



**SKILLS FOR A
SUSTAINABLE
SKYLINE TASKFORCE**

*'Creating a Skilled
Workforce for Central
London's Sustainable
Skyline'*

**Skyline Skills
Recommendations
Report 2023**

Table of Contents

01.

Foreword

● Page 03

02.

Executive Summary

● Page 05

03.

Recommendations, Evidence, and Taskforce Actions

● Page 12

1. Planning Pipeline

● Page 15

2. Industry Accountability

● Page 20

3. Training and Apprenticeships

● Page 27

4. Policies for a Skilled Workforce

● Page 39

5. Diversity and Culture

● Page 45

6. Promotion and Engagement

● Page 54

04.

Conclusion

● Page 62

05.

Appendix

● Page 64

01



Foreword



The Taskforce Chair

Over the past year, the Skills for Sustainable Skyline Taskforce has worked at pace to build the evidence base on skills gaps and workforce shortages across Central London's sustainable commercial built environment sector. The findings and recommendations outlined in this report were produced after extensive conversations with industry leaders and experts. The report also includes an exhaustive review of existing research and data.

The built environment sector has a momentous role to play in helping London – and the UK as a whole – reach net zero by reducing its embodied and operational carbon emissions. We must radically rethink the path forward for the sector; there has never been a more important moment for change. However, London is still lacking a workforce with the skills needed to carry out new, innovative construction methods that would enable the sector to reach its sustainability goals. By some estimates, the UK is anticipating that over 100,000 people will need to be recruited and upskilled to carry out the work required for our upcoming projects.

While this number continues to tick upwards, there are many challenges preventing progress from being made. A lack of a nationwide strategy on commercial buildings has led to inconsistent requirements being applied at the local level, creating lopsided demand for skilled workers. Qualifications, training offers, and apprenticeships are not currently fit for purpose and are not being delivered quickly enough to match emerging roles. Additionally, the sector has a dire image and diversity problem that is making it difficult to attract and retain new entrants.

At the City of London Corporation, we are dedicated to creating a vibrant and thriving City and supporting a diverse and sustainable London. The Skills for Sustainable Skyline Taskforce has been pivotal



Keith Bottomley
Taskforce Chair

in driving that agenda forward. I believe that the recommendations the Taskforce has devised can help the sector prepare for a more sustainable future.

I am greatly encouraged by the wide range of stakeholders from across the built environment sector who are eager to put in the work to make the sector more sustainable, and to upskill and train new workers. I have also been very impressed by the Taskforce members who have been diligent in finding and analysing evidence to support these efforts. I thank them all sincerely for their commitment to driving change.

It is my hope that this evidence report will act as a call to action for our sector's employers, government, and professional bodies. We need greater collective action to address the workforce gaps in the sector if we are to meet our climate goals.

02



Executive Summary



Executive Summary

The Issue

The built environment is critical in supporting Central London's transition to a green economy. The Government has set legally binding targets to achieve net zero by 2050 and local authorities have set even more ambitious targets¹. The Greater London Authority has set out their target for London to be net zero carbon by 2030², while the City of London Corporation has committed towards achieving net zero for the Square Mile by 2040, in their Climate Action Strategy³. Buildings have an enormous carbon cost, and reducing emissions in the sector will be pivotal for taking tangible actions to address climate change.⁴ In particular, the promotion of retrofit and refurbishment, instead of the traditional process of demolishing older buildings and replacing them with new builds, leads to significant carbon savings by cutting down on the usage of concrete and other materials, as well as providing improvements in energy efficiency⁵.

In London alone, buildings contribute to 76% of greenhouse gas emissions.⁶ Whether it is materials with a high carbon footprint being used for infrastructure, the energy to heat and cool a building using oil and gas, or the air pollution from diesel-run machinery, building and running commercial properties can come at a great expense to the planet.

Many global cities are radically rethinking the path forward for the sector. For example, Oslo, in Norway is using public procurement to ensure that all construction sites are net zero by 2025.⁷ New

York City is also making radical changes to the way commercial properties operate by legally requiring large buildings to reduce carbon emissions by 40% by 2030 and 80% by 2050.⁸

New technologies, materials, and the circular economy are leading to a radical shift in how the sector designs and builds commercial properties. The built environment sector in London can be ambitious in leading the charge to become more sustainable with novel and innovative solutions. These new ways of working will come with new skills needs, necessitating a fundamental rethink around the sector's current provision of training offers, including apprenticeships, university degrees and vocational qualifications.

The sector must capitalise on the momentum to achieve net zero and come together to achieve a greener future. Not only is this imperative to meet wider climate targets, but London's building occupiers and clients are starting to demand more sustainable buildings and design. Companies are increasingly trying to meet their own organisational climate commitments and are using sustainable properties and building operations to evidence reductions in carbon emissions.⁹

Regulation is also trying to edge the sector towards a greener future: The UK Government has extended its new Minimum Energy Efficiency Standards (MEES) by forbidding landlords from leasing non-domestic properties with an EPC (Energy Performance Certificate) rating of below E from April 2023.¹⁰ Additionally, there is a government consultation underway to review if it should pass a requirement that all non-domestic buildings must have an EPC rating of at least B (or have a valid exemption) by 2030.

¹Net Zero Strategy: Build Back Greener - GOV.UK (www.gov.uk)

Net zero by 2040: City set to become a world leader in climate change fight (cityoflondon.gov.uk)

Borough Climate Action Plans and Targets | London Councils

²<https://www.london.gov.uk/programmes-and-strategies/environment-and-climate-change/climate-change/zero-carbon-london/pathways-net-zero-carbon-2030>

³<https://www.cityoflondon.gov.uk/services/environmental-health/climate-action/climate-action-strategy>

⁴Building retrofits: the underrated weapon in the fight to decarbonise cities | Podcasts | Eco-Business | Asia Pacific

⁵<https://www.netzerocarbondesign.co.uk/guide/early-decisions/retrofit-or-new-build/summary#:~:text=It's%20commonly%20used%20to%20describe,efficiency%20and%20reduce%20carbon%20emissions>

⁶London Building Stock Model | London City Hall

⁷How Oslo Learned to Fight Climate Change | The New Yorker

⁸NYC Green Building Law Takes Aim at Building Energy Efficiency | ROCKWOOL Blog

⁹[jll-green-leasing-2.0-march-2023.pdf](https://www.jll.com/insights/green-leasing-2.0-march-2023.pdf)

¹⁰<https://www.dentons.com/en/insights/articles/2023/april/12/minimum-energy-efficiency-standards-in-buildings-update-april-2023>

Market demands and regulatory requirements are making it imperative for built environment organisations to make greater investments in sustainability.

The need for action

One of the built environment sector’s biggest roadblocks to tackling its carbon footprint is a lack of skilled workers across the whole project life cycle to deliver more sustainable commercial properties. This challenge is particularly acute across Central London, which has the largest concentration of commercial buildings in the UK.



By 2050
10%

of built environment jobs in London will be “green jobs” – defined using the UK Green Building Council’s framework for green skills¹¹– for both homes and non-domestic buildings.

The number of additional built environment workers needed is surging into the thousands, but the workforce is not growing enough to meet this demand.

There are not enough people with the necessary sustainability skills to reduce carbon emissions at various project stages, including in construction, design, and in-use.

For example, in 2022, there were a mere **506** TrustMark retrofit co-coordinators accredited out of the **30,000** people needed for a 2030 government target.¹²

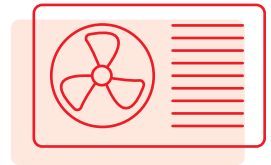
¹¹Net-Zero-Carbon-Buildings-A-framework-definition.pdf ([ukgbc.org](https://www.ukgbc.org))

¹²‘Pitiful’ progress made towards retrofit skills target | Construction News

¹³Shortage of trained heat pump installers could set back net zero - Climate Action

¹⁴Why is construction short of labour and what is the solution? - Construction Management

For the next six years, the sector will need to train 2,000 to 3,000 heat pump engineers annually to meet the demand for installation.¹³



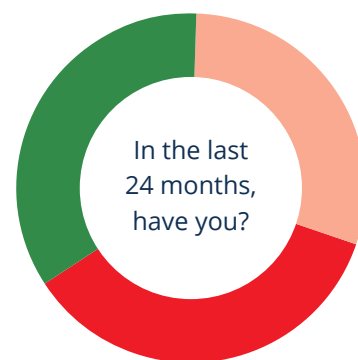
Reports also suggest that employers are having to undergo months-long searches to recruit qualified workers for sustainable roles.¹⁴

It is not just new entrants that need skills training, but the existing workforce as well. The core skills for most occupations are evolving, and the built environment and government need a more agile approach to training that recognises lifelong learning. The industry needs to continue training people as technology and methods change, to ensure employees’ skills are at pace with industry demands.

Apprenticeships are also a valuable way to provide workers with practical, relevant experience within an organisation, but these placements are not being utilised fully by the industry due to a lack of consistent local policies and a lack of time and resources.

34.8%
Invested in training in green skills?

29.9%
Taken on an apprentice?



35.3%
Hired a graduate?

Despite the challenges ahead, a third of respondents from a Taskforce survey of over 100 organisations across the built environment, took on an apprentice, hired a graduate or invested in green skills training. This suggests an inherent willingness in the sector to invest in skills.

The Role of the Skills for a Sustainable Skyline Taskforce

The Skills for a Sustainable Skyline Taskforce was formed with these rapidly growing skills gaps in mind. The Taskforce was launched by the City of London Corporation to bring leaders from across the industry together to collectively identify and address the green skills gaps throughout Central London's commercial built environment. The Taskforce has convened over 300 organisations from across the built environment, all of which are prepared to collaborate to solve this issue.

Taskforce members feel strongly that the growing skills gaps in 'green jobs' is one of the biggest business challenges that they currently face. The wider industry agrees, with 44% of respondents in a Taskforce survey saying the built environment lacks skilled workers to achieve net zero targets.

“Recruiting skilled people is the biggest challenge we face, followed by a lack of education from some of our clients [on sustainability],”

- said a Taskforce member at the executive level.

As a Taskforce, we want to ensure that the built environment has access to a skilled, diverse workforce which is trained and qualified to construct, retrofit, and manage the buildings of tomorrow. Its goal is to ensure that the industry remains vibrant and globally competitive.

Why we want to grow the sector's skilled workforce:

- To deliver a low-carbon commercial building stock that aligns with the legally binding 2015 Paris Agreement, to keep future global warming to well below two degrees Celsius, to protect biodiversity, and to limit unhealthy levels of air pollution.

- To ensure that buildings within Central London can adapt to the impacts of climate change that we are already experiencing, including flooding, heat stress, and drought.
- To enable a just transition from high-carbon employment to low-carbon employment within the built environment sector.
- To ensure that the built environment employment sector is open and inclusive to all potential employees and attracts diverse talent.

The Taskforce will facilitate this by working across the built environment and government to deliver real change across Central London's workforce by using available policy, influence and communications levers to overcome systemic skills barriers to action.

Based on the evidence the Taskforce has collected, and views of the Taskforce Strategy Steering Board, a series of recommendations have been made to solve the skills crisis. While some of the evidence provided is already well-understood by the built environment sector, we feel it is critical to identify recommendations supported by evidence.

It is evident that the case for urgent prioritisation of investing in skills is compelling – swifter measures need to be implemented to close the skills gap, especially so if London is committed to reaching net zero.

Top Line recommendations

The Taskforce has undertaken an initial literature review¹⁵, conducted a sector-wide skills survey, interviewed key stakeholders – including students and teachers – and held roundtable sessions to inform the evidence discussed in this report.

The Construction Industry Training Board (CITB) has contributed to this report by analysing planning data to highlight impending skills gaps and to set out the upcoming pipeline of projects. Arup and the Task Group members have also conducted sector interviews to outline specific roles and skills needed for the future.

¹⁵Literature Review undertaken by Work Advance in 2022: <https://www.cityoflondon.gov.uk/supporting-businesses/business-support-and-advice/skills-for-a-sustainable-skyline-taskforce/skills-for-a-sustainable-skyline-taskforce-recent-news>

The focus for the Taskforce in 2023 will be to reflect on the recommendations from this evidence base report, and to identify which recommendations will be the most feasible and impactful to implement in the short term. A range of volunteers from across the built environment will then spend the year project planning these agreed interventions so that they are ready to be implemented and then evaluated over the course of 2024-25.

The Skills for Sustainable Skyline Taskforce has six main recommendations for government, training providers, professional bodies as well as sector (including: developers, contractors, landlords, building occupiers, professional and trade services) to address collectively.

Based on the main six recommendations, the Taskforce has also outlined tangible, granular actions each sector groups can take to work towards a more sustainable future. The Taskforce itself also has a range of interventions which it will deliver to bring about change in these areas.

About the Skills for a Sustainable Skyline Taskforce:

The Skills for a Sustainable Skyline Taskforce was convened by the City of London Corporation in 2022. The goal of the Taskforce is to gather evidence and address skills gaps across the full project life cycle of commercial buildings in Central London Forward (CLF) boroughs¹⁶.

This evidence report is the first major output from the Taskforce (see Appendix for more information on Workstream 2 and Workstream 3). The focus of the interviews, surveys, and roundtable sessions for this report was to gain insights into the current skills gaps for “green roles” and to find solutions to reskill, upskill and hire more built environment workers.

