

POWERING THE UK'S FUTURE:

ACHIEVING THE 45 - 47 GW
SOLAR POWER GENERATION
TARGET BY 2030



October 2025



Contents

Introduction: Powering the Future – Skills for Solar	2
PART ONE SOLAR ROADMAP: UNITED KINGDOM POWERED BY SOLAR - Response to Chapter 6: Skills	3
Delivering a Competent Workforce for the UK's Solar Ambitions	3
1. Improving Workforce Data (Action 38).....	3
2. Mapping and Expanding Training Provision (Actions 39 & 40).....	4
3. Clarifying Routes to Competence (Action 41).....	4
4. Expanding the Installer Base (Action 42 & 43)	5
5. Supporting Upskilling and Apprenticeships (Action 44)	5
6. Engagement with Further Education and Local Skills Systems (Action 47)	6
7. Raising Awareness and Outreach (Actions 45 & 46)	6
8. Championing Inclusion and Leadership (EDI and Director Training).....	6
PART TWO DELIVERING A SKILLED WORKFORCE TO MEET THE CHALLENGE - Context: The Rise of Solar in the UK	7
Electric Revolution.....	7
Technological Evolution.....	7
Industry Profile.....	8
Workforce Expansion, Benchmarking Demand and On the Ground Realities.....	9
Training and Qualifications: Building Capacity.....	10
Rising Demand, Constrained Supply.....	10
Appendix A: TESP	12
Appendix B: A unique competence and skills ecosystem	13
Appendix C: Electrician Plus	13
First kitemarked qualifications	15

Introduction: Powering the Future – Skills for Solar

The UK Government's commitment to delivering 45 - 47 gigawatts (GW) of solar power capacity by 2030 marks a pivotal moment in the nation's journey toward a net-zero economy. Announced in June 2025 by Energy Secretary Ed Miliband, this bold ambition aims to cut carbon emissions, lower energy costs, and strengthen our energy security by putting solar power at the heart of the UK's energy mix.

The Electrotechnical Skills Partnership (TESP)¹ welcomes the publication of the Government's Solar Roadmap and the urgency it brings to this challenge. We see it as a generational opportunity not only to achieve the clean energy transition but also to create good-quality jobs across the country and ensure the benefits of the green transition are widely shared. But targets alone won't deliver panels on roofs or megawatts on the grid, so **we are extremely encouraged by the roadmap's recognition of the skills challenge industry faces.** Meeting the scale of deployment needed will demand a competent, highly skilled workforce, with electricians playing a central role. The UK must therefore dramatically expand its capability to install and maintain solar technologies, while maintaining safety, quality, and consumer confidence.

In Part 1 this report provides an industry-led response to the eleven actions found in Chapter 6 – 'Skills' of the Solar Roadmap.

In Part 2, it draws on detailed analysis by Pye Tait Consulting (2023), now updated by TESP in 2025, to examine the **practical challenges involved in scaling up the workforce.** It sets out what must be done to train, retain and upskill the electricians who will power the rooftop revolution.

TESP and the wider electrical contracting industry stand ready to work with central government, devolved administrations, training providers and others to meet the ambitions set out in the Solar Roadmap. With the right investment and coordination, the industry is ready to lead the way in delivering solar for the nation.

¹ See Appendix A for more information about TESP and its member organisations.

PART ONE

SOLAR ROADMAP: UNITED KINGDOM POWERED BY SOLAR

Response to Chapter 6: Skills

Delivering a Competent Workforce for the UK's Solar Ambitions

The Electrotechnical Skills Partnership (TESP) welcomes the focus on skills and workforce development in Chapter 6 of the UK Government's Solar Roadmap. We share the view that scaling up the solar workforce, and particularly the number of qualified electricians, is essential to delivering and exceeding 45 - 47GW of solar capacity by 2030.

We recognise the complexity of the skills challenge ahead. The actions outlined in the Roadmap are comprehensive and well-targeted. Below, we respond to each key theme, outlining where the electrical contracting industry, including TESP, can support delivery, including areas where we already have relevant initiatives or technical capacity in place that can be scaled, supported or leveraged by DESNZ and Skills England to provide greater impact and accelerate the creation of the 'virtuous circle' of government, industry and education alignment.

1. Improving Workforce Data (Action 38)

DESNZ will continue to engage with Office for National Statistics (ONS), industry, trade unions and skill bodies to improve solar sector data.

OUR CONTRIBUTION:

TESP has an established track record in labour market research and skills forecasting, covering both the skilled electrical workforce in general (most recently in 2023)² and solar-specific reports in 2023 and the present 2025 update.

