194
LSIP11	West Yorkshire	320	306	298	412
LSIP12	Brighton and Hove, East Sussex, West Sussex	194	167	179	273
LSIP13	Buckinghamshire	74	37	42	70
LSIP14	Cheshire and Warrington	96	129	97	140
LSIP15	Cornwall and the Isles of Scilly	78	84	76	105

		Home Location			
		Sum of electrical apprenticeship starts (4 yrs)			
LSIP Code	LSIP Name	2018/19	2019/20	2019/20	2020/21
LSIP16	Cumbria	93	80	82	95
LSIP17	D2N2 (Derbyshire and Nottinghamshire)	232	226	292	378
LSIP18	Dorset	79	76	74	107
LSIP19	Enterprise M3 (including all of Surrey)	184	170	160	233
LSIP20	Essex, Southend-on-Sea and Thurrock	275	217	188	258
LSIP21	G First (Gloucestershire)	100	86	99	130
LSIP22	Greater Lincolnshire	117	126	116	192
LSIP23	Heart of the South-West	272	229	227	291
LSIP24	Hertfordshire	143	109	103	169
LSIP25	Hull and East Yorkshire	85	64	85	136
LSIP26	Kent and Medway	223	186	205	226
LSIP27	Lancashire	203	239	174	301
LSIP28	Leicester and Leicestershire	128	119	87	146
LSIP29	New Anglia (Suffolk and Norfolk)	191	163	167	262
LSIP30	Oxfordshire	84	66	85	101
LSIP31	Solent	145	132	127	157
LSIP32	South-East Midlands	186	162	123	211
LSIP33	Stoke on Trent and Staffordshire	155	150	154	261
LSIP34	Swindon and Wiltshire	93	61	48	99
LSIP35	Thames Valley Berkshire	100	64	60	87
LSIP36	The Marches	83	88	73	102
LSIP37	Worcestershire	78	83	59	87
LSIP38	York and North Yorkshire	95	112	111	139

APPENDIX 3: OTHER PUBLICLY SUPPORTED ELECTRICAL LEARNERS – KNOWLEDGE QUALIFICATIONS

The following table, compiled by JTL, records the number of other publicly-funded (non-apprentice) enrolments living in a particular LSIP area for each of the academic years 2019/20 to 2021/22. In Chapter 3 above, the 2021/22 enrolment figures have been compared to the 2021/22 apprentice start figures reported in Appendix 2, to generate a percentage figure, representing the degree to which the former outnumbered the latter in each LSIP area. As outlined in Chapter 3, the general imbalance in favour of full-time courses should be a cause of considerable concern to anyone interested in maximising the number of newly qualified electricians completing their training, and especially in those areas where this imbalance now appears to have got out of control.

		Home Location		
		Sum of enrolments (3 yrs)		
LSIP Code	LSIP Name	2018/19	2019/20	2020/21
	All England	18704	21653	22634
LSIP1	Cambridgeshire and Peterborough	146	230	226
LSIP2	Greater London Authority	3493	4125	4031
LSIP3	Greater Manchester	920	1238	1505
LSIP4	Liverpool City Region	685	757	908
LSIP5	North-East	444	513	497
LSIP6	North of Tyne	203	254	288
LSIP7	South Yorkshire	301	369	433
LSIP8	Tees Valley	322	333	302
LSIP9	West Midlands (with Warwickshire)	1914	1813	2035
LSIP10	West of England (with North Somerset)	333	416	451
LSIP11	West Yorkshire	674	860	1096
LSIP12	Brighton and Hove, East Sussex, West Sussex	480	422	440
LSIP13	Buckinghamshire	56	78	127
LSIP14	Cheshire and Warrington	320	475	517

		Home Location		
		Sum of enrolments (3 yrs)		
LSIP Code	LSIP Name	2018/19	2019/20	2020/21
LSIP15	Cornwall and the Isles of Scilly	72	99	85
LSIP16	Cumbria	159	177	155
LSIP17	D2N2 (Derbyshire and Nottinghamshire)	623	790	772
LSIP18	Dorset	107	123	127
LSIP19	Enterprise M3 (including all of Surrey)	346	377	352
LSIP20	Essex, Southend-on-Sea and Thurrock	773	911	947
LSIP21	G First (Gloucestershire)	103	161	121
LSIP22	Greater Lincolnshire	414	440	451
LSIP23	Heart of the South-West	405	429	478
LSIP24	Hertfordshire	732	731	761
LSIP25	Hull and East Yorkshire	136	218	198
LSIP26	Kent and Medway	694	667	666
LSIP27	Lancashire	375	492	442
LSIP28	Leicester and Leicestershire	373	505	380
LSIP29	New Anglia (Suffolk and Norfolk)	448	587	472
LSIP30	Oxfordshire	114	111	157
LSIP31	Solent	410	407	438
LSIP32	South-East Midlands	670	847	1051
LSIP33	Stoke on Trent and Staffordshire	464	637	538
LSIP34	Swindon and Wiltshire	133	144	193
LSIP35	Thames Valley Berkshire	195	187	224
LSIP36	The Marches	198	218	229
LSIP37	Worcestershire	232	251	264
LSIP38	York and North Yorkshire	202	206	235