This report also builds on previous research from the Taskforce including a literature review and recommendations¹⁷ developed by WorkAdvance¹⁸.



¹⁶<https://centrallondonforward.gov.uk/about-us/>

¹⁷www.cityoflondon.gov.uk/assets/Business/skills-for-a-sustainable-skyline-literature-review.pdf

¹⁸For further details about the Taskforce working groups, definitions we used, and details about the industry consultations we completed for this report, please refer to the Appendix at the end.

High Level Recommendations



The Planning Pipeline

Recommendation 1: Create an easily accessible way to collect and share data on upcoming developments and retrofit activities within Central London so that the sector can better quantify workforce skills shortages needed to undertake the work. This platform could build on the Greater London Authority's existing platform: the Planning London Datahub.



Industry Accountability

Recommendation 2: The sector should have senior-level accountability for sustainability and skills training. Organisations should also develop targeted strategies to encourage sustainable design and retrofit as well as to work with clients and tenants to efficiently run in-use operations.



Training and Apprenticeships

Recommendation 3: Develop sustainability training, apprenticeships, and upskilling courses for emerging job roles by actively engaging and collaborating with IfATE and training providers.



Policies for a Skilled Workforce

Recommendation 4: Work with government to set more ambitious green skills legislation for the built environment. This can include exploring ways to reform Section 106 policies, playing an active role in shaping the Procurement Bill (currently being reviewed by Parliament), and reforming the Apprenticeship Levy.



Diversity and Culture

Recommendation 5: Invest in attracting diverse candidates to a wider spectrum of sustainable roles across the built environment. Achieving this will involve collecting diversity data, setting targets and strategies, and taking action to reform organisational cultures so that they are fair and inclusive.



Promotion and Engagement

Recommendation 6: Engage with schools and colleges as well as generate positive PR to better promote the sector's role in addressing climate change and its wide-ranging career pathways.

The following next steps are recommended:

| Recommendation | Skills for a Sustainable Skyline Taskforce | Industry | Education & training providers | Professional Bodies | Government |
|--|--|----------|--------------------------------|---------------------|------------|
| Create an easily accessible way to collect and share data on the upcoming pipeline of projects and workforce skills shortages by building on the GLA's The Planning London Datahub | ✓ | ✓ | | ✓ | |
| Develop or support the creation of strategies for sustainability operations, retrofit, and skills training as well as have a senior-level accountability for sustainability. | ✓ | ✓ | | ✓ | |
| Develop or support the creation of new entry-level sustainability training, apprenticeships, and upskilling courses for emerging job roles. | ✓ | ✓ | ✓ | ✓ | ✓ |
| Explore ways to reform Section 106 polices, playing an active role in shaping the Procurement Bill and reforming the Apprenticeship Levy. | ✓ | | | | ✓ |
| Support built environment organisations or collect diversity data, set targets and strategies, and take action to reform organisational cultures so that it is fair and inclusive. | ✓ | ✓ | | ✓ | |
| Promote the sector's role in addressing climate change and wide-ranging career pathways through positive PR and engagement with schools. | ✓ | ✓ | ✓ | ✓ | |

03

Recommendations, Evidence, and Taskforce Actions





Main Report

The body of this report is divided into six sections based on the recommendations. Each section will outline the specific-sector recommendations, evidence for the recommendations, and what the Taskforce will do to address the issue.

Recommendations, Evidence, and Taskforce Actions

- The Planning Pipeline
- Industry Accountability
- Training and Apprenticeships
- Policies for a skilled workforce
- Diversity and Culture
- Promotion and Engagement

Evidence, Recommendations, and Taskforce Actions

Evidence collected

Taskforce Survey responses

100+



60+

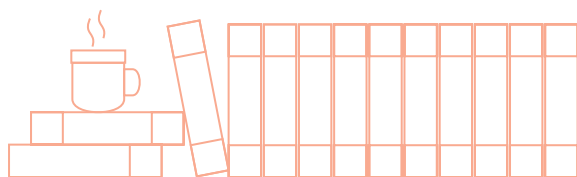
1-1 organisational interviews



CITB Planning Data: Planning data obtained for all 12 Central London Forward boroughs

Educational Survey

completed by 22 teachers and 123 students



Literature Review

6 main areas of evidence collected, and 4 strategic priorities identified

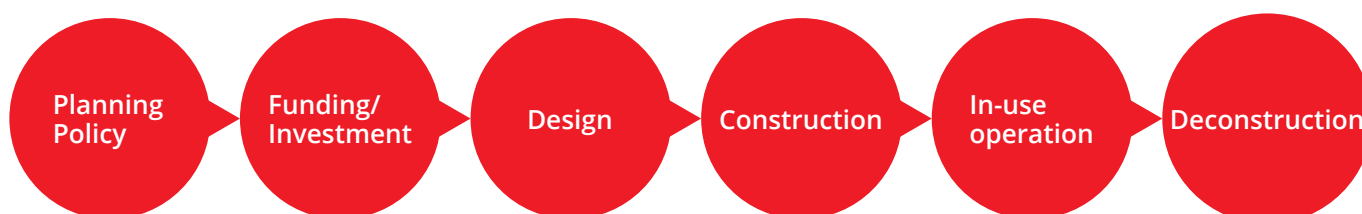
Project Life Cycle Definitions

This report seeks to identify the skills gaps across the full life cycle of commercial development from funding and strategic project creation to the in-use and deconstruction phases.

The 'RIBA Plan of Work' organises the process of briefing, designing, delivering, maintaining, operating and using a building into eight stages.

The RIBA stages can be broadly described as:

- Planning (RIBA Stage 0-1)
- Design – (RIBA Stage 2-4)
- Construction – (RIBA Stage 5-6)
- In-Use – (RIBA Stage 7)
- End of Life



The Planning Pipeline



Recommendation 1

Create an easily accessible way to collect and share data on upcoming developments and retrofit activities within Central London so that the sector can better quantify the workforce skills shortages needed to undertake the work. This platform could build on the Greater London Authority's existing platform: the Planning London Datahub.

Developers / Contractors/ Landlords/ Building Occupiers:

- Collect and share data on upcoming developments and retrofit projects to build on the GLA planning data portal.
- Consider the use of building passports or building renovation passports.
- Develop a programme to support and invest in enterprise-wide upskilling.
- Obtain an EPC rating for all commercial buildings and share the EPC data across the CLF region to build up a clearer picture of trends in green skills needs, creating greater demand for workforce upskilling and expansion.

Professional Bodies / Trade associations:

- Assist with industry projections of skills shortages across the whole project life cycle.
- Help members collect and utilise planning data.

Professional and trade services (Design and Planning, Procurement and Pre-construction, Construction Management and Skilled Trade Services):

- Collect and share data and insights around skills gaps and workforce shortages.

Policymakers (national and local):

- Develop regulation that supports greater data sharing across the built environment value chain.
- The GLA should collaborate closely with the industry to expand the Planning London Datahub to make it more useful for skills shortage projections.



Headline Findings

- The Planning London Datahub provides access to up-to-date planning information on upcoming projects but needs the sector to push for additional functionalities.
 - These include creating a centralised hub where employers can find local workers whose skills match those needed for projects, as well as a repository of case studies on sustainable development. There is an additional issue with a lack of data: only 63% of commercial properties in the CLF have a current Energy Performance Certificates (EPCs).
 - To obtain a holistic view of the scale of the retrofitting task, the Taskforce encourages all building owners in the Central London area to have an EPC assessment carried out.
- The projected growth between 2023 and 2027 suggests that the labour demand in the CLF construction sector will be around 250,370 people by 2027.
 - The annual labour demand for green skills needed to improve the energy performance of buildings rated D and below is between 4,710 and 2,360 over the next five to 10 years.



Pipeline of known projects in the Central London Forward boroughs

The geographical size of Greater London, coupled with the fact that its sprawling boroughs have a wide range of planning rules and requirements, has led to a lack of agreed-upon environmental standards for the built environment sector. A dearth of certainty around upcoming projects for commercial developments has added additional pressure, making it difficult to justify and prioritise investment in training that equips workers for the challenge ahead.

Built environment employers need the confidence of a long-term pipeline of work when deciding whether to invest in upskilling and recruitment. Feedback from Taskforce members suggests that businesses will feel more comfortable making investments in upskilling and recruitment once there is a convincing business case for doing so. Collecting data on the planning pipeline will contribute significantly to this business case.

A major barrier to assessing the scale of the shortage of skilled workers is a lack of available data covering the roles needed across the full project life cycle of the built environment. Available datasets are limited to specific roles or, at most, roles involved in one stage of the life cycle, predominantly for the construction sector.

Currently, the Planning London Datahub, hosted by the Greater London Authority (GLA) and London

boroughs, provides access to all up-to-date planning applications for upcoming developments within Central London and surrounding boroughs. While this is a step in the right direction, its functionality is limited, and crucially, it does not account for workforce needs.

Suggestions from Taskforce members on how this could be further expanded to address green skills gaps include creating a centralised hub with data on local in-demand skills — which can be matched to suitable applicants — and providing a repository of case studies of sustainable developments. These case studies would be a means of showcasing best practice and lessons on delivering sustainability, upskilling workers and attracting diverse talent. The aspiration is that this would promote a culture of collaboration, continuous learning and improvement on skills and sustainability.

Having a consolidated platform managed by the GLA with planning data is a promising start. However, the sector and training providers need to be more aware that this platform exists and can be used to obtain skills shortage projections.

Missing EPC data

There is an additional issue with a lack of data on EPC ratings: only 63% of all commercial properties in the CLF have lodged an EPC, making it difficult to ascertain the scale of retrofit and to determine the workforce needed.

EPCs for non-dwelling buildings that are being sold or rented have been required since 2013. EPCs provide an assessment of the energy performance of properties on a scale of A to G, and outline the recommendations made by the assessor as to how a building's performance might be improved.¹⁹

¹⁹From the available EPCs we have analysed the recommendations (Examples of the recommendations which are included in the EPCs are air source heat pump, cavity wall insulation, low rise external solid wall insulation, Internal solid wall insulation) which require green skills. The number of interventions represents the volume of activity which is required to be delivered. Using this volume of activity, we have used the appropriate models within CITB's Low Carbon Labour Forecasting Tool to derive the overall workforce by occupation. In carrying out the analysis, it was necessary to make the following assumptions.

- Only properties with an EPC rating of below band C were included.
- Only EPCs lodged since 2013 have been included. Where multiple EPCs have been lodged for the same property the most recent EPC has been used.
- We have assumed that the distribution of recommendations for properties which do not have an EPC is the same as for properties for which an EPC is available.

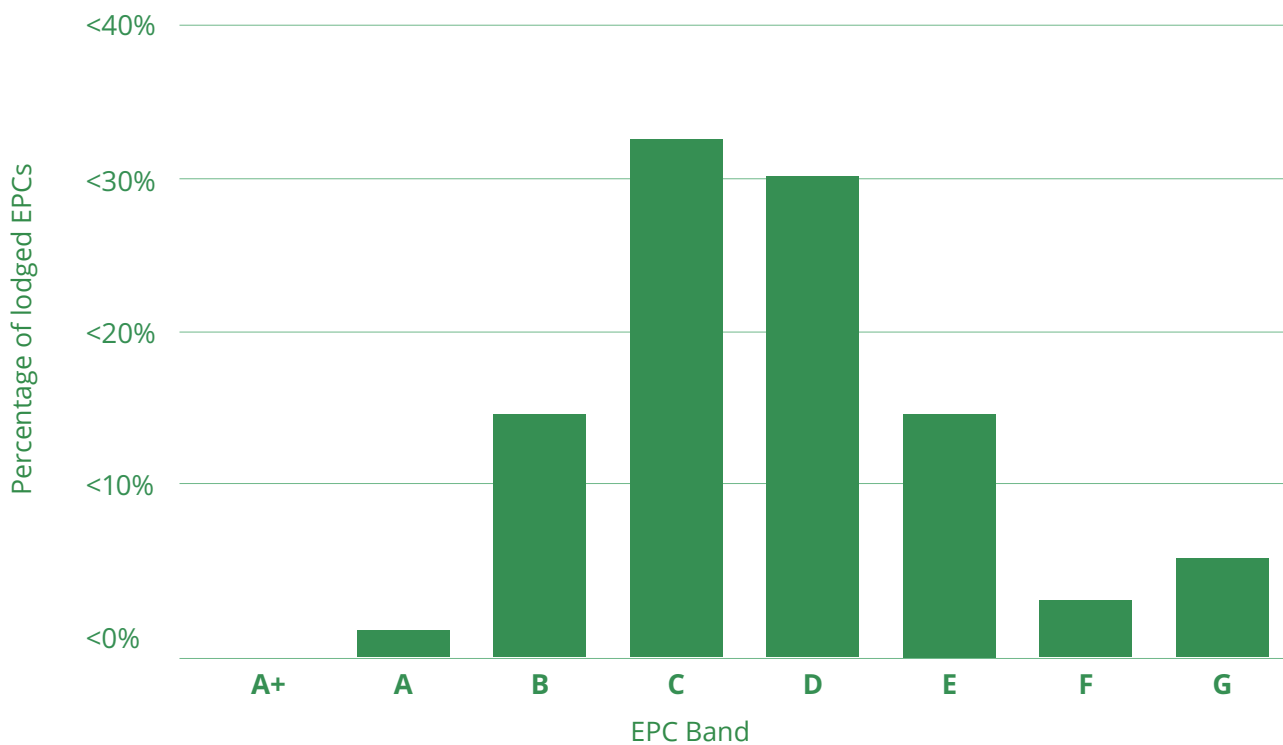
The Taskforce believes that obtaining an EPC rating is a useful starting point to determine a buildings energy efficiency. Crucially, EPC ratings also provide a clearer understanding of what roles and competencies will be required to deliver enhanced energy efficiency via improvements to the building. Sharing EPC data across the CLF region will therefore build up a clearer picture of trends in green skills needs, creating greater demand for workforce upskilling and expansion.