Other industry organisations associated with TESP also have access to important sector-specific data. These include the Electrical Contractors' Association (ECA), which collaborates with industry training charity JTL to collate and analyse annual workforce and learner data at both national and regional levels. Similarly, the electrical Joint Industry Board (JIB) – established jointly by ECA and Unite the Union – holds records for over 150,000 individuals registered under the Electrotechnical Certification Scheme (ECS). Another potential source of relevant information is NICEIC, the largest certification organisation for electrical contracting businesses, including those undertaking solar installation and maintenance work.

² <https://www.the-esp.org.uk/wp-content/uploads/2023/06/TESP-2023-LMI-Refresh-879.pdf>

Collectively, we can support DESNZ, the Office for Clean Energy Jobs (OCEJ), DWP and Skills England by sharing and refining sector-specific data, insights from employer and workforce networks, and trends in apprentice starts and uptake of qualifications.

We are also well placed to support OCEJ, DWP, Skills England and the Office for National Statistics (ONS) in improving data on the solar workforce. Our ability to convene employers, training providers, certification bodies, trade associations and workforce representatives gives us a real-time view of labour market pressures and training capacity. Government can build on this by formally integrating electrotechnical industry labour market insights into policy and workforce planning processes.

2. Mapping and Expanding Training Provision (Actions 39 & 40)

Action 39: UK Government and industry will map current solar training provision in the UK, covering government- and industry-funded training.

Action 40: Industry will engage with government skills bodies to explore models for effective delivery of solar skills training, at regional and local levels.

OUR CONTRIBUTION:

The electrical industry in the UK has established a uniquely coherent and robust competence and skills ecosystem.³ By this means TESP and other industry organisations coordinate and collaborate intensively and consistently to secure superior standards and outcomes.

TESP and associated organisations like ECA maintain strong links with training providers, awarding bodies and curriculum developers. This engagement encompasses both training for new entrants, such as apprenticeships, and upskilling courses for existing electricians, including in solar PV and energy storage systems.

TESP is therefore well placed to help map existing provision across England and the devolved nations, and to identify gaps in access to solar-specific upskilling training for electricians.

TESP has already developed authoritative guidance on training routes for becoming a qualified electrician across all four nations of the UK. These are hosted on our [Electrical Careers website](#) and widely used by Government and industry bodies including the Electrotechnical Assessment Specification (EAS) Management Committee and the Institution of Engineering and Technology (IET).

Both of the electrical apprenticeships in England – the Installation and Maintenance Electrician standard and the Domestic Electrician standard – already incorporate solar PV technologies as part of the curriculum. In 2023, the Installation and Maintenance Electrician standard was one of just six to receive the Kings Coronation Emblem for green apprenticeships.

We would welcome the opportunity to assist DESNZ, DfE, DWP, Skills England and other parts of government in mapping solar-specific training provision and identifying where provision needs to grow.

3. Clarifying Routes to Competence (Action 41)

Action 41: SEUK, working with standard-setting bodies, will produce a map of routes to competency for vital core occupations, recommending the qualifications and experience necessary for employees to demonstrate competence.

TESP already champions occupational standards, qualifications and CPD frameworks aligned to routes to competence in the electrical contracting industry. This role is recognised by other industry organisations and governments and constitutes an important element of our industry's uniquely successful competence and skills ecosystem. TESP has its own in-house technical competence for mapping qualifications to standards and technical competencies at all levels from high level comparisons to granular mapping at occupation standard range level.

We can therefore work with SEUK and others to map and publish clear routes to competence for solar installation roles – particularly experienced, part-qualified personnel who wish to upskill to become qualified electricians.

³ See Appendix B for more information about this ecosystem.

TESP is a natural partner in helping to define and promote routes to competence in solar. We already operate the [Electrician Plus](#) framework, which highlights how qualified electricians can upskill safely and efficiently into solar PV, battery storage and EV installation via recognised CPD and qualifications.

Through our work with awarding bodies, we've identified and endorsed a suite of qualifications that meet rigorous industry assessment criteria. These are now "kitemarked" under the Electrician Plus brand and offer a model for future government-backed frameworks.⁴

We would welcome support from government to raise the visibility of these routes and explore how they can feed into broader qualification reform and careers advice.

4. Expanding the Installer Base (Action 42 & 43)

Action 42: UK Government will build on the Warm Home Skills Programme by continuing to find opportunities to increase the uptake of recognised training provision in solar installation to grow the supply chain of competent installers.

