ECA

Skills4 Electrification

Growing the electrical workforce in England to match the local demands of accelerating electrification

JTL TRAINING PEOPLE

TESP® The Electrotechnical Skills Partnership

CONTENTS

Electrification of the UK is increasing at an unprecedented rate. New research by the Electrical Contractors' Association, (ECA) analyses the current and future electrical workforce by English local area.

The research examines the challenges area by area and offers solutions to achieve a local workforce to achieve mass electrification.

The Electrical workforce

- Varies significantly from region to region
- Apprentice recruitment is below sustainable levels in most areas
- Classroom based electrical courses attract huge numbers of learners, but do not lead to qualified electrician status, potentially wasting a lot of public money
- NVQ and Experienced Worker Assessment routes allow older and more diverse learners to achieve fully qualified electrician status, but enjoy very little public funding

LOCAL ELECTRICAL WORKFORCE AND LEARNER POPULATIONS IN ENGLAND

A report for The Electrical Skills Partnership by ECA and JTL

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 for the whole of England only. In addition, equivalent figures for classroom based 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 classroom based) in each LSIP area.

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.

This summary report shows graphically the regional differences and makes recommendations and suggestions for next steps. **The full report can be read on the ECA website.**

We 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.

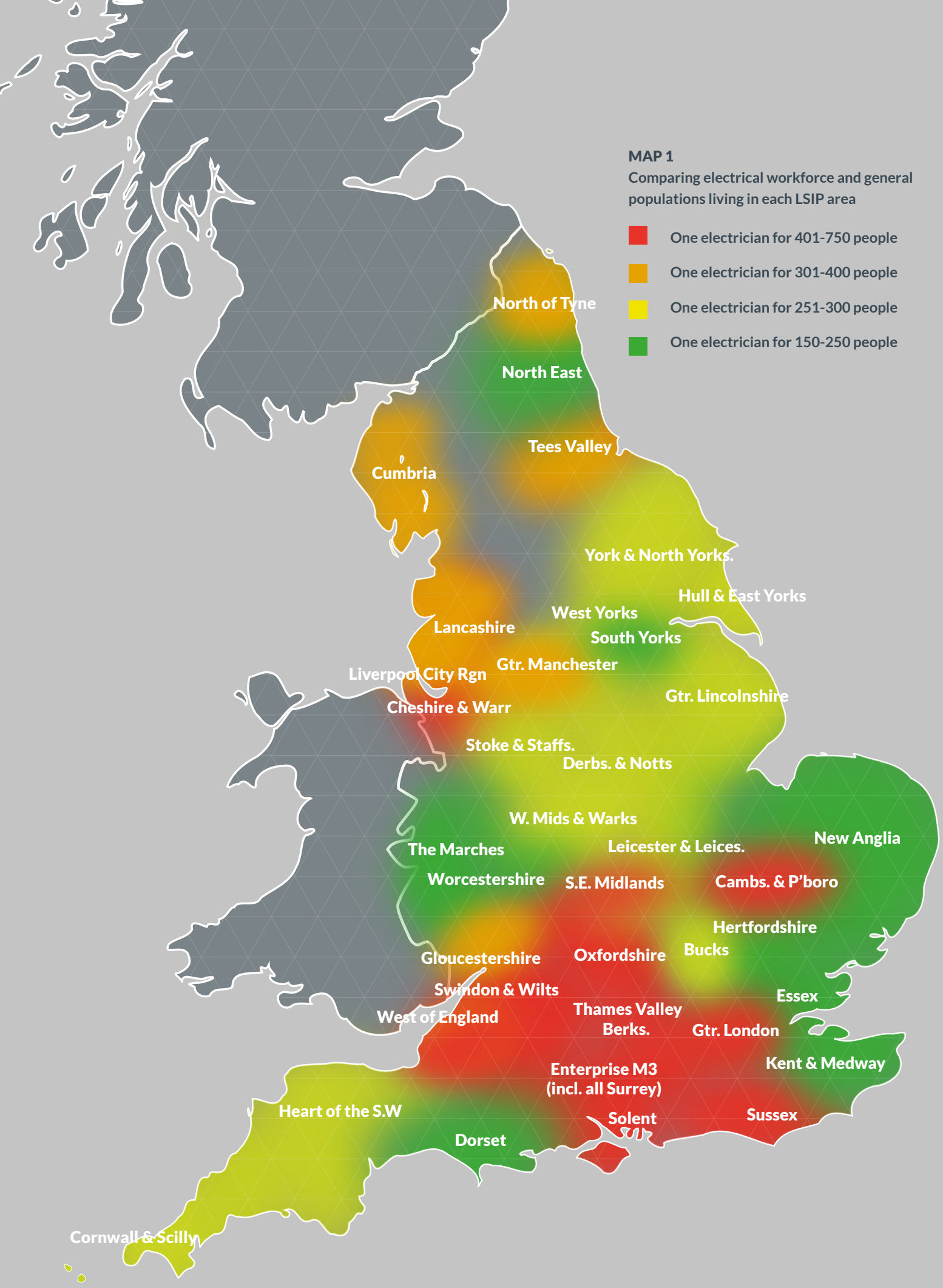
TESP® The Electrotechnical Skills Partnership