While EPC A+/A ratings are still behind where the sector needs to be to meet climate targets, higher C and D ratings also mean more demand for retrofit skills.

Building owners should also consider the use of building passports or building renovation passports,⁴⁹ which establish their initial state, the actions and changes that have taken place, and how this has impacted energy performance.

Figure 1 shows the breakdown of the performance ratings reported in EPCs published since 2013 for commercial properties in the CLF boroughs.²⁰

Figure 1: EPC profile of commercial properties across the 12 boroughs

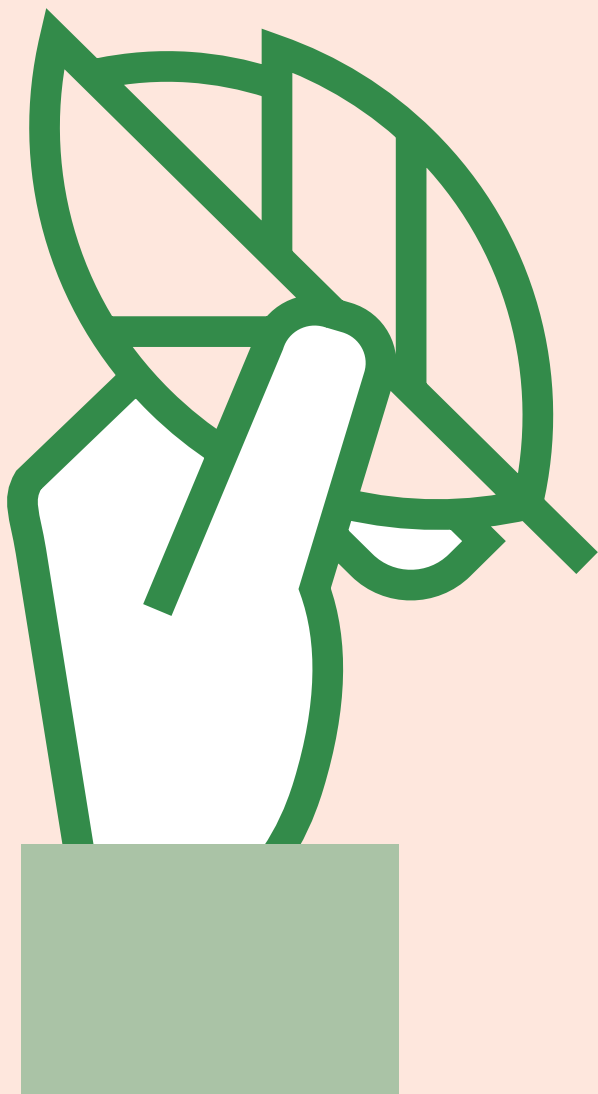


²⁰Number of commercial buildings in the boroughs derived from Department for Business, Energy & Industrial Strategy data published as part of the National Energy Efficiency Data Framework.

How the Taskforce will address this issue:

The Taskforce's interventions to drive change in this area will be scoped in 2023. They may involve the establishment of a new platform to promote sustainability improvements for commercial

developments, with available access to guidance, building data, examples of best practice, strategies, and support.



Industry Accountability



Recommendation 2

The sector should have senior-level accountability for climate goals and skills training. Organisations should also develop targeted strategies to encourage sustainable design and retrofit as well as to work with clients and tenants to efficiently run in-use operations.

Developers / Contractors/ Landlords/ Building Occupiers:

- Develop sustainability strategies to support the transition to a low-carbon built environment.
- Better prepare and assess the workforce needs to meet the Domestic Minimum Energy Efficiency Standard (MEES) regulation.
- Review procurement strategies to align with sustainability efforts.
- Invest and make a strategy for upskilling and apprenticeships to prepare for the future of the industry.
- Assign senior level champions who are accountable for-sustainability and skills training.
- Articulate to occupiers and clients the benefits of sustainable building practices.
- Ensure that owners/developers and end-users are monitoring the on-going efficiency of a building.

Professional Bodies / Trade associations:

- Help members devise strategies on sustainability, procurement and skills training.
- Provide resources for members on where employees can take training courses and where organisations can find funding for training.
- Provide advice to members on how to assign senior leaders who can champion sustainability, diversity, and skills training.
- Promote the need to work closely with clients on sustainability, including in procurement, in-use operations and construction.
- Review and invest in ways to make the industry more sustainable.
- Champion sustainability to the membership, highlighting the benefits of net zero practices.
- Help the industry prepare for the workforce shortages due to the Domestic Minimum Energy Efficiency Standard (MEES) regulation.

Professional and trade services (Design and Planning, Procurement and Pre-construction, Construction Management and Skilled Trade Services:

- Invest in research and development to support new ways of working to reduce embodied and operational carbon.
- Better prepare and assess the workforce needs to meet the Domestic Minimum Energy Efficiency Standard (MEES) regulation.
- Invest and make a strategy for upskilling and apprenticeships to prepare for the future of the industry.
- Assign senior level champions who are accountable for sustainability and skills training.



Headline Findings

- The total skills demand in Central London is significant. The skills needed to respond to the drive towards net zero carbon is expected to markedly increase year-on-year.
- The sector needs strategies to address upcoming legislation shifts, client demand, as well as internal sustainability targets.
 - Senior leaders need to champion sustainable practices by having a clear vision, objectives and by embedding sustainability into all business operations.
- Organisations that adopt sustainable practices improve their resource efficiency, create a better culture for staff, and reduce costs, studies show.¹⁸
- There is a high demand for the skills needed for the work required to meet the Domestic Minimum Energy Efficiency Standard (MEES) Regulations, and companies are reporting difficulty recruiting new staff.
 - Over 52% of all commercial properties across the CLF are currently below a C rating. Complying with proposed MEES regulation alone will result in an expected surge in retrofit.
 - For new commercial projects requiring planning permission, 92% have refurbishment as the primary activity.
- More corporate clients are committing to net zero targets. As a result, they are assessing their leased portfolio to ensure that operations, location, and buildings are in line with targets.
 - Collaborating with clients and educating them on in-use operations will enable a swifter transition to net zero.



Creating sustainability strategies and getting senior level buy-in

The drivers of commercial development in London are changing. An increasing emphasis on sustainable development and decarbonisation, alongside a change to working styles, is influencing the market at all life cycle stages of a development.

While the total skills demand by borough is significant, the skills needed to respond to the drive towards net zero carbon are expected to markedly increase year-on-year, adding additional pressure to workforce shortages. This demand is being driven by energy prices and the Government's Minimum Energy Efficiency Standards.

Transitioning to net zero will take time, investment, and innovative solutions across the industry. The sector is not yet prepared for the shift to retrofit first approach.²¹

Organisations from all sectors of the built environment need to create their own internal strategies on how they plan to achieve sustainability. This includes being up to date on relevant legislation, having a team of experts — such as engineers and designers — onboard to assist with emissions reductions, and educating clients.²²

Senior-level leadership can bring about the momentum needed to invest in the workforce. According to one study, sustainability becomes more of a focus within an organisation when senior leaders champion the approach and provide accountability. Senior leaders who take on this role are more likely to raise awareness of sustainability as well as promote these policies internally and externally with clients and contractors.²³

Leadership with clear vision, objectives and direction, which embeds sustainability into all practices will be better faced to address all challenges.

Not only is it good for the planet, but organisations that adopt sustainable practices will also improve their resource efficiency, create a better culture for staff, achieve costs savings, and improve their bottom line.²²

The demand for retrofit is set to increase

Senior leadership also needs to champion investment in skills training and apprenticeships. Taking a top-down approach to training can ensure that it is a priority.

Not only is training required to fill existing workforce shortages, but further upskilling will also be needed to respond to new regulation around energy efficiency. The Government's Minimum Energy Efficiency Standards mandates that domestic properties with an EPC rating below C will not be able to enter into new lets from 2025. This will extend to existing tenancies from 2028. From 2030, all non-domestic rented buildings must have an EPC rating of at least B, or a valid exemption.

As the legal compliance standards increase up to EPC C for new leases, more skilled workers will be needed to retrofit the current portfolio of commercial buildings to meet these standards. Over 52% of all commercial properties across the Central London Forward are currently below a C rating. Complying with MEES legislation will result in an expected surge in retrofit work. There is a significant need for upskilling and an expansion in the workforce to support retrofit at scale to upgrade these properties from D-G level to A+ to C.

The only means of achieving improved EPC ratings for current and new developments is via access to a skilled workforce that can deliver the work needed

²¹ www.londonpropertyalliance.com/retrofit-first-not-retrofit-only-a-focus-on-the-retrofit-and-redevelopment-of-20th-century-buildings/

²²(PDF) Organizational leadership role in the delivery of sustainable construction projects in UK ([researchgate.net](https://www.researchgate.net))

²³(PDF) Organizational leadership role in the delivery of sustainable construction projects in UK ([researchgate.net](https://www.researchgate.net))

to meet the newMEES standards. As this legislation comes into force, the sector needs to urgently create targeted sustainability and skills strategies to address these new changes.

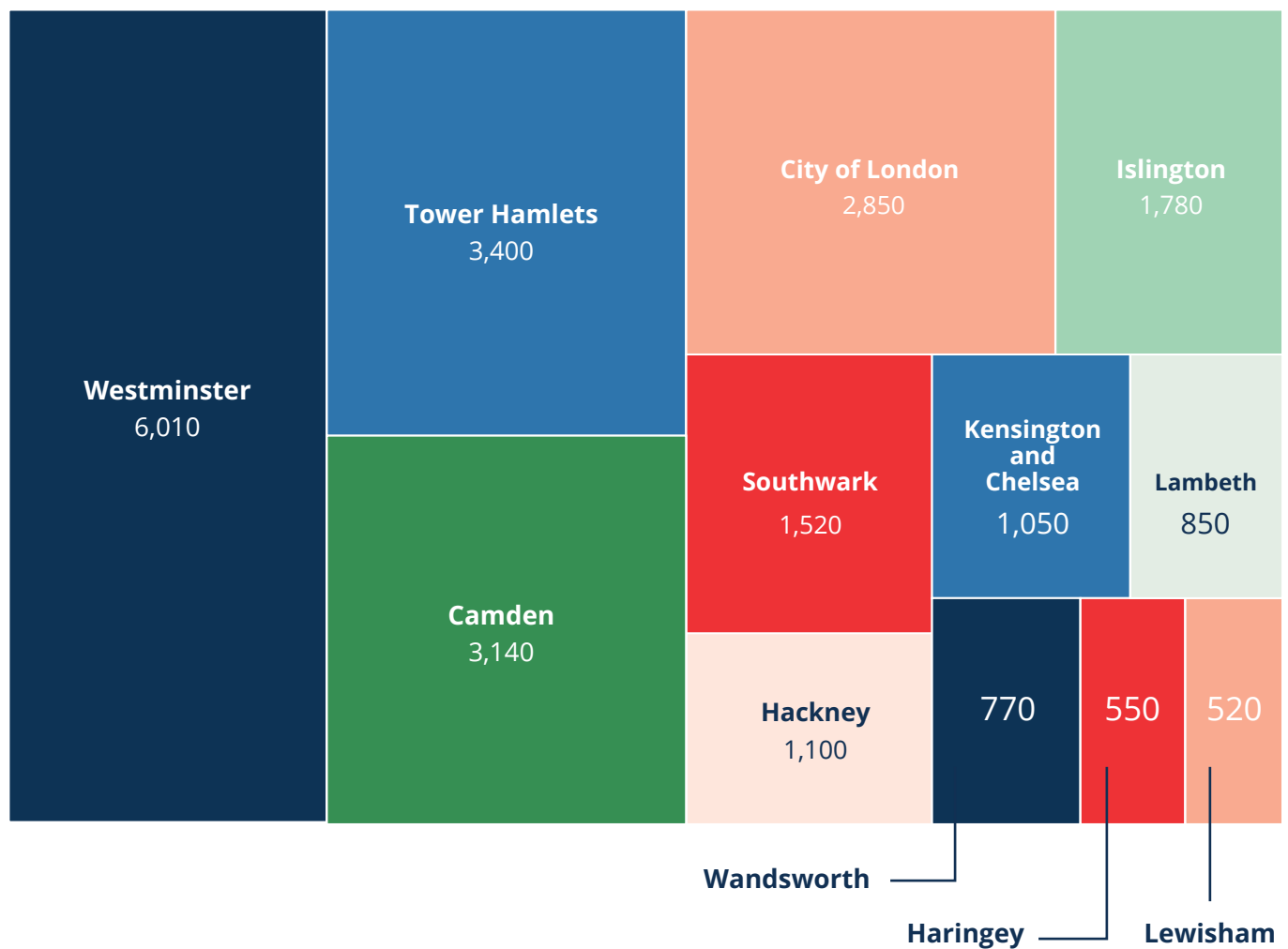
This need for more and upskilled workers also applies to refurbishments, which have lower embodied carbon emissions than new build developments. For new commercial projects requiring planning permission across Central London, 92% have refurbishment as the primary activity recorded.