Action 43: SEUK, Electrical Contractors Association, National Federation of Roofing Contractors and other trade bodies, to consider how to attract and retain the appropriate number and calibre of new installers.

Working in collaboration with ECA and SEUK, TESP can contribute to developing clear messaging and pathways into solar, particularly for young people and career changers, including through apprenticeship, FE and self-funded training routes. Low progression rates (less than 10%) from FE courses into industry can only be tackled through stronger industry influence and involvement.

TESP supports the Roadmap's focus on increasing the number of competent personnel, including electricians. We agree that this must be done through trusted, high-quality training routes – not 'dumbed-down' short courses that ignore, fragment or dilute industry-defined competence requirements and undermine safety, which must be a prime consideration for all in the post-Grenfell era.

TESP's industry-endorsed [Experienced Worker Assessment \(EWA\)](#) programme already offers a robust pathway for existing workers who lack full qualifications to gain recognition and certification as electricians, aligned to industry standards. Although EWA take up is already substantial, the requirement on individuals (or their employers) to self-fund remains a significant barrier to scaling up EWA even further. Government support to grow EWA numbers and link them to publicly funded programmes would be a valuable step forward.

5. Supporting Upskilling and Apprenticeships (Action 44)

Action 44: SEUK will produce and promote guidance to businesses and colleges, highlighting routes for potential employees to transition into the solar sector, including modular courses, DWP Sector-based Work Academy Programmes (SWAPs) and DfE's Skills Bootcamps.

TESP supports apprenticeship standards and qualifications aligned to employer needs. These include upskilling and reskilling pathways for existing workers (EWA) and career changers (self-funded NVQ). Thanks to the involvement of industry organisations such as ECA, NICEIC and JIB we have access to thousands of employers and experience of promoting take-up across all businesses from micro businesses and sole-traders to Tier 1 companies who employ hundreds of apprentices.

Our **Training & Qualifications Forum** brings together industry stakeholders to influence and inform reforms. We're already working with Skills England on the future of Level 2 and Level 3 qualifications to ensure they are fit for emerging technologies.

In addition, the **Electrician Plus** model provides a scalable approach to modular upskilling for electricians, aligned with the government's own goals for flexible training. Our work could be directly supported by further recognition within national schemes like Skills Bootcamps or the Warm Homes Skills Programme.

⁴ See Appendix C for further information about 'Electrician Plus' and recognised qualifications.

6. Engagement with Further Education and Local Skills Systems (Action 47)

Action 47: Industry will better support the further education sector by: (i) connecting local colleges with businesses by fostering industry ambassador events to link learners, tutors and employers; and (ii) increasing engagement with Local Skills Improvement Plans and further education Employer Liaison Groups.

TESP member, the ECA, is leading efforts to establish regional partnerships between industry, FE colleges, independent training providers, combined authorities and chambers of commerce, embodied in Electrotechnical Training and Careers Alliances (ETCAs). Three ETCAs (Greater Manchester, West Midlands and Cheshire & Warrington) have already been established since 2024, with support from the mayoral combined authorities in both cases, and several more are expected to launch during the remainder of 2025 and 2026.

Through our [Electrical Careers website](#), TESP has developed a comprehensive suite of resources to showcase the range of opportunities in the industry. This includes guidance for school-leavers, career changers, and those looking to progress within the industry.

We support the roadmap's emphasis on outreach and would welcome collaboration to expand this activity, especially through Careers Hubs and coordinated regional campaigns.

7. Raising Awareness and Outreach (Actions 45 & 46)

Action 45: SEUK will (i) run annual regional careers fairs; and (ii) prepare a "schools pack" to provide schools and careers hubs with teaching materials on solar, encouraging industry to support outreach initiatives, such as "Solar PV for Schools".

Action 46: UK Government and industry to use existing lines of communication with schools and the wider education, skills, and careers sectors, including devolved governments, to promote solar career opportunities.

TESP has developed materials to promote careers in electrotechnical and clean energy roles, and we can support government-led outreach through schools, careers hubs and regional fairs.

TESP can offer practical input into initiatives like the proposed "schools pack" and help align messaging with real employer needs.

TESP and other electrical industry organisations have long advocated for better links between industry and education. We support this through direct engagement with training providers and our participation in local and regional skills planning processes, including **ETCAs**.

We would welcome further government support for industry-led employer forums, college-industry placements and initiatives that enable FE tutors to spend time in live solar or renewables settings helping to keep delivery relevant and grounded in real-world practice.