APPENDIX 4: OTHER PUBLICLY SUPPORTED ELECTRICAL LEARNERS: NVQ and EWA

The following table, compiled by JTL, records the numbers of adult learners living in a particular LSIP receiving public funding to help them compete either the NVQ or Experienced Worker Assessment (EWA) training routes to fully qualified electrician status for each of the academic years 2019/20 to 2021/22. As pointed out in Chapter 4, these numbers appear very small, especially compared to other publicly funded training routes and when one considers the substantial value for money which both NVQ and EWA routes provide in producing fully qualified practitioners at the end (unlike more generously supported full-time classroom-based courses, for example).

		Home Location		
		Sum of enrolments (3 yrs)		
LSIP Code	**LSIP Name**	**2019/20**	**2020/21**	**2021/22**
	All England	**170**	**157**	**110**
LSIP1	Cambridgeshire and Peterborough	0	0	0
LSIP2	Greater London Authority	34	19	1
LSIP3	Greater Manchester (NVQ)	2	2	2
	Greater Manchester (EWA)	0	0	1
LSIP4	Liverpool City Region	0	0	0
LSIP5	North-East	0	1	1
LSIP6	North of Tyne	0	0	0
LSIP7	South Yorkshire	0	0	0
LSIP8	Tees Valley	0	2	0
LSIP10	West Midlands (with Warwickshire) (NVQ)	9	5	7
	West Midlands (with Warwickshire) (EWA)	0	0	2
LSIP10	West of England (with North Somerset)	2	1	2
LSIP11	West Yorkshire	25	33	0
LSIP12	Brighton and Hove, East Sussex, West Sussex	5	6	5

		Home Location		
		Sum of enrolments (3 yrs)		
LSIP Code	LSIP Name	2018/19	2019/20	2020/21
LSIP13	Buckinghamshire	1	0	0
LSIP14	Cheshire and Warrington	1	0	1
LSIP15	Cornwall and the Isles of Scilly	3	2	2
LSIP16	Cumbria	0	0	0
LSIP17	D2N2 (Derbyshire and Nottinghamshire)	3	4	3
LSIP18	Dorset	6	2	2
LSIP19	Enterprise M3 (including all of Surrey)	1	6	1
LSIP20	Essex, Southend-on-Sea and Thurrock	1	2	0
LSIP21	G First (Gloucestershire)	1	0	0
LSIP22	Greater Lincolnshire	4	4	2
LSIP23	Heart of the South-West	33	34	43
LSIP24	Hertfordshire	0	0	3
LSIP25	Hull and East Yorkshire	0	0	0
LSIP26	Kent and Medway	5	5	0
LSIP27	Lancashire	2	1	1
LSIP28	Leicester and Leicestershire	2	3	3
LSIP29	New Anglia (Suffolk and Norfolk)	4	3	2
LSIP30	Oxfordshire	1	1	1
LSIP31	Solent	7	11	8
LSIP32	South-East Midlands	4	5	4
LSIP33	Stoke on Trent and Staffordshire	7	1	0
LSIP34	Swindon and Wiltshire	0	0	0
LSIP35	Thames Valley Berkshire	1	1	0
LSIP36	The Marches	2	2	3
LSIP37	Worcestershire	3	1	11
LSIP38	York and North Yorkshire	0	1	0

TESP

The Electrotechnical Skills Partnership (TESP) delivers projects to support the industry's skills needs. To this end, TESP strives to maintain high standards of relevant, valued vocational training; inspire young people to choose electrotechnical careers; support re-training and upskilling; provide useful information about valid career routes; and, ensure qualifications are robust, rigorous and meaningful. Employer involvement on its board and engagement with industry employer groups means TESP continually ensures what is being developed meets the needs of today's electrical contractors and those working in the sector.

ECA

ECA is the main trade association for companies involved in electrotechnical and engineering services in England, Northern Ireland and Wales. It has some 2500 registered members which collectively generate annual revenues of around £6 billion. Key areas of activity include: technical standards; skills; health and safety; renewable, energy efficiency and other energy installations; supply chain procurement and payment; digitalisation; and employment issues.

JTL

JTL is one of the largest work-based learning providers in England and Wales, working with over 3,800 businesses from large corporations to small local suppliers. JTL is currently working with 8,000 learners and trains more apprentices than anyone else in the building services


ECA