Data from the UK Planning Portal shows that planning applications amounted to a combined total of 49 million square feet from across CLF boroughs over 2019 to 2022. These are split approximately

between 55% refurbishment and 45% new builds. This represents a significant volume of construction and refurbishment work. However, Taskforce members said that specific skills around delivering refurbishment works are in short supply among the workforce, so there is a need for targeted upskilling to prepare workers to deliver these projects.

The CITB estimated that the annual labour demand for skills for refurbishment, retrofit, and new sustainable technologies needed to improve the energy performance of buildings rated D and below is between 3,000 to nearly 5,000 over the next five to 10 years. The average annual green skills demand by occupation for these two scenarios is shown in Figure 2.

Figure 2: Estimated low carbon skill need for the 12 boroughs: person-years



There is a high demand for the skills that will be needed to fulfil work required to meet the legislation, and companies are reporting difficulty recruiting new staff.

Working with clients will be key to delivering net zero

Client and tenants' requests are also shifting demand. According to JLL, they have reported a trend of greater numbers of corporate clients committing to net zero targets and, in turn, assessing their leased portfolio to ensure that operations, location, and buildings all meet sustainability targets.

While some clients are more committed to driving sustainability across their portfolios than others, there is still work which landlords and the wider built environment can do to incentivise behavioural change. The benefits of sustainable building practices should be articulated to all occupiers. These include: lower whole-of-life costs, more

efficient systems, and better indoor and outdoor environments for tenants and communities. Considering sustainability at the outset can prevent challenges as legislation may become stricter in the future.

There is also a need to ensure appropriate training between teams when handing over. For instance, whilst a development could be designed to deliver energy efficient heating and lighting, if it is not operated in the correct way then its performance may be lower than anticipated. This could present a cost to the end user if the building is not performing as efficiently as possible. Ensuring clients and developers are monitoring the on-going efficiency of a building could also help them become more sustainable and present cost savings in the future.

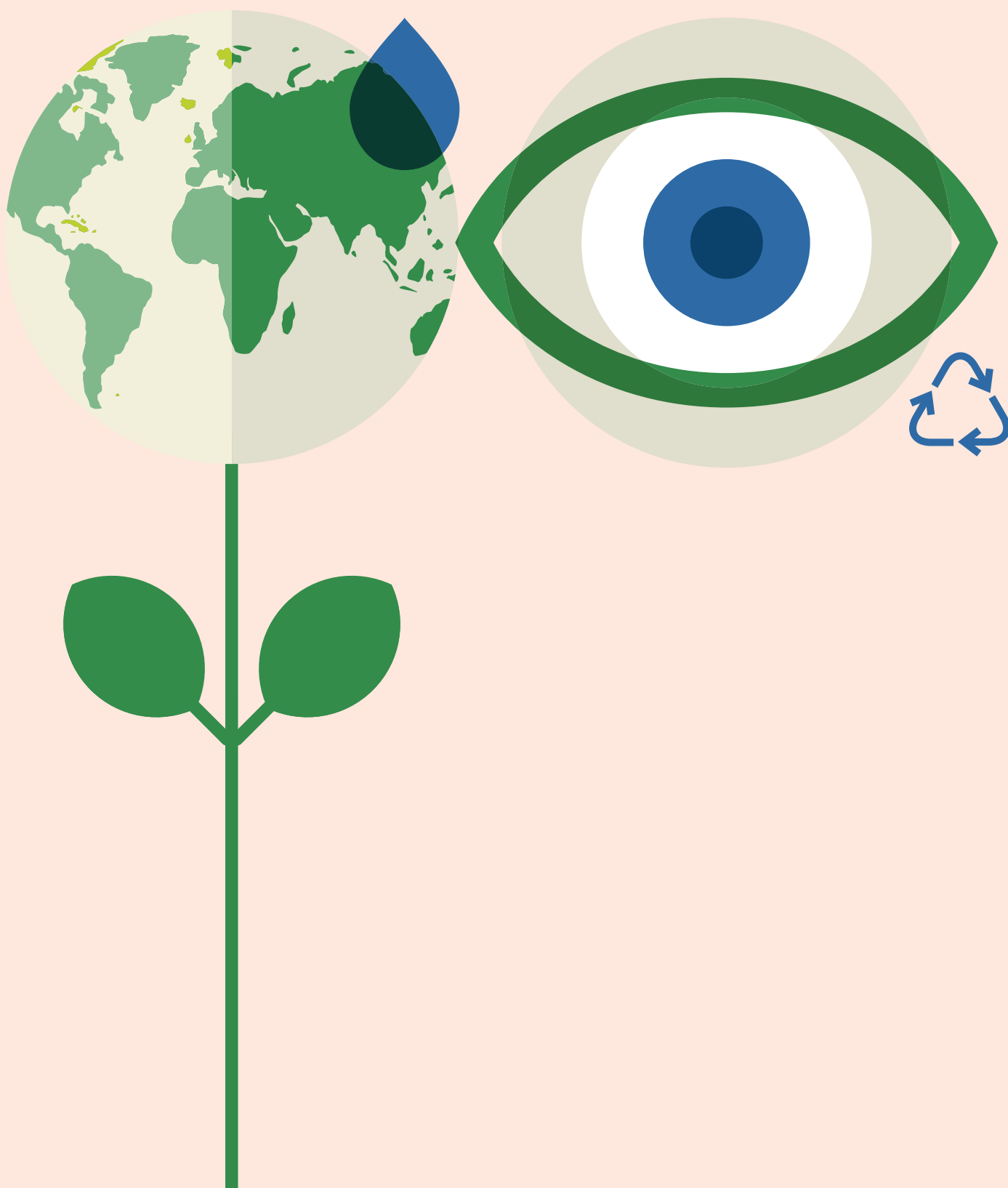
Obtaining buy-in from clients at an early stage will help projects embed sustainability from the beginning, and this will also create more certainty about the future needs for knowledge, skills and training.



How the Taskforce will address this issue:

The Taskforce will convene clients (including owners, leaseholders and asset managers) to educate them on their role in driving sustainability and related skills needs.

The aim of this exercise will be to foster a culture of healthy competition and innovation between clients as they strive to encourage their developers to strategically drive sustainability, upskilling and inclusion across their supply chains.



Case Study, Mace: Meeting Sustainability Targets

A dual approach to sustainable upskilling

Mace recognises that truly tackling the carbon challenge will take effort by the entire organisation. Having a strong sustainability team to set the strategy and drive the ambition is essential, but success will rely on every corner of the business taking action.

To build a holistic approach to sustainability, Mace recognised that they would need to take their people on two concurrent journeys. One, providing employees with technical skills, language as well as providing them with expertise in cross-industry innovations. The other, supporting and empowering employees to understand their individual impact on the environment, and how they can work to improve it in their role at Mace. The fusion of both is how Mace aims to create and sustain a responsible business and meet bold sustainability targets.

Their sustainability upskilling programme began with a few key actions which acted as a catalyst for change. As carbon emissions are such a pivotal concern for the built environment, one of the first was to launch a [carbon reduction strategy](#): Steps Without Footprints, first published in 2020. This set out a clear ambition to become carbon neutral within one year.

At Mace, they took both a bottom up and a top-down approach in communicating the

campaign which served as a rallying call to action. First, they sought to land the point throughout the business that we all have a role to play in carbon reduction.

Second, they felt it was important that their business leaders were the frontrunners in upskilling, to allow them to be the standard bearers for improving knowledge of sustainability topics across the business. So their Responsible Business team devised a green skills training programme on low carbon leadership. This began with 50 of the most senior executives at Mace, and building on its success, eventually expanded to the top 250 leaders.

This was complemented by an internal masterclass series aligned to their “Pursue a Sustainable World” business priority to engage and upskills the broader Mace group. Sessions included topics such as biodiversity net gain, responsible procurement of materials and green building certifications, among many others.

There is a lengthy road ahead to meet the demand for a workforce engaged and versed in the complexities of reaching a more sustainable built environment. The optimum way to navigate this is through enabling people to take these learnings, share best practice and allow information to cascade to clients, partners and wider networks. With the built environment working as one, the industry can accelerate towards the net zero carbon future we all strive for.

Training and Apprenticeships



Recommendation 3

Develop sustainability training, apprenticeships, and upskilling courses for emerging job roles by actively engaging and collaborating with IfATE and training providers.

Developers / Contractors/ Landlords/ Building Occupiers:

- Develop a programme to support and invest in enterprise-wide upskilling.
- Collaborate with peers via professional bodies to encourage sector-wide change at pace in areas of expanding the current offer of courses and apprenticeships.
- Create a culture of life-long learning and ongoing skills training.
- Ensure that apprentices are paid competitive market rates, receive high quality training, and mentoring schemes are in place to ensure apprentices stay in the sector.
- Work across the industry to push for governmental reform of the Apprenticeship Levy so that funds can be used for a wider-varied of training.



Professional Bodies / Trade associations:

- Help members collaborate with training providers and IfATE to develop new courses.
- Ensure that courses, apprenticeships, and learning requirements cover sustainability and new methods of construction.
- Create a central repository of information on training offers with clear definitions of sustainability and green skills and signposting to funding for upskilling.
- Work across the industry to push for governmental reform of the Apprenticeship Levy so that funds can be used for a wider-varied of training.



Training providers:

- Undertake a green skills review of all training courses.
- Develop new partnership models to encourage employers, local governments and local training providers to work together more closely.
- Develop collaborative ways of working to ensure that training meets the needs of the industry.
- Continuously review and adapt courses and content based on technological changes and skills demands, including embedding sustainability, social value, data analysis and soft skills into existing courses, delivered with real world examples.
- Develop formal, accredited training or qualifications that can be mapped to specific career paths for emerging green roles, with lower barriers to entry.



Professional and trade services (Design and Planning, Procurement and Pre-construction, Construction Management and Skilled Trade Services):

- Develop a programme to support and invest in enterprise-wide upskilling.
- Support and collaborate with the wider sector on course and qualification development, and apprenticeships.
- Ensure that apprentices are paid competitive market rates, receive high quality training, and mentoring schemes are in place to ensure apprentices stay in the sector.
- Ensure trade association and professional bodies are better aligned across the sector in terms of funding and strategy.
- Work across the industry to push for governmental reform of the Apprenticeship Levy so that funds can be used for a wider-variety of training.

Policymakers (national and local)

- Create and deliver a National Retrofit and Green Skills Strategy for commercial developments, providing certainty on the pipeline of green skills needed.
- Make it quicker and easier to implement new apprenticeship standards, and to update existing standards with sustainability embedded.
- Review the Apprenticeship Levy and enable employers to spend funds on a wider-variety of training offerings.
- The GLA should lead a London-wide approach to reforming s106 so that apprentices have the freedom to complete their apprenticeships across multiple boroughs and developments.



Headline Findings

- As Central London strives to meet carbon reduction goals, new skills requirements and roles are emerging in the planning, design, construction, in-use operations, and end-of-life sectors.
 - Carbon literacy, social and ethical value knowledge, and digital collaboration will be key skills. But there too few available courses to train and upskill workers.
- Relevant training/qualifications for Modern Methods of Construction for new entrants as well as upskilling for existing hires need to be developed at pace.
 - The industry needs to collaborate to ensure that apprenticeships and courses are developed at a high standard. But currently, collaboration between IfATE and DfE is lacking.
 - Modules are outdated: students should learn new legislation, sustainability thinking (such as future-proofing, reporting, and research) and technical software. They should also be exposed to onsite training.
- Similarly, apprenticeships are lagging behind emerging skills needs.
 - Apprenticeship numbers are in decline; students are instead going into other sectors where salaries are higher and there are more mentoring opportunities.



Emerging skills needs across the whole project life cycle

There will be a sizeable demand for workers with the skills to deliver a built environment in Central London that achieves lower carbon emissions. However, although these new skills are needed, there are not enough available courses or training offerings to provide current built environment professionals or new entrants with the qualifications to competently carry out the work.