8. Championing Inclusion and Leadership (EDI and Director Training)

Action 48: Industry has developed a course for strategic leaders, including Directors, training for growth and effective leadership of their businesses, and will promote the uptake of the Help to Grow Management scheme.

TESP supports the principles of Equality, Diversity and Inclusion. Our industry-led approach gives us the tools to promote inclusive practices through outreach, mentoring and ambassador activities. Specifically, we are industry leaders in policies making assessment accessible for neuro diverse people and developing education products such as the Domestic Electrician apprenticeship which combines green energy technology with a route more suitable for career changers and women re-entering the workforce to become electricians.

We also recognise the need for leadership development as solar businesses grow and would support efforts to expand access to programmes like **Help to Grow** for SMEs in the electrotechnical space.

PART TWO

DELIVERING A SKILLED WORKFORCE TO MEET THE CHALLENGE

Context: The Rise of Solar in the UK

Electric Revolution

The UK is undergoing a profound transformation in its electrical landscape, driven by the political imperatives of net-zero. This 'electrical revolution' encompasses renewable energy generation, electric vehicles (EVs), heat pumps, battery storage systems, and smart home technologies all of which rely on skilled electrical professionals. Solar photovoltaic (PV) systems are central to this shift. From a negligible 22 megawatts (MW) of installed capacity in 2008, the UK reached nearly 19 GW by July 2025, as reported by the Office for National Statistics (ONS) and the Department for Energy Security and Net Zero (DESNZ). This growth reflects both technological advancements and policy momentum.

The 45-47 GW target is a cornerstone of the UK's clean energy strategy. The reconvened Solar Taskforce (October 2024 – June 2025) confirmed this as the National target, giving us a 5-year ambition with a stretch option of up to another 10 GW. Ed Miliband's vision of a 'solar rooftop revolution' seeks to equip millions of homes and businesses with PV systems, underpinned by strategies in the new solar roadmap published June 2025. This roadmap prioritises ethical supply chains and workforce development.

Recent approvals of nationally significant projects, such as Mallard Pass, Sunnica, and Cottam, demonstrate tangible progress, surpassing the cumulative approvals of the previous 14 years.

Technological Evolution

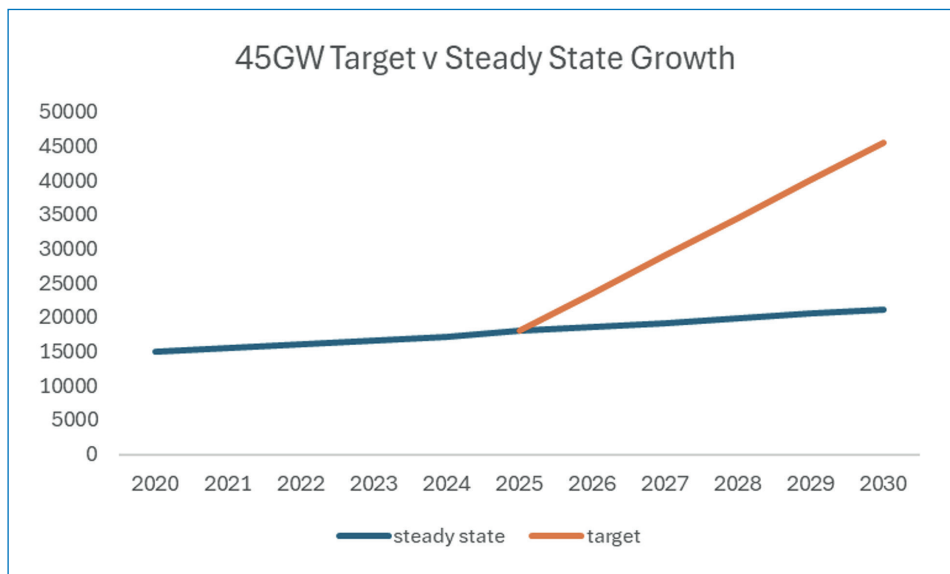
These are significant projects and they, as well as domestic installations, support the green energy revolution, but solar technology has evolved significantly. Early panels, with conversion efficiencies of 4% and peak outputs of 100 watts (W), have given way to modern units delivering 400 W at 20% efficiency with tests in laboratory conditions even achieving 34%. Even in the UK's cloudy climate, with an average conversion rate of 10%, these improvements still enable substantial solar energy production. A typical array now generates meaningful output, making solar viable across diverse applications, from rooftops to large-scale ground-mounted installations for commercial purposes.