JTL TRAINING PEOPLE

ECA

1 Size of the electrical workforce

- 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 so-called '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 and integrating 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.

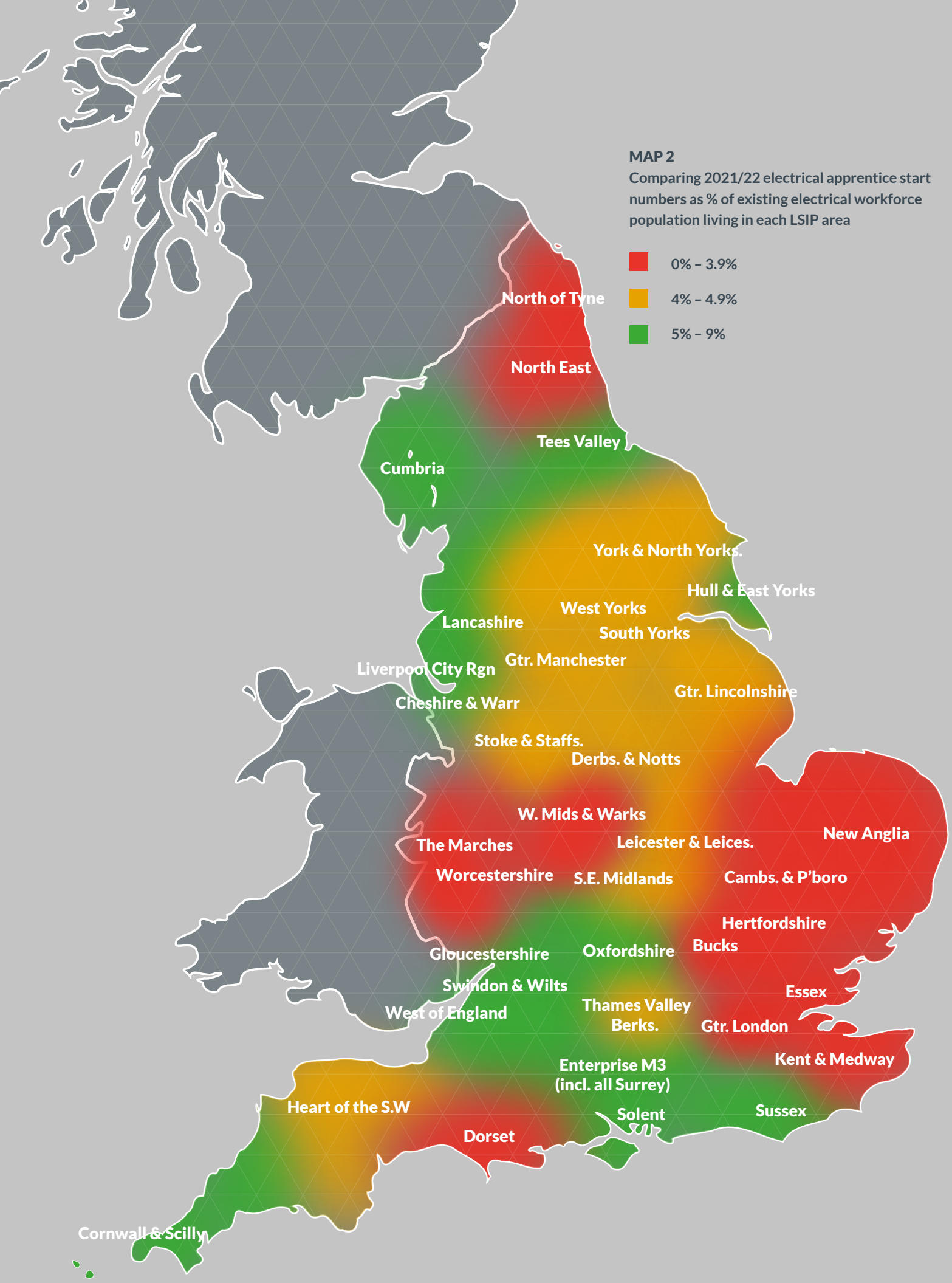

MAP 1
Comparing electrical workforce and general populations living in each LSIP area
One electrician for 401-750 people
One electrician for 301-400 people
One electrician for 251-300 people
One electrician for 150-250 people
North of Tyne
North East
Tees Valley
Cumbria
York & North Yorks.
Hull & East Yorks
West Yorks