CITB estimates significant role shortages in construction: the total labour demand for commercial construction is 113,000 people. This represents more than 45% of the total construction labour demand in the CFL area and over 27% of the construction demand in London.²² The projected growth between 2023 and 2027 suggests that the labour demand will hit 250,370 people by 2027.²³

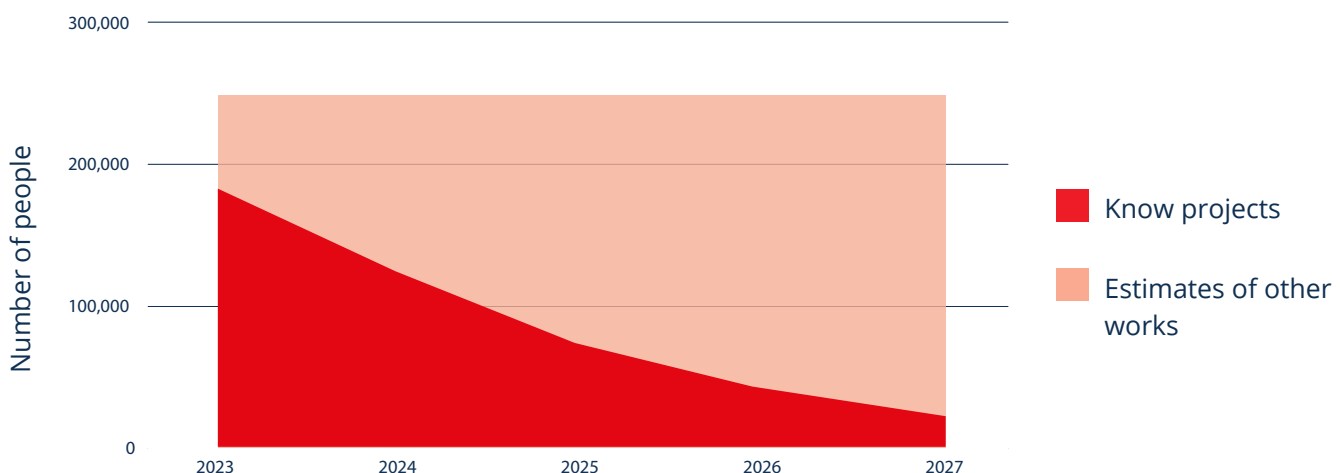
During 2023, the most labour-intensive occupational group both region-wide and in the context of commercial work is non-construction professionals, technical, IT and other office-based staff. There is an annual demand of 34,420 people (of which 16,320 are engaged in commercial work) in this category.

In the trade occupations, the estimates of the three largest labour demands in 2023 for commercial work are as follows.

- Wood trades and interior fit-out trades: 10,900 people
- Electrical trades and installation trades: 8,100 people
- Plumbing and heating, ventilation, and air conditioning trades: 6,460 people

The Taskforce has also identified significant skills gaps for emerging roles across the full project life cycle after extensive interviews with built environment professionals. Based on these interviews, the findings suggest that there are three skill areas that are particularly acute: carbon literacy, social and ethical value knowledge, and digital collaboration.

Total construction labour demand including estimates for both R&M and estimates of other work



²²CITB and Taskforce working groups have analysed the current and upcoming construction labour demand across the 12 CLF boroughs. This analysis is based on the known pipeline from published sources such as Glenigan and supplemented with estimates of other work taking place from borough data. (For more information on methodology and for the full report, please see the appendix.) <https://www.glenigan.com/>

²³CITB (2023) CSN Industry Outlook – Greater London 2023-2027

Throughout the interviewing process, Arup and the Taskforce focussed on the key themes, outlined below:



Carbon literacy

The need to manage both embodied and operational carbon on developments requires carbon literacy of the project life cycle. To enable ambitious yet achievable carbon reduction targets on projects, professionals working in the early-stage policy, funding, and developer arena must have a sound understanding of carbon management and methods to set an appropriate brief. For example, design consultants must have the requisite skills to deliver carbon accounting throughout the design process for all aspects of the development.

The contractors and supply chain must be able to provide verified carbon accounting for installed systems. In-use operators must be carbon literate to monitor and adjust the way in which developments are managed, allowing them to ensure that they meet sustainability requirements for design.

Social & Ethical Value Knowledge

An important theme emerging from the analysis was the need to integrate social value principles into every development.²⁴ Social value principles link to community integration, sustainability, wellbeing and health, and reducing waste, which are becoming increasingly more important factors for occupiers and communities who are demanding more from their spaces.

Digital collaboration

The need for data analysis skills was identified by many interviewees across all project life cycle stages. Better digital collaboration would allow the built environment sector to use data to improve the design, construction and operations of developments to minimise carbon emissions and improve citizens' well-being.

In addition to skills gaps identified at each stage of the project, the majority of interviewees also identified emerging roles needed in the sector. Some of these roles will not yet have any formal training or qualifications that can be mapped to a specific career path

The need for green skills provision

According to the Department of Education (DfE), there is only one course on carbon literacy for built environment professionals, which is hosted in Manchester.²⁵ Similarly, there were few available carbon management courses — and all were short bootcamps, geographically scattered across the UK.²⁶

Even for skills such as adaption and resilience in design, there are also currently few courses available, and the barriers to entry can be high. For two UK-based resilience and adaption design courses, — one at the University of Kent and the other at the University of Cambridge — learners needed an undergraduate degree to apply.²⁷ It is also very difficult to locate any courses relating to social and value knowledge, despite built environment professionals stating that a sound understanding of these areas will be an in-demand skill in the future.

Taskforce members felt that, for the courses that are on offer, there is not enough emphasis on problem-solving grounded in real-world issues. They also felt that critical skills, such as using technical software and understanding of current legislation, is lacking in existing coursework.

Research suggests that there has been a singular focus on specialist skills within the built environment. Soft skills – including digital, administrative, general business, and communication skills – have been largely absent

²⁴The Better Buildings Partnership defines social value as the effect of 'buildings, places and infrastructure support[ing] environmental, economic and social wellbeing, and in doing so improve the quality of life of people' - <https://www.betterbuildingspartnership.co.uk/responsible-property-management-toolkit/social-value/gn-81-what-social-value#:~:text=%22In%20the%20context%20of%20the,quality%20of%20life%20of%20people.>

²⁵Details | Find a course | National Careers Service

²⁶Achieving Zero Carbon Buildings - Skills Bootcamp - Professional/Short Course - UWE Bristol: Courses

²⁷Urban Planning and Resilience - MA - Postgraduate courses - University of Kent

RT2 Rethinking Design & Construction | EPSRC Centre for Doctoral Training in Future Infrastructure and Built Environment: Resilience in a Changing World (FIBE2) (cam.ac.uk)

from training offers. One Taskforce interviewee said that people are being 'pigeon-holed' due to learning a limited number of specific skills.

Without teaching these 'soft skills' and hands-on experience, it will be difficult for learners to apply what they have learned on courses within the context of their job roles.

“Courses do not fully equip students. It is essential they are also given relevant exposure and experience to re-enforce the learning. It is equally important that they receive on-the-job coaching and support in the workplace,” said one interviewee at the managerial level.

Apprenticeships Lagging Behind Skills Needs

The Taskforce believes that apprenticeships are a core component of the solution to green skills gaps, as the apprenticeship standards provide a means of ensuring consistency around sustainability skills and knowledge across the sector. With the Institute for

Apprenticeships and Technical Education (IfATE) as the governing body to approve new and amended apprenticeship standards, learners can be assured of little variance in training provision, regardless of which apprenticeship provider they use. In contrast, a criticism of other forms of upskilling training, such as in-house CPD provided by employers, is that there is a risk of inconsistent training content delivered by different employers.

The complexity and long timeframe required to implement new apprenticeship standards, and to update existing standards, creates additional challenges. This poses a particular issue with the broad spectrum of emerging skills relating to sustainable buildings which employers now need apprentices to be competent in.

A training provider told the Taskforce that there is only one apprenticeship standard for the construction sector that directly links to green skills, a plumbing and gas pathway. Heat pump apprenticeship standards are currently in development, but they require a minimum of 18 months to become certified. As a result, there will not be any retrofit apprenticeships before 2026.

Apprenticeship standards related to low carbon skills for construction, London, 2021/22. Source: DfE

| Standard name | Starts |
|---|--------|
| Building Services Design Engineer (Degree) | 69 |
| Building Services Engineering Craftsperson | 33 |
| Building Services Engineering Installer | 25 |
| Building Services Engineering Senior Technician | 57 |
| Building Services Engineering Service and Maintenance Engineer | 53 |
| Building Services Engineering Site Management (Degree) | 8 |
| Building Services Engineering Technician 2022 | 25 |
| Installation Electrician and Maintenance Electrician | 481 |
| Plumbing and Domestic Heating Technician | 172 |
| Refrigeration Air Conditioning and Heat Pump Engineering Technician | 36 |

Despite the need for new, 'green apprenticeships,' the sector is struggling to attract new applicants to the apprenticeships which already exist; the number of built environment apprenticeships has fallen every year since 2017. From 2018 to 2020, there were 12,000 construction apprentices. That number dropped by 4,000 in 2021-2022.²⁰

The number of apprentices that complete their placements has also been in steady decline. For example, in 2019, only 40% of apprenticeships completed the End Point Assessments.²¹ For those that do complete a built environment apprenticeship, only 25% end up working in the sector. According to experts, this issue is exacerbated because there is often no concerted effort to understand where apprentices work after they complete their training — and, if they choose to leave the sector, then why they choose to do so.²²

Despite the challenges, many employers interviewed by the Taskforce shared that apprenticeships were a valuable part of career training and attracting new talent. Training providers told the Taskforce that they are experiencing an uplift in the demand for apprenticeships, particularly for retrofitting. However, currently, there are still few comprehensive apprenticeship offers to provide the skills needed for retrofits and other sustainable buildings.

"Retaining young talent can be a challenge. However, we have had a great deal of success through apprenticeship schemes," said one interviewee at the senior level.

High turnover rates of apprentices and other workers leaving the sectors can be attributed to better-paying jobs in other industries and interest in other careers that are more visible or better marketed. Some employers have opted to pay apprentices less than the national minimum wage, drawing potential entrants to other sector where the pay is higher. The legal minimum wage for apprentices is as little as £3.90 per hour.²³

One apprentice at a large employer in London said that, although he was interested in becoming a

qualified electrician, it took over a year to find an apprenticeship for Building Energy Management System (BEMS). He stated that, even though he has finally enrolled in an apprenticeship, it has not met his expectations because there is little on-site training with the programme.

"I feel a little anxious that I am learning a lot of the theory but not exactly putting it into practice. My workplace also shares a responsibility for this," - the apprentice said.

Sector collaboration and industry investment

Some built environment organisations have decided to train and upskill employees internally by creating their own CPD courses to bridge the gap. However, the Taskforce believes that this should not become the norm because of a lack of consistency and accreditation with many of these CPD offers; a collaborative effort is needed to rapidly scale accredited courses so that they are the standard approach for upskilling across the sector.

One executive reported in Taskforce interviews that it is difficult to pursue a standardised approach to upskilling because there is no central repository of information on training offers, which is made even more difficult because 'sustainability' and 'green skills' are not clearly defined across the built environment. They also said that a lack of transparency and knowledge sharing has made it difficult to follow best practice.

More collaboration between the sector is key. DfE and the Institute for Apprenticeships and Technical Education (IfATE) take a sector-led approach to course development; if enough trade services employers, developers, landlords, and professional bodies propose a business case for a new qualification – such as new apprenticeship standards to deliver commercial retrofit – then IfATE and the DfE are likely to approve the development of the course. However, according to built environment experts, this collaboration on the development of new courses and apprenticeships is not happening at the scale or pace needed.

Industry skills experts who work directly with IfATE shared that sustainability is being embedded into new courses during each review period, but that more could be done if the industry was more engaged. However, other experts felt strongly that built environment organisations are committed to supporting new standards and working with IfATE, but that IfATE should provide more structure, support, and leadership to maximise engagement with organisations where it is needed most.

Despite the need for greater investment in skills training, 47% of employers in the Taskforce's Green Skills Survey of 118 built environment professionals said that they would pay for additional training if they had access to the necessary funds. Despite there being some financial assistance available for skills, such as the Apprenticeship Levy, 83% of employers said that they were not aware of any available support for green skills training.

Another major factor which has exacerbated the trend of low investment in skills training is the sector's fragmentation, construction being particularly dominated by SMEs and sole traders. SMEs surveyed by the CITB said their top reasons for choosing not to invest in training were lack of funds (51%) and time constraints (44%).²³ This has also had an impact on apprenticeship numbers as, in 2023, one survey found that only 20% of construction SMEs were planning on taking on a new apprentice²⁸. It is clear that SMEs will require significant additional support to empower them to invest in training and apprenticeships at scale.

²⁸<https://www.fenews.co.uk/skills/construction-skills-crisis-as-new-figures-reveal-just-one-in-five-sector-smes-are-planning-to-take-on-an-apprentice/>

How the Taskforce will address this:

1. Convene employers and training providers to explore how we can ensure that training courses are delivering the knowledge and behaviours needed by employers.
2. Sustained political engagement with local and national government to support a reformed Apprenticeship Levy and more consistent s106 policies.
3. A new mechanism to support greater developer involvement in the content and delivery of training courses and apprenticeships, to ensure that their skills needs are being met. This should include support for the supply chain to form workable cohort sizes for training courses.



Case study, Green Skills Hub: Tri-borough Lewisham, Lambeth and Southwark

The boroughs of Lewisham, Lambeth and Southwark are active strategic partners in the [LSBU Green Skills Hub](#), part of the [Mayor's Green Academy](#). The Hub aims to lead on the move to the green economy and net zero, with a focus on the skills needs of residents and businesses in the tri-borough area.

The project, which is running from April 2022 to March 2024, aims to provide support for 11 partner skills providers and 50 new employers.