As of July 2025, the UK's solar capacity stands at between 18-19 GW, representing 39% of the 2030 target.

DESNZ data break this down by installation size: small domestic systems (0-4 kW) account for most units, while larger commercial (50 kW-5 MW) and ground-mounted projects (5-50 MW and above) contribute significantly to total capacity. This mix reflects both widespread adoption and the growing role of utility-scale developments.

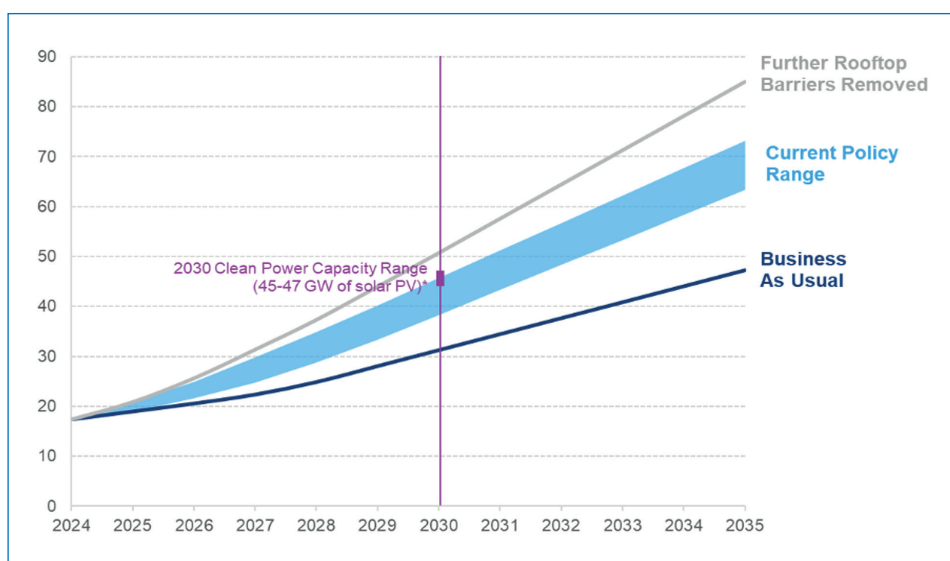
Reaching the 45 GW target entails installing an additional 26 GW from summer 2025 levels.

However, this figure rises to 36 GW or an effective 55 GW target when accounting for the replacement of ageing systems. Approximately 900,000 installations from 2008-2018, totalling 10 GW, will reach end-of-life between 2028 and 2038. We believe this dual demand amplifies the challenge of ensuring a ready supply of skilled electricians able to implement these targets.



The graph above shows the huge increase of acceleration needed in solar installations from steady state, solar installations need a kick-start and to be ramped up substantially if the 45GW target is to be reached. This leads us to ask, is the workforce ready to support this challenge?

This aligns with DESNZ projections for 2025 – 2030 and beyond (below):



Industry Profile

The solar installation businesses we surveyed, averaged eight employees. They typically employ two qualified electricians, two apprentices, and one trainee. Solar PV projects dominate their workload (70% of time), with the remainder split across heat pumps, EV charge points, solar thermal, and general electrical tasks. This versatility underscores the sector's adaptability but highlights the challenge of scaling specialist skills.

Workforce Expansion, Benchmarking Demand and On the Ground Realities

The Solar Roadmap states: *"The latest Low Carbon and Renewable Energy Economy (LCREE) survey estimates there were around 9,000 direct full-time equivalents (FTEs) and 8,500 indirect FTEs working in the sector in 2022 across the UK. As the sector expands, we estimate this number to grow significantly. DESNZ analysis suggests that solar PV could support up to 35,000 direct and indirect jobs in GB, to support the solar capacity required for Clean Power by 2030."*

If we use these figures, we can estimate the expansion needed to reach the 2030 target of 45 GW and the stretch potential of 55GW.

The simplified calculation of workforce requirements shows, if 16 GW in 2022 required 9,000 direct FTE and 8,500 indirect FTE workers, then the workforce required for 45 – 55 GW in 2030 would need to expand to between 25 – 31k FTE workers and 24-29k FTE indirect workers, not accounting for increased productivity or economies of scale.

It is worth considering that increased efficiency in the installation process could change the final figures, and that they could also be impacted by any one of several potential technological improvements (e.g. perovskite or solar films, a change to the panel constituents) or even further Government interventions.

Independent research by Pye Tait showed that in 2021 about 1,300 of the solar workforce were qualified electricians. If we take the "double the workforce projection" from the solar roadmap, this suggests that the solar sector alone would require at least an additional 1,300 electricians by 2030, or **an extra 325 electricians per year concentrating solely on solar**.