Lancashire
South Yorks
Gtr. Manchester
Liverpool City Rgn
Gtr. Lincolnshire
Cheshire & Warr
Stoke & Staffs.
Derbs. & Notts
W. Mids & Warks
New Anglia
The Marches
Leicester & Leices.
Worcestershire
S.E. Midlands
Cambs. & P'boro
Hertfordshire
Bucks
Gloucestershire
Oxfordshire
Swindon & Wilts
Essex
Thames Valley Berks.
West of England
Gtr. London
Kent & Medway
Enterprise M3 (incl. all Surrey)
Heart of the S.W
Solent
Sussex
Dorset
Cornwall & Scilly

2 Electrical apprentice recruitment

- 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.

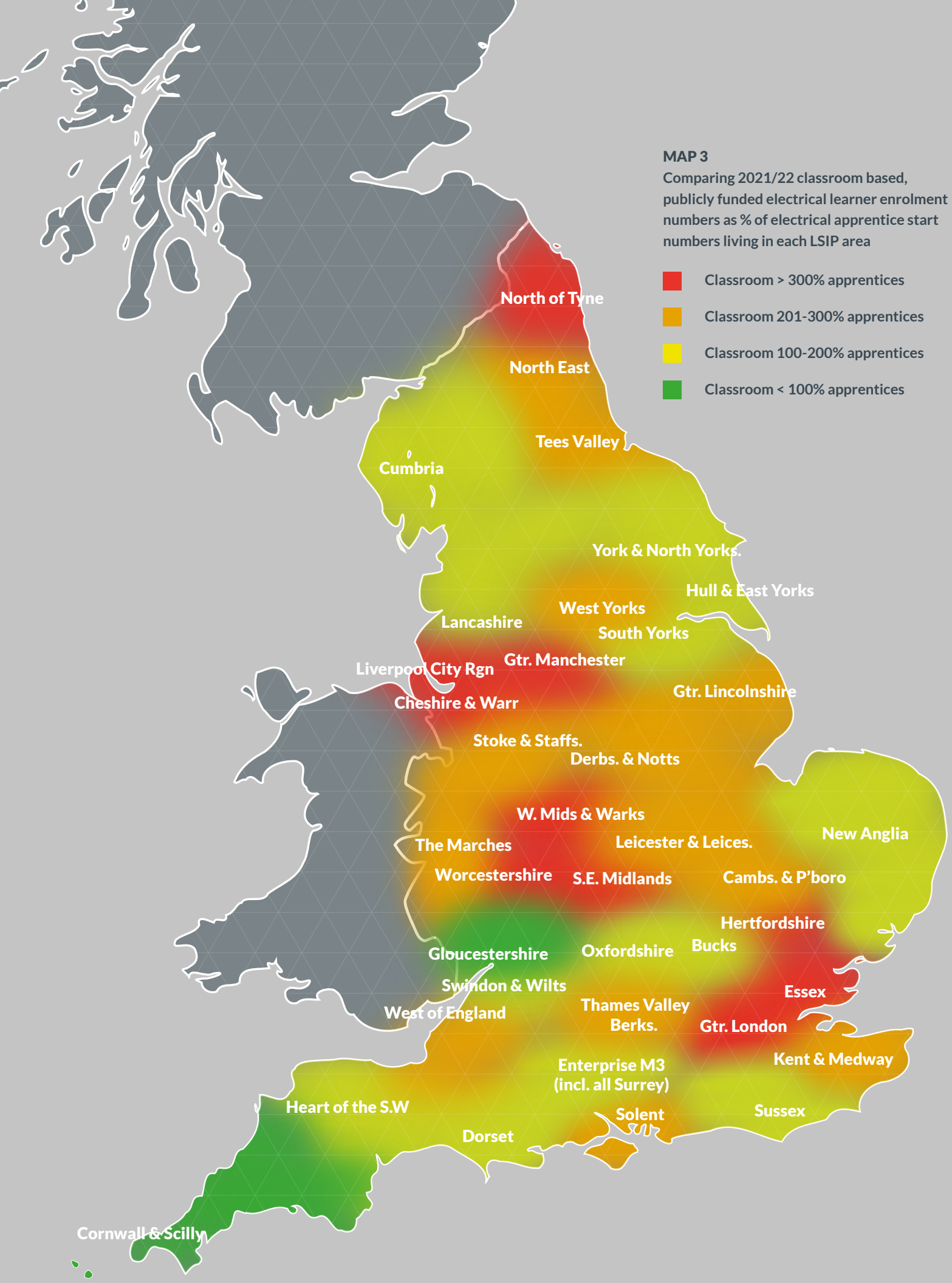
Calculating apprentice recruitment rates