The Hub has ambitious targets: provide 500 jobs and apprenticeships, 119 work placements, reach 1,230 qualifications, and create six new qualifications. Additionally, the Hub will launch a programme of sector-specific marketing and engagement to grow the pipeline of talent. This will include apprenticeships and jobs fairs, school programmes, and employer workshops.

Successes of the Project:

- **Bring stakeholders together:** The opportunity for local government, skills providers, and employers to work together at the start of journey to set ambitious net zero goals.
- **Discuss skills offering:** Bringing together local skills providers to discuss their net zero skills offerings and to identify gaps based on available skills projections to 2030.
- **Identify and fill gaps:** The collaboration identified a gap in careers advice for green sectors, which has led to the Hub

developing a Green/Net Zero Sectors showcase for local students, and residents interested in learning more about the opportunities.

- **Employment support:** The Hub has created a strong relationship with the Department of Work and Pensions (DWP) in the tri-borough area, which has led to the development of a Green Jobs Fair. The Green Skills Hub has also engaged with all work coaches at borough Job Centres, which means that work coaches can now refer people looking for a career within green skills to the Hub.
- **School Engagement:** The Green Skills Hub has developed relationships with several local schools and has been invited to participate in careers fairs, speak to students and create enrichment days with these schools.

Challenges of the Project:

What has been the biggest challenge is bringing the right employers to the group with the right experience. This includes organisations that have on-the-ground retrofit experience and are in sectors such as circular economy, district heating, electric vehicles etc. Additionally, initially there was a challenge across all hubs with defining what a 'green' job or course is.

Lastly, each quarter the Hub is required to report on overall figures to the Greater London Authority and the figures by borough to the councils. There are often a few challenges with collating this data.

Policies for a Skilled Workforce



Recommendation 4

Work with government to set more ambitious green skills legislation for the built environment. This can include exploring ways to reform Section 106 polices, playing an active role in shaping the Procurement Bill currently being reviewed by Parliament, and reforming the Apprenticeship Levy.

Polymakers (national and local)

- **National, GLA, Local:** Create a London-wide strategy to fill green skills shortages within the built environment. Invest in upskilling, apprenticeships, and training as a part of a commitment to net zero.
- **National:** Develop regulation that supports greater data sharing across the built environment.
- **National:** Make the business case for investment in green skills for the built environment as a COP28 commitment.
- **National:** Finalise the MEES EPC B regulations and adoption of the operational performance metrics.
- The Apprenticeship Levy system should be reformed to cover non-apprenticeship training such as short courses, mentoring or coaching.
- Additional funding is needed to encourage SMEs to increase their uptake of apprenticeships.
- **National and Local:** Develop policies for reducing embodied carbon across the industry.
- **Local:** Set more ambitious standards for sustainability and social value outcomes through planning regulations and procurement rules.
- **GLA:** The London Plan should be updated to include a fixed BREEAM rating for local boroughs to aspire towards.
- **GLA:** Create a London-wide approach to s106 requirements for apprentices and training.



Headline Findings

- Both local and national governments need to create consistent legislation, guidance, and strategies for commercial developments. Consistency would incentivise training providers and employers with a strong business case for investing in upskilling and expanding the workforce.
 - Built environment organisations say more interventions and guidance is needed from government.
 - There is currently no national strategy from government that addresses retrofit or sustainability for commercial developments, creating demand issues that make it difficult for employers and training providers to adequately address the skills shortage.
 - There are also no consistent planning requirements related to sustainability for commercial buildings, which creates uncertainty as to the skills needed for the future.
- Local authorities need to play a greater role in generating demand for sustainable buildings, civil servants also need skills and resources to support this.
- The lack of flexibility of the Apprenticeship Levy is making it difficult to invest in training and upskilling initiatives that don't qualify as an apprenticeship.
 - Built environment organisations agree that the Apprenticeship Levy needs swift reform.



Current legislation and policy

On both a local and national level, the government has a leading role to play to create the market demand for training. This can be done by creating sector-specific strategies and consistent frameworks across Central London.

“Further market movement and regulatory levers at a local and national level would make my organisation prioritise green skills,” said one Executive Director to the Taskforce.

At the national level, the current National Planning Policy Framework (NPPF) states the planning system should: support the transition to a low carbon future; help shape buildings in ways that contribute to radical reductions in greenhouse gas emissions; encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low-carbon energy and associated infrastructure.

In London, the emphasis is stronger, with the London Plan setting the overarching policy framework. It sets out that all major developments should be net zero, and includes a clear energy hierarchy, against which developments are assessed.

Despite this, there is a notable lack of consistent planning requirements for sustainability credentials across all commercial buildings in the CLF. The lack of regulation stifles demand for upskilling and recruitment of workers.

There is a clear opportunity to enhance existing policy frameworks to more consistently and forcefully promote sustainability credentials. This reform would provide developers and training providers with a stronger business case for investing in upskilling, diversifying and expanding the workforce.

Local authorities

Local authorities can play a greater role as commissioners by being both planning authorities and major landholders. Through their own planning

regulations and their procurement rules, local authorities could set more ambitious standards for sustainability and social value outcomes.

In this role, local authorities can generate greater demand for environmental standards for new builds and retrofit. They can also set an example through delivering sustainability across their own developments and assets, as well as encouraging change across the wider built environment sector.

However, there is a need to ensure that local authorities have the relevant knowledge, skills and resources to realise this potential in boosting demand for upgrading the workforce.

Section 106

Local boroughs also have the flexibility to adopt a range of different social value requirements which developers have to deliver on through Section 106, this could include targets for workforce training and recruitment.

However, in its current form, Taskforce members have reported that s106 is failing to meet its potential as a means of driving demand for workforce upskilling, diversity and expansion. The short duration of many development projects, and many local authorities' insistence on apprentices either working on a single project or only within their borough, can pose significant challenges for apprentices completing their full apprenticeship programme, many of which are two-three years in duration.

London boroughs prefer that developers employ local apprentices as a means of getting their local residents into work. However, according to feedback from employers, it can be very challenging to employ an apprentice for over a year or more if a project lasts only a few months. If a developer has a new project in a different borough, they must then hire a new apprentice to meet the s106 requirements of the other borough in which the new development is located, instead of retaining an existing apprentice.

The result: very few apprentices reach their End Point Assessment stage and are often unemployed after the completion of the development. Unsurprisingly, many apprentices then leave the sector in search of other industries that are willing and able to invest in their long-term progression and development.

To address this issue, a London-wide approach to reforming s106 will be needed, allowing apprentices the freedom to complete their apprenticeships across multiple boroughs and over the course of working on several developments. This move towards a much more collaborative relationship between local authorities in the CLF is imperative if the sector is to recruit more apprentices, who then complete their apprenticeships and become fully trained workers.

Standards and EPC ratings

The inconsistency in planning and environmental standards has led to a variable demand for upskilling. For example, different boroughs use different standards for measuring the energy efficiency of developments at the planning stage.

The London Plan refers to the use of the Building Research Establishment Environmental Assessment Method (BREEAM) rating, which can help demonstrate that energy efficiency targets have been met. The London Plan encourages boroughs to include BREEAM targets in their Local Plans where appropriate, but there is no fixed BREEAM rating which is applicable (this also includes other voluntary sustainability standards such as WELL Fitwel and LEED.²⁹)

EPC ratings

There are other post-planning standards used to demonstrate the energy performance of a building, such as an EPCs, but it is unclear how these standards translate to sustainability. For example, a development targeting BREEAM 'Outstanding' rating,

or the use of measures such as heat pumps and solar panels, may not necessarily result in an EPC A rating.

Similarly, an EPC rating may bear no resemblance to the actual in-use energy performance of a building, as calculated for the Display Energy Certificate (DEC) rating. There is therefore a need for upskilling and knowledge sharing across the sector. This should also include building occupiers to foster more consistency and to ensure that energy efficiency measures are embedded and translate between the stages of work and final operation.

Apprenticeship Levy

As the shift to new sustainable building and design progresses, apprenticeship numbers will need to increase rapidly so that new and existing workers get critical training. The Apprenticeship Levy is largely viewed unfavourably by the sector due to its inflexibility, according to Taskforce surveys. This finding is confirmed in a report by the National Federation of Builders, where many employers state that the Levy system locks funds that would otherwise have been spent elsewhere on other forms of skills and training. The sector also suggests that the Levy desperately needs reform.³⁰

Currently, employers that have a salary bill of over £3 million per year must pay a compulsory contribution of 0.5% each month to the Levy. The funds are then made available to pay for training at further education colleges, providers, or for apprenticeships. This funding is also available to smaller, non-Levy-paying employers, who are charged a 5% contribution of the training costs. However, this does not cover non-apprenticeship training such as short courses, mentoring or coaching.

The inability to spread Levy funds across a range of different types of skills training is even more challenging for the built environment, as apprenticeship standards that match emerging

²⁹WELL & Fitwel | BuildingGreen

³⁰Leveraging the Levy | National Federation of Builders

green job roles have been very slow to materialise. On top of this, overall apprenticeships numbers are down. According to Building Magazine, apprenticeship have declined every year since 2016 in construction, planning, and other built environment sectors. However, there was a slight increase in 2022 of apprentice numbers.³¹

The Levy's shortcomings are particularly acute for the large numbers of SMEs that dominate the sector. They often do not qualify to pay the Apprenticeship Levy, so there is no incentive for them to pay for training costs. The government will cover 95% of the costs of an apprenticeship for those who do not pay into the scheme.

Even if 5% for training costs may seem low by some estimates, SMEs must still shoulder the extra costs and the time it takes to train an apprentice, this includes wage payments (which in most cases are based on the London Living Wage) that are not covered by the Levy. The SME dominance in the sector means that over 70% of apprentices are trained by employers without enough time or funds to fully invest into the development of their apprentices.²⁵

³¹Construction apprenticeship starts showing signs of bounce back after years of decline | News | Building

How the Taskforce will address this issue:

1. Engage with the government to promote a reformed Apprenticeship Levy that is more flexible and meets the needs of employers.
2. Convene employers, local and central government, and training providers to explore how they can work collaboratively to promote workforce upskilling, expansion and diversification, e.g. by reforming Section 106 and Community Infrastructure Levy policies.
3. Strategically engage political parties to promote the delivery of a new National Retrofit and Green Skills Strategy for commercial developments.
4. Develop sustained political engagement with local and national governments to support a reformed Apprenticeship Levy and more consistent s106 policies.



Diversity and Culture



Recommendation 5

Invest in attracting diverse candidates to a wider spectrum of sustainable roles across the built environment. Achieving this will involve collecting diversity data, setting targets and strategies, and taking action to reform organisational cultures so that they are fair and inclusive.

Developers / Landlords

- Assign diverse senior leaders who are accountable and who can champion diversity within the organisation.
- Collect diversity data and then set targets to improve diversity. Use the data for a focussed approach on where to make improvements.
- Reform hiring and promotion practices to recruit greater numbers of diverse talent by using 'blind' recruitment strategies and diverse hiring boards.
- Identify barriers to progression for people from minority backgrounds and put in place programmes to address the barriers.
- Take action to make organisational culture more inclusive and equal.
- Develop flexible ways of working that support people from diverse of backgrounds.
- Join indexes such as the Stonewall Index and Social Mobility Index to show that diversity is a priority.
- Set up mentoring networks for people from diverse backgrounds.
- Offer apprenticeships to a diverse group of students.
- Promote positive, diverse role models who can champion the sector.



Professional and trade services (design and planning, procurement and pre-construction, construction management and skilled trade services):

- Share best practice, resources, and toolkits on diversity within your membership.
- Champion the importance of diversity and executive sponsors for achieving diversity.
- Assist members with an outreach campaign to attract diverse young people and people at mid-career level to go into a career in the industry.
- Organise events for members to come together and exchange ideas on how to tackle diversity challenges.
- Provide a framework for how diversity data should be collected and resources for how to engage with employees on why it is being collected.
- Provide training for members on data collection practices.
- Develop case studies on best practice on data collection, targets, and diversity initiatives across the membership.
- Encourage members and HR representatives to review their promotion and hiring practices.
- Link members with organisations that can assist with diversity.