However, between 2022 and 2023 the electrician and electrical fitter workforce (SOC 5241) in total fell from c230k to 219k. a drop of just over 5%.

Approximately 4500 apprentices qualify as electricians in England every year. UK wide, the number rises to over 7000 when other training routes (adult NVQ and Experienced Worker Assessment) are also included.

The solar requirement would mean that 325 per year or around 5% of these newly qualified electricians would need to join the solar workforce. While modest in isolation, this demand competes with parallel pressures from new housing, EV infrastructure, heat pump rollouts, smart grid expansions, and wider electrification of the economy, all reliant on the same skill base, and which are all in addition to the increasing demand for electricians due to retirement of the current workforce. It should be noted that the number of electrical apprentice starts has increased in recent years and numbers completing EWA continue to rise, providing some mitigation to this level of demand.

Our estimate of the time taken – including how much **qualified electrician time is needed per new solar installation** is broken down here:

Installation durations vary by scale, based on industry feedback:

- Small Domestic (up to 5 kW): 1.5-2 days, requiring 0.5-1 electrician. Government estimates of one day are deemed optimistic, applicable only to serial new builds.
- Large Domestic (5-10 kW): 2-4 days, 1-1.3 electricians.
- Commercial Rooftop (up to 1 MW): 6-10 days, 4-6 electricians.
- Medium Ground-Mounted (up to 25 MW): 20-50 days, 10-15 electricians.
- Large Ground-Mounted (up to 50 MW): 150-200+ days, 25-50 electricians.

Type of Project	Power rating	Realistic average time (working days of all site workers not including planning/design)	Number of qualified electrician-days required
Small Domestic	Up to 5kW	1.5 to 2	0.5 to 1
Large domestic	5 kW to 10kw	2 to 4	1 to 1.3
Commercial/industrial rooftop	Up to 1MW	6 to 10	4 to 6
Medium	Up to 25MW	20-50	10 to 15
Large	Up to 50MW	Ca. 150-200+	25 to 50

This baseline can be used for more detailed scaling projections and we would urge DESNZ and Solar Energy UK to work with the electrical contracting industry, via ECA, to agree specific targets for qualified electricians that could be supported by a ringfenced budget to support electrician apprenticeships.

Training and Qualifications: Building Capacity

This demand leads us to ask how do we build and scale capacity of the electrician workforce? We are a safety critical industry, and we have critical non-negotiable standards to reach and maintain. Understanding electrical scientific theory and principles and demonstrable occupational competence are important for the safe installation of technologies such as solar photovoltaic (PV) panels and battery storage systems. Along with desired behaviours and experience, these core competences of a qualified electrician are the foundation from which we can upskill and train.

Qualified electricians, certified via apprenticeships/ equivalent routes plus and the industry-recognised AM2 assessment of competence, form the backbone of solar deployment. Routes include traditional apprenticeships, self-funded adult pathways, and experienced worker assessments (see www.electricalcareers.co.uk/routes). The **Electrician Plus** initiative by TESP articulates a robust upskilling process from **core competences to specialist skills**, supported by kitemarked qualifications (a full list of which can be found at the end of this report).

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.

Rising Demand, Constrained Supply

Adults, including those seeking to change careers, are encountering significant hurdles in their pursuit of qualified electrician status, often citing a shortage of training providers and difficulties in securing the necessary employment or work experience to complete their programmes. This issue is compounded for those pursuing the Experienced Worker Assessment, where both a lack of providers and insufficient public funding create additional barriers. Similarly, full-time courses and T-level programs face their own challenges: progression into apprenticeships remains low, and with T-levels specifically, there's the added difficulty of recruiting enough employers willing to offer essential work placements.

We saw in the latest statistical release, for the first time, a decline in the number of electrical apprenticeships starts. This reflects a broader trend of declining availability, with respondents in regions like London, the West Midlands and Cambridgeshire among those reporting that apprenticeship opportunities are becoming harder to access.

Steady progress won't suffice; an accelerated increase is essential. The Roadmap signals welcome positive intent, but execution hinges on workforce readiness which in turn is reliant on a well-functioning skills infrastructure.

Businesses are expressing concern over future scalability. A shortfall in apprentice funding and training infrastructure could derail momentum, particularly as solar competes with other electrification priorities.