The map on the next page 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.


MAP 2
Comparing 2021/22 electrical apprentice start numbers as % of existing electrical workforce population living in each LSIP area
0% – 3.9%
4% – 4.9%
5% – 9%
North of Tyne
North East
Tees Valley
Cumbria
York & North Yorks.
Hull & East Yorks
West Yorks
Lancashire
South Yorks
Gtr. Manchester
Liverpool City Rgn
Gtr. Lincolnshire
Cheshire & Warr
Stoke & Staffs.
Derbs. & Notts
W. Mids & Warks
New Anglia
The Marches
Leicester & Leices.
Worcestershire
S.E. Midlands
Cambs. & P'boro
Hertfordshire
Bucks
Gloucestershire
Oxfordshire
Swindon & Wilts
Essex
Thames Valley Berks.
West of England
Gtr. London
Kent & Medway
Enterprise M3 (incl. all Surrey)
Heart of the S.W
Solent
Sussex
Dorset
Cornwall & Scilly

3 Balance between electrical apprentice starts and other learner enrolments

- ECA compared apprentice starts with the number of learners enrolled on publicly supported classroom based electrical courses in the same LSIP area.
- In almost every LSIP area, classroom based 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 qualifications and 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' classroom based 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.


MAP 3
Comparing 2021/22 classroom based, publicly funded electrical learner enrolment numbers as % of electrical apprentice start numbers living in each LSIP area
Classroom > 300% apprentices
Classroom 201-300% apprentices
Classroom 100-200% apprentices
Classroom < 100% apprentices
North of Tyne
North East
Tees Valley
Cumbria
York & North Yorks.
Hull & East Yorks
West Yorks
Lancashire
South Yorks
Gtr. Manchester
Liverpool City Rgn
Gtr. Lincolnshire
Cheshire & Warr
Stoke & Staffs.
Derbs. & Notts
W. Mids & Warks
New Anglia
The Marches
Leicester & Leices.
Worcestershire
S.E. Midlands
Cambs. & P'boro
Hertfordshire
Bucks
Oxfordshire
Gloucestershire
Swindon & Wilts
Essex
Thames Valley Berks.
West of England
Gtr. London
Kent & Medway
Enterprise M3 (incl. all Surrey)
Heart of the S.W
Solent
Sussex
Dorset
Cornwall & Scilly

4 Why imbalances between local classroom based enrolments versus apprentice starts matter: the limited value of current classroom based provision

Two observations are immediately apparent from the above data. First, publicly supported classroom based 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 map on the previous page, 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.

Other data obtained by JTL indicates that typically fewer than 10% of learners enrolled on these classroom based qualifications subsequently progress into an apprenticeship. Such low progression rates give an impression of a scandalous waste of talent, alongside serious doubts about value for money.

TABLE 1: 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%

5 Career changers and experienced workers

- 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.
- In recent years, only 100-200 learners per year have received public funding for their electrical NVQ, whilst the number of EWA learners to benefit from such support each year can be counted on the fingers of one hand.
- 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 have 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.

Conclusion

Interest in becoming an electrician in most LSIP areas outstrips the number of apprenticeship opportunities currently available locally. 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.

An awkward inference from the data is that a great deal of the public money currently being invested in electrical classroom based qualifications 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.

LSIPs provide an opportunity now for local ERBs to work with industry, education providers and others to ensure an adequate skilled electrical workforce for local needs. This will require a razor sharp focus by all concerned on creating a sustainable flow of new entrants into skilled electrical employment via apprenticeships and other industry-recognised training routes