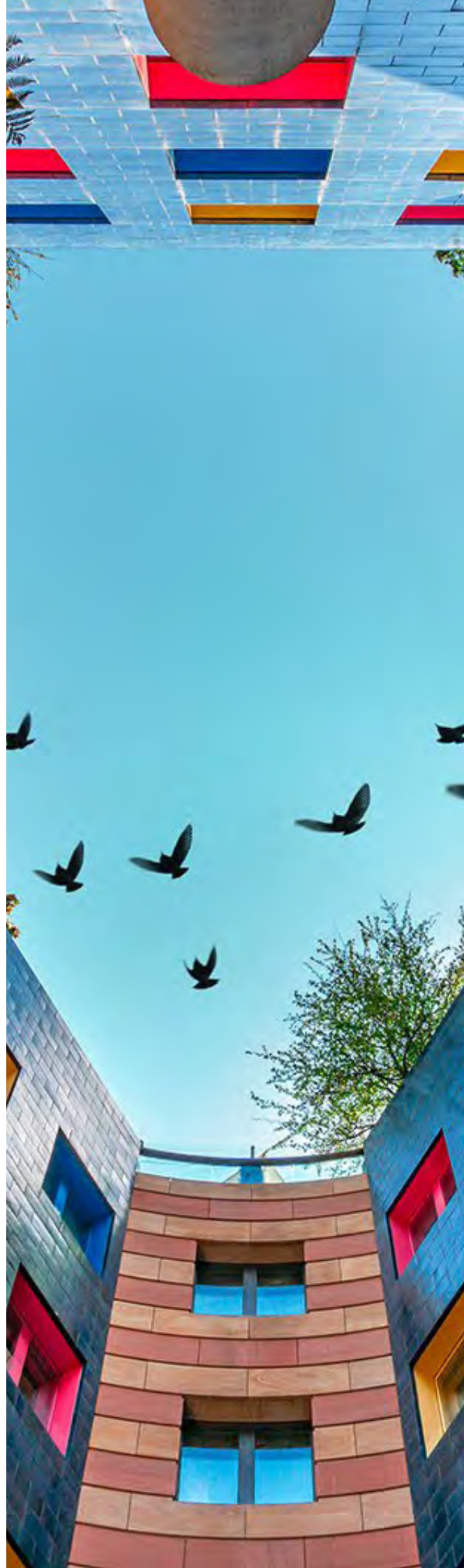
Professional bodies / Trade associations:

- Assign diverse senior leaders who are accountable and who can champion diversity within.
- Collect diversity data and then set targets to improve diversity. Use the data for a focussed approach on where to make improvements.
- Reform hiring and promotion practices to recruit greater numbers of diverse talent by using ‘blind’ recruitment strategies and diverse hiring boards.
- Identify barriers to progression for people from minority backgrounds and put in place programmes to address the barriers.
- Take action to make organisational culture more inclusive and equal.
- Develop flexible ways of working that support people from diverse backgrounds.
- Join indexes such as the Stonewall Index and Social Mobility Index for example, to show that diversity is a priority.
- Set up mentoring networks for people from diverse backgrounds.
- Offer apprenticeships to a diverse group of students.
- Promote positive, diverse role models who can champion the sector.



Headline Findings

- All employers, where possible, need corporate strategies to improve diversity.
 - Collecting data, setting targets, and creating detailed action plans to address diversity is needed across the industry.
- The UK construction sector is one of the least diverse and inclusive sectors in the UK.
- There have not been a lot of active and visible role models (particularly women and ethnic minorities in managerial and director-level roles).
- Hiring managers need to ensure that hiring and promotion practices are fair for everyone.
- The built environment is perceived as having a culture that favours long hours, rigid working environments, little flexibility and a lack of mental health support.



Overcoming barriers to diversity

Despite some organisations taking steps to implement Diversity, Equity and Inclusion (DEI) strategies, the UK construction sector ranks lowest among European countries' construction sectors for gender diversity.³² It is one of the worst industries in the UK for diversity across gender, ethnicity, LGBTQ+ representation, and people with disabilities.³³

Women make up only 13% of the sector and just 4% make it to senior positions.³⁴ The share of both minority groups and people with disabilities who progress to leadership roles is 6%.³⁵

The built environment sector remains predominately male and white.



80% of survey respondents believed a lack of workplace diversity is an issue for the sector.

However, 42% of built environment organisations said that improving diversity and inclusion was a priority for their organisation, according to a survey of 1,000 people working in the sector.³⁶

Research shows that investing in a diverse workforce and ensuring that employees have transparent and fair promotion and hiring practices has tangible business benefits. Businesses with diverse workforces can respond better to clients' needs by representing the communities they serve. Additionally, for managers, a range of different voices eliminates 'groupthink', biases and assumptions, and allows for new and, innovative ways of thinking that challenge the status quo.⁵⁰

Attracting a diverse talent pool will also be crucial to addressing growing skills shortages. We know from interviews with a range of Taskforce members,

and from the findings of the Taskforce's green skills survey, that many employers are struggling to recruit sufficient numbers of skilled workers to adequately deliver their sustainable projects to time and to budget. These recruitment challenges suggest that continuing to ignore the stark lack of diversity across the workforce will result in perpetual workforce shortages. In short, the sector is failing to reach major pools of untapped talent, including women and people from non-white backgrounds.

Some organisations have begun to publicly set targets to achieve greater diversity in their workforces. For example, Willmott Dixon, BAM UK, and Balfour Beatty have all set targets to achieve 50/50 gender parity by 2030. To reach their goal, they have implemented targeted development programmes for women, use gender-neutral job adverts, and developed internal strategies and action plans.⁵¹

Publicly championing diversity targets and actions is crucial to highlighting strides the sector is making towards inclusivity. There is also a need to promote diverse role models to raise young people's awareness of the range of people from non-traditional backgrounds working and progressing in the sector. Diverse employees should be invited to share their experiences with students to showcase the variety of roles and inclusivity of the sector. For example, the Inspiring Women in Construction campaign spearheaded by Construction News highlights women working in built environment roles and the challenges they face.⁵²

Built environment employers should also use the varied resources available to them — such as joining DEI indexes, like the Stonewall Index and Social Mobility Index. Joining diversity indexes can help built environment organisations strengthen its diversity measures and tout diversity credentials to potential employees.

³²How gender equality can help fix the construction industry (theconversation.com)

³³Construction must admit it has a problem with diversity | Comment | Building

³⁴Just 4% of senior industry roles taken by women | Construction News

³⁵Equality, Diversity, and Inclusion | CIOB

³⁶<https://www.building.co.uk/focus/the-face-of-diversity-constructions-hidden-problem/5098826.article>

Retaining the workforce for today

It is not enough to promote diversity within the sector. Internal culture also must be reformed, to ensure that all employees are supported by a fair and inclusive working environment.

While working conditions for on-site construction roles may differ from more office-based roles like engineering and architecture, workplace cultures with long and inflexible hours dominate the sector, according to a 2019 report.³⁷ Organisations with inflexible arrangements and poor work-life balance can lead to stressed, burnt-out employees.

However, many companies have been reducing site-based roles since the Covid pandemic. For example, members of the industry body Build UK have delivered a project with Timewise to trial a range of approaches to flexible working on-site. The findings have been used to produce a sector-wide flexible working toolkit that can be implemented by companies of all sizes.³⁸

There has been insufficient leadership by managers to create more inclusive cultures according to a survey by Hays; only 22% of respondents said that their managers had specific goals to address DEI and culture.³⁹

Evidence shows that employees who are less satisfied with their current employer are more likely to seek new employment in the next twelve months. Dissatisfaction stems from employees feeling that they cannot be their authentic selves at work and that they are not listened to by managers.⁴⁰

Women are more likely to leave the sector within five years due to limited development opportunities and unfriendly work environments. In a 2019 survey of over 4,000 women in construction, nearly 75% said that they experienced gender-based

discrimination.⁴⁰ This is despite women and girls outperforming boys in their T-Level results in 2022. Across all built environment courses, women achieved the top grades, with 41.1% getting a distinction, compared to 27.9% of men.

Another issue that can hinder progression is a lack of access to professional networks, mentors or information about opportunities for progression and development. Over a quarter of men found a job in the sector six months after their course finished, compared to only 11% of women. There was also a large gap between white and ethnic minority T-Level students, who were 10% less likely to find employment after completing their course.⁴² White students are more likely to have a personal connection to someone already working in the sector who can help them find a job. Nearly 45% white candidates have a personal contact in the industry, compared to only 17% of ethnic minority students.⁴³

This experience is also backed up by feedback from ethnic minority workers in the industry, 70% of whom said that they felt that their chances of getting a job were lower because of their ethnicity.⁴⁴ UK-based researchers demonstrated that limited access to entry-level pathways, nepotism, and discrimination were major barriers for ethnic minorities.⁴⁵

Improving diversity and culture

All built environment employers, where possible, should have corporate strategies to improve diversity and culture. Professional bodies should assist with this challenge.

The taskforce believes that the first step in improving workforce diversity is to collect data on the current makeup of an organisation's employee base. Once the scale of the problem is established, the next

³⁷[TW-Making-construction-a-great-place-to-work-report.pdf \(timewise.co.uk\)](#)

³⁸Recruiting, Training & Retaining Talent - Build UK

³⁹The face of diversity: construction's hidden problem | Features | Building

⁴⁰Global Workforce Hopes and Fears Survey 2022 - Web report ([pwc.com](#))

⁴¹download | Women in Construction ([randstad.co.uk](#))

⁴²<https://feweek.co.uk/t-level-results-2022-6-key-findings/>

⁴³<https://feweek.co.uk/t-level-results-2022-6-key-findings/>

⁴⁴<https://www.building.co.uk/focus/the-face-of-diversity-constructions-hidden-problem/5098826.article>

⁴⁵[Aboagye_Empower_319.pdf \(cibworld.org\)](#)

step should be to set targets to improve diversity. Organisations can then create detailed action plans aimed at solving the most concerning problems and then measure their impact.

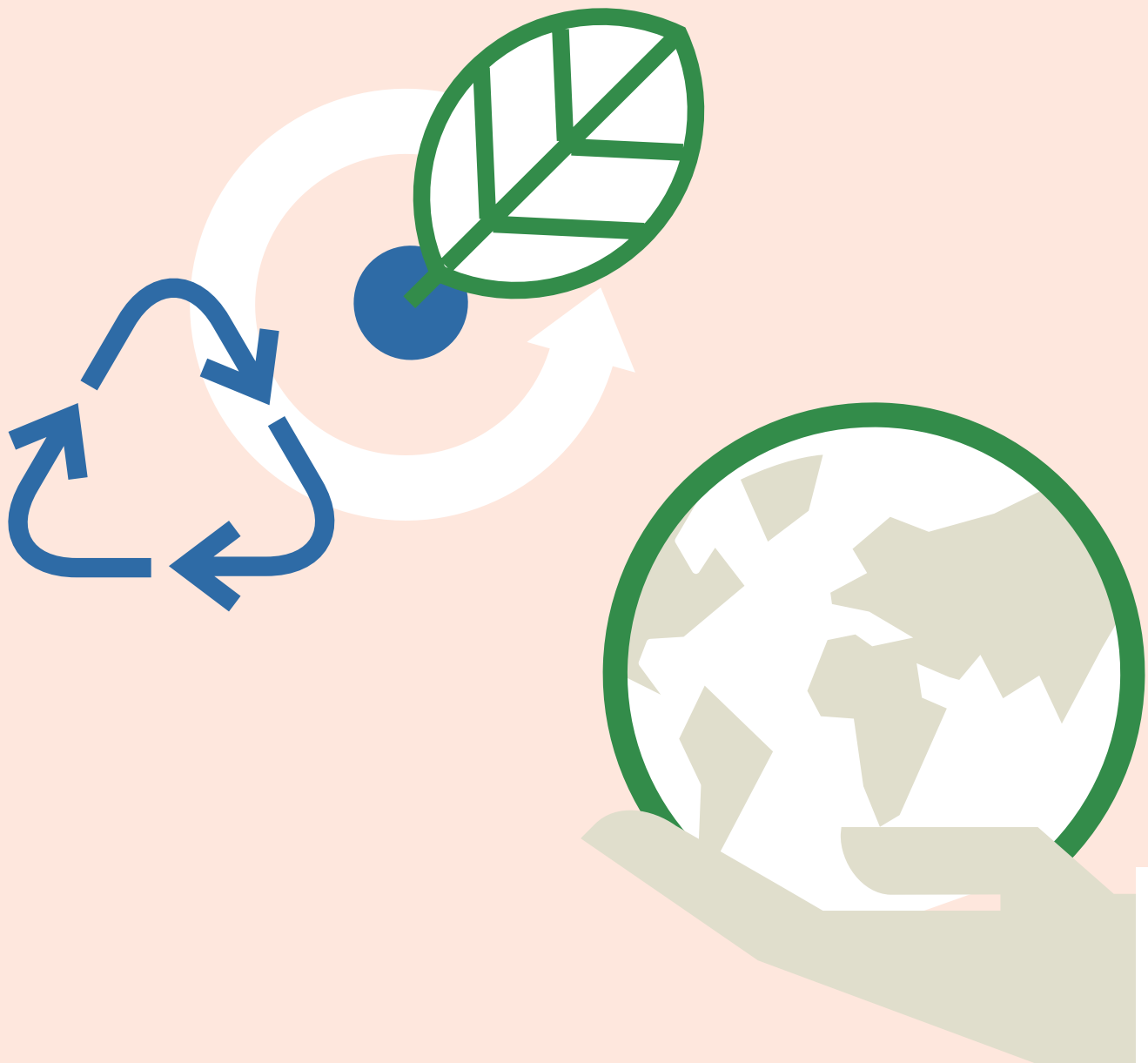
For example, The Construction Leadership Forum has created an action plan to help the Scottish construction sector address poor diversity and promote greater cultural reform. The action plan focuses on creating best practice and practical guidance for businesses to adopt so they can focus on what works.⁵⁷

Additionally, organisations need to adapt their hiring practices so that they are fair and equitable. This includes taking action to reach out to people who may not consider a career in the built environment or using tools such as diverse panels for interviews and blind recruitment strategies.

Employees and managers should be trained in the importance of equity, diversity and inclusion, which professional bodies should assist with to make recruitment and retention processes consistent across sectors. Mentoring opportunities should be made available to help people who are less represented have access to network and feel more confident at work.