CONCLUSIONS: A FEASIBLE BUT FRAGILE PATH

The 45-47 GW target, plus 10 GW of stretch target and renewals, is still achievable with concerted effort. From 18 GW and 1,300 electricians, we must reach 45 GW and a minimum of 2,600 electricians by 2030. This demands 325 new FTE electricians annually which is still currently achievable but extremely stretching amid broader electrical demands. Training frameworks are robust, but funding and capacity must scale quickly to avoid bottlenecks. Policy momentum is strong, yet success rests on fortifying the electrician pipeline. Without it, the solar revolution risks fading.

Appendix A: TESP

The Electrotechnical Skills Partnership (TESP) delivers a wide range of activity to support electrical industry employers' skills needs. We work collaboratively in partnership with a broad range of employers, providers and industry organisations to promote sector careers and progression, influence change, uphold and improve industry standards and build a picture of future skills needs.

Through our work, we aim to ensure a robust, high quality competence framework is in place for training and current and new occupations, from entry-level and apprenticeships through to higher-level apprenticeships and qualifications.

TESP is a not-for-profit Community Interest Company and receives funding only from its members to invest into projects to support the electrotechnical industry and its skills needs.



www.eca.co.uk

ECA is the UK's largest trade association representing electrical engineering and contracting companies. Its members range from local electricians to national companies with several branches employing thousands of people, and it is the natural home for employers working in all aspects of electrical contracting.



www.netservices.org.uk

National Electrotechnical Training (NET) is an independent industry charity which develops and delivers assessments of occupational competence (end tests) on behalf of the electrical and engineering industries in the UK. As a registered charity, any surpluses generated by NET's operations are re-invested in supporting the development of vocational skills in the industries it serves, in line with its charitable objectives.



www.unitetheunion.org

Unite the Union has a long history of supporting training for the electrotechnical workforce, working in partnership with employers to accredit and advance skills, and stressing the importance that high quality industry recognised apprenticeships play for skills development, career progression and ensuring the long term sustainability of the UK skills base.



www.jib.org.uk

The **Joint Industry Board (JIB)** has 700 member companies who apply terms and conditions of employment negotiated by its founders. It also administers the Electrotechnical Certification Scheme (ECS) in England, Wales and Northern Ireland, accrediting the qualifications and skills of 160,000 individuals working in the industry.



www.select.org.uk




































SELECT is the trade association representing the electrical installation industry in Scotland. With a turnover of £1 billion per annum, SELECT's 1,200 member firms employ 15,000 fully-qualified SVQ 3 electricians. SELECT also administers the Scottish Joint Industry Board on behalf of itself and its SJIB partner, Unite the Union.

Appendix B: A unique competence and skills ecosystem

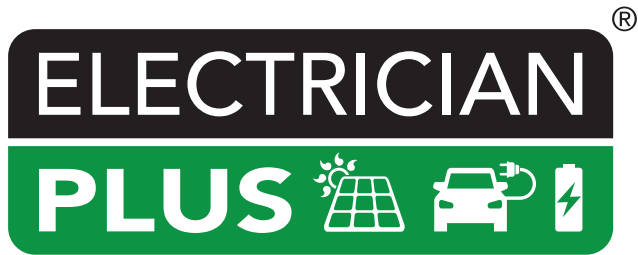
The electrical industry skills ecosystem illustrated below helps to explain how an SME dominated sector has been able to reconcile high competence and training standards (e.g. four-year level 3 apprenticeships) with consistent, large scale take up of apprenticeships and other qualifications by businesses and individuals alike.

This positive picture contrasts with most other trades in the UK built environment, and relies on a combination of extensive cross-sector alignment and collaboration and Government support.

UK ELECTROTECHNICAL COMPETENCE AND SKILLS DEVELOPMENT ECOSYSTEM

	ENTERPRISES	INDIVIDUALS	ENGAGED STAKEHOLDERS
Size	SIC 4321. c. 50,000 UK electrical installation contracting businesses. 99.8% SME; 99.3% small, micro or sole trader.	SOC 5241. c. 215,000 UK 'electricians and electrical fitters'. At least 40,000 of these currently fall short of industry general qualification benchmark (<i>below</i>).	   
Standard setting	EAS <u>Electrotechnical Assessment Specification (EAS)</u> Management Committee.	TESP <u>The Electrotechnical Skills Partnership (TESP)</u>	   
General qualification benchmark/ recognised training routes	 EAS Qualifications Guide aligns with TESP's standards for individual competence recognition (<i>next column</i>) + Government Mandatory Technical Competences (MTCs) for Competent Person Schemes (CPS). Individuals not meeting full L3 qualification benchmark restricted in work they may do unsupervised.	 <ol style="list-style-type: none"> L3 Apprenticeship - up to 9000 UK starts annually (King's Coronation 'green apprenticeships' emblem) L3 Experienced Worker Assessment Adult self-funded NVQ L3. AM2  Since 1990s, all recognised routes also require completion of AM2 industry end-point assessment of competence.	     
Clean energy upskilling benchmark/ recognised training routes	 EAS Qualifications Guide once again aligns with TESP individual standards (<i>next column</i>) + MTCs.	ELECTRICIAN PLUS  Robust, short-course upskilling qualifications for L3 fully qualified electricians to install EV charging, solar PV and battery storage. TESP 'Electrician Plus' kitemark.	   
Other relevant upskilling/ progression	 EAS Qualifications Guide confirms additional L3 testing and inspection qualification required for some work, e.g. NZ. (<i>as next column</i>).	 Additional L3 testing and inspection qualification required for some work, e.g. NZ. Various L4+ apprenticeship/upskilling routes, e.g. L4 building energy management systems .	  
Third Party Certification	  Competitive market, regulated for domestic installations (MTCs + EAS); otherwise, industry self-regulation (EAS). NICEIC & NAPIT market leaders.	 Electrotechnical Certification Scheme (ECS) . Member of CSCS Alliance. 126,000 ECS electrical cardholders ('gold card' electricians + electrical labourers) as of September 2024.	
Trade representative bodies	 Electrical Contractors' Association (ECA) (UK, excl. Scotland)  SELECT (Scotland)	 Unite the Union Joint Industry Board (UK, excl. Scotland)  Scottish Joint Industry Board	

Appendix C: Electrician Plus



Electrician Plus has been launched by TESP to highlight how the role of a qualified electrician is central to the installation of low carbon and renewable technologies.

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.

[Read the full story on the Electrician Plus launch](#)

First kitemarked qualifications

The following qualifications that have been awarded the Electrician Plus kitemark.

These qualifications in relevant low carbon technologies with appropriate pre-requisites reflect 'Electrician Plus' principles and are operating in full compliance with the industry assessment strategy and have been reviewed in detail by the ECS technical approval group.

- City & Guilds 2921-31 Level 3 Award in the Design and Installation of Domestic and Small Commercial Electric Vehicle Charging Installations 610/0899/0
- City & Guilds 2921-32 Level 3 Award in the Design and Quality Assurance of Large Scale Electric Vehicle Charging Installations 610/1497/7
- City & Guilds 2921-33 Level 3 Award in the Installation and Maintenance of Large Scale Electric Vehicle Charging Installations 610/1420/5
- City & Guilds 2921-34 Level 3 Award in the Requirements for the Design and Installation of Domestic and Small Commercial Electric Vehicle Charging Installations 610/4640/1
- City & Guilds 2922-34 Level 3 Award in the Installation and Maintenance of Small Solar Photovoltaic Systems 610/4841/0
- City & Guilds 2923-34 Level 3 Award in the Design, Installation and Commissioning of Small Electrical Energy Storage Systems 610/4840/9
- EAL Level 3 Award in the Installation of Small Scale Solar Photovoltaic Systems – 600/5175/9
- EAL Level 3 Award in the Requirements for the Installation of Electric Vehicle Charging Points – 603/3929/9
- EAL Level 3 Award in the Design, Installation and Commissioning of Electrical Energy Storage Systems – 610/2091/6
- BPEC Level 3 Award in the Installation of Small Scale Solar Photovoltaic Systems
- BPEC Electrical Energy Storage Systems
- LCL Awards Level 3 Award in the Installation and Commissioning of Electric Vehicle Charging Equipment in Domestic, Commercial and Industrial locations – 603/4908/6
- LCL Awards Level 3 Award in the Installation and Maintenance of Small Scale Solar Photovoltaic Systems – 600/5775/0
- LCL Awards Level 3 Award in the Design, Installation and Commissioning of Electrical Energy Storage Systems – 603/7131/6

'Electrician Plus'/'Electrician +' is a TESP trademark and can only be used as detailed in the separate User Agreement. The logo denotes a qualification which has been approved by TESP for the purpose of CPD or upskilling for qualified electricians. It does not provide any endorsement of the quality of delivery by individual training providers.

Training Providers who wish to apply to use the Electrician Plus kitemark in marketing or web-based material related only to the specific qualification(s) they offer, please [download the User Agreement](#) and associated [Corporate Guidelines](#), complete all relevant fields in the user agreement and return to info@the-esp.org.uk