How the Taskforce will address this issue:

1. A new campaign for built environment employers to collect diversity data, set sector-wide diversity benchmarks, and reform hiring practices to increase the number and progression of hires from diverse backgrounds.
2. Signpost industry guidance to build on existing initiatives to improve workforce diversity, such as promoting flexible working.



Case Study, Lendlease: Getting Women into Construction

Tapping into diverse talent is critical to the success of the construction industry

Women account for less than 15% of construction industry professionals. Misconceptions and stereotypes about gender specific roles has meant that the industry has failed to attract, retain and promote women in highly skilled jobs.

If we are to transition to a net zero carbon economy and deliver the planned future pipeline of construction work in the UK, we need to tackle the issues that plague the industry: skills shortages, an aging workforce and poor productivity, for example. Tapping into the talent pool of women, and other underrepresented groups, is critical for this.

Lendlease has been working with the non-profit, Women into Construction (WiC), since 2019 to connect those wishing to work in the construction industry with opportunities to gain experience, skills, and employment on projects and within their supply chain.

When constructing the Perry Barr Residential Scheme in Birmingham, Lendlease

supported a cohort of women through an eight-week pre-employment programme, in partnership with RMF Group and tier one contractors, Willmott Dixon, Kier and Vinci. Participants received career advice, one-to-one mentoring, work experience and formal training in various areas of construction.

One participant who secured employment following the course said: *'If I hadn't been introduced to WiC then I would still be jumping from job to job, trying to find myself and my place. I came to the UK to find employment and use my degree and this job gives me the opportunity to work in construction and climb the ladder.'*

Lendlease are committed to increasing representation of female and culturally diverse employees, especially at more senior levels, because they know that a more inclusive and diverse workforce helps to build a better, stronger and more innovative team – which is key to building a skyline fit for the future.

Promotion and Engagement



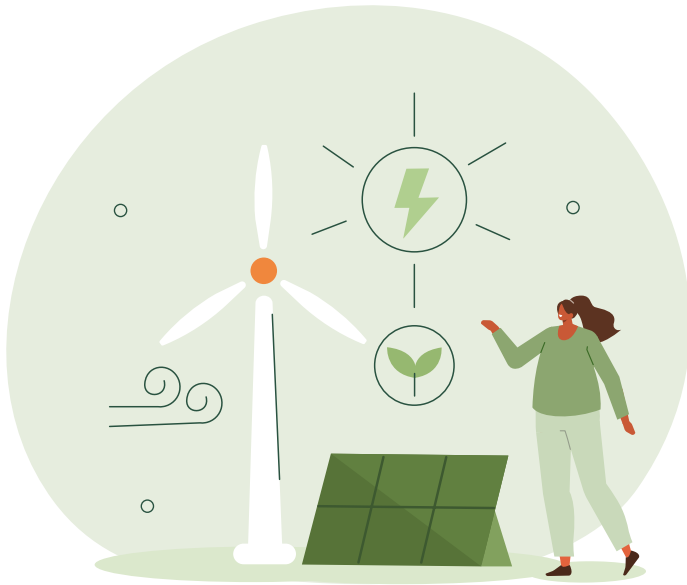
Recommendation 6

Engage with schools and colleges as well as generate positive PR to better promote the sector's role in addressing climate change and its wide-ranging career pathways.

Developers / Landlords

- Work with schools and colleges to provide better careers education about opportunities within the sector.
- Engage directly with parents, teachers and careers advisors to challenge stereotypes.
- Offer students work experience and apprenticeships that are practical and hands-on.
- Hold careers events for the industry.
- Work with education providers and other institutions to develop a built environment sustainability taster course.
- Showcase the industry's green credentials and varied career pathways online and in advertising.





Professional bodies / Trade associations:

- Engage with schools and school-aged children on built environment careers and green skills opportunities.
- Engage directly with parents, teachers and careers advisors to challenge stereotypes.
- Roll out campaigns to promote green careers, diversity, work experience, apprenticeships, vocational career pathways, and the industry more broadly.
- Assist members with mapping out career pathways within each sector.
- Develop career advice training material for schools depending on the sector.
- Set up a network for members to improve engagement with schools.
- Engage with the National Careers Service and other organisations such as Construction Youth Trust to help link members with schools.
- Support the coordination of mandatory DfE careers sessions for school students, to be delivered by the industry.

Professional and trade services (Design and Planning, Procurement and Pre-construction, Construction Management and Skilled Trade Services):

- Work with schools and colleges to provide better careers education about opportunities within the sector.
- Engage directly with parents, teachers and careers advisors to challenge stereotypes.
- Offer students work experience and apprenticeships that are practical and hands-on.
- Hold careers events for the industry.
- Work with education providers and other institutions to develop a built environment sustainability taster course.
- Showcase the industry's green credentials and varied career pathways online and in advertising.



Headline Findings

- There are widespread misconceptions and outdated stereotypes about the built environment sector, making it difficult to attract new entrants.
- There is not enough focus on built environment job pathways and opportunities within careers education.
 - Young people are unaware of the qualification and career routes that are currently available within the sector.
 - Parents and teachers also do not know enough about built environment careers.
- The sector needs to map out career pathways to show the breadth and variety of roles within the built environment.
- The sector is failing to promote the role it plays in mitigating the effects of climate change, which is an issue young people are particularly passionate about.



Attracting tomorrow's workforce

The sector suffers from an image problem. Persistent stereotypes, a lack of diverse role models, and unclear career pathways has not only made it harder to hire from a diverse pool of talent, but also to attract young people to the built environment. The sector is at a demographic turning point: nearly 19% of built environment workers are over the age of 60 and many are expected to retire in the next five to ten years.⁴⁶ Without an influx of younger talent into the sector, the existing workforce shortages will only deteriorate further.

There are, however, promising signs that young people are starting to express an interest in built environment careers. In one 2022 survey of 18- to 29-year-olds, 56% of respondents said they thought a career in the built environment was “attractive”.⁴⁷

The sector has been eager to capitalise on this momentum to solve the skills crisis. But without sustained efforts to address the sector's lack of diversity and poor engagement with schools, it will remain difficult to attract and retain younger talent.

Careers education for better awareness of the sector's offering

In the Taskforce's green skills survey, respondents rated “poor engagement with schools” as the number one barrier preventing employers from filling green jobs. Delivering early careers engagement to young people in schools can help to challenge negative stereotypes about careers in the sector, and to raise awareness of the many available career pathways, earning potential and the sector's role in combatting climate change.

“Schools engagement is key for diversifying the workforce. We need to educate young people about careers in the built environment,” said one interviewee at the director level.

The lack of useful career advice can also be attributed to a poor understanding of the built environment sector— not only from teachers and guidance counsellors, but also from parents.

According to the Stace Next Gen Index, which measures young people's attitudes about the built environment, 24% of teenagers believed that their parents would discourage them from taking a job in the built environment.⁴⁸

Historically, the sector has struggled to showcase the breadth and variety of roles within the sector. This has led to the pervasive view that built environment jobs often do not require professional qualifications and demand intensive physical labour. In one survey of young people aged 18 to 29, respondents said that they did not want a career in the built environment because the jobs are “dirty and manual” (52%), and “dangerous” (37%).⁴⁹ Jobs like architecture, design, and engineering were heavily favoured. One survey found that 29% of women thought that having a career in the built environment meant having to work onsite.⁵⁰

The sector needs to work closely with teachers and parents to help them understand how certain subjects, specifically STEM subjects, pertain to careers in the built environment. Career advisers can also play a pivotal role in ensuring that students understand that a variety of career paths within the built environment sector could align with their interests.

The Department for Education makes career education mandatory for years seven to thirteen; students undertake six sessions with a provider of technical education or apprenticeships. However, there is no currently coordinated effort across London's built environment to coordinate how these mandatory career sessions are delivered by the industry.⁵³

⁴⁶[CIOB research - Exploring the impact of the ageing population on the workforce and built environment.pdf](#)

⁴⁷Construction now an 'attractive' career path for 50% of young adults | NBS ([thenbs.com](#))

⁴⁸[www.stace.co.uk/wp-content/uploads/2022/01/Stace-Next-Gen-Index_2022-final.pdf](#)

⁴⁹Survey shows young people don't hate construction ([theconstructionindex.co.uk](#))

⁵⁰Challenges and barriers to women in the UK construction industry — Northumbria University Research Portal

Taskforce members felt strongly that employers should provide career shadowing or a day of on-site work experience so that young people can obtain insight into different roles. A survey of young people's job searching behaviour further support the need to offer practical work experience; 68% of young people said that career talks helped them choose their future career path; 57% cited work experience.⁵⁴ Employers should also consider holding bespoke careers events at secondary schools, colleges and careers fairs.

The sector needs to offer and promote apprenticeships and work experience to a wider variety of potential talent. To support this, built environment organisations should remove requirements to have specific STEM work experience and A-Levels, and instead to encourage anyone with the right professional aptitude and passion for the built environment to join the workforce.

There are several organisations that are working hard to facilitate connections between industry and schools. For example, Construction Youth Trust has several initiatives that allow young people to gain first-hand experience onsite. The goal is to show young people and those looking for a career change the range of opportunities available in construction.

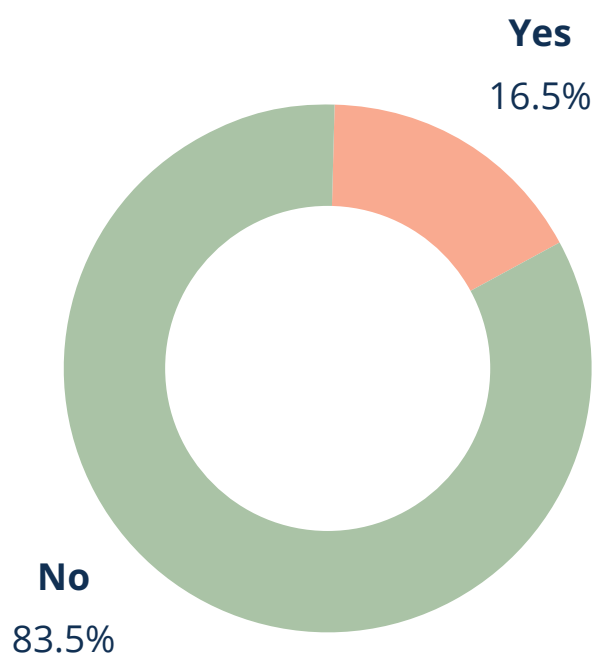
Build UK and CITB have also collaborated to tackle this, with STEM Ambassadors to show more young people the wide range of opportunities available in construction. STEM Construction and Built Environment Ambassadors play an essential role in inspiring young people to think about a career in construction and the wider built environment through a range of activities, including school presentations, careers talks and mentoring. Businesses can register as a STEM employer and encourage their teams to sign up as STEM ambassadors.

Promoting career pathways and climate action

The issue of poor levels of awareness of available roles in the built environment among young people is further compounded by a lack of understanding about how to get into the sector. Young people who may not want to go to university, or mid-career professionals, for example, may not know what jobs are available to them.⁵¹ Additionally, a built environment expert who works closely with schools said that there is a lot of information available for young people who want to pursue higher education courses but often very little direction for young people who want to enter the sector via a vocational route.

Another way to project a better image of the sector is by highlighting the role that the built environment plays in reducing carbon emissions, creating energy efficiency and improving the environment through sustainable building design. The sector needs to tout its green credentials to build more interest in built environment careers. Highlighting the scale of this opportunity, a government survey found that 81% of 15-year-olds said that they wanted to do more to protect the environment.⁵²

Are you aware that careers in the built environment can support the transition to Net Zero?



⁵⁰[Routes-of-Entry-Into-Construction.pdf \(builduk.org\)](#)

⁵¹[Over 80% of young people eager to take action to help the environment - GOV.UK \(www.gov.uk\)](#)

A Taskforce survey of school students aged 13-16 revealed that 80% of students are unaware that built environment careers play a role in supporting the pathway to net zero.

The sector needs to actively market roles that require digital skills in artificial intelligence, communications, marketing, design, and more. The built environment also needs to better articulate how mid-career professionals' experience can be transferable to the sector.

Dispelling myths about the sector will be crucial to attracting a diverse, skilled workforce prepared for the future. The sector needs positive role models to showcase the range of talent in the sector. Image, diversity, and company culture are considerations that need to be addressed in tandem.

How the Taskforce will address this:

1. Deliver a campaign to engage with young people at schools and colleges – and their teachers, parents and carers – by improving careers education with the aim of raising awareness of attractive built environment careers.
2. Explore what can be done to deliver a built environment sustainability taster course to raise the sector's profile with young people.



Case Study, Construction Youth Trust: Working in Schools to Broaden Horizons

Construction Youth Trust is a charity working in nine London boroughs (and North Kent) whose mission is to inspire and enable young people to overcome barriers and achieve their full career potential in the construction industry.



They connect young people, primarily from low-income backgrounds, underrepresented groups and/or those who are facing significant barriers to employment, with employers and opportunities in the

construction and built environment sector. A good understanding of careers is critical to social mobility and improving a young person's future prospects.

Construction Youth Trust's work in schools broadens their career horizons and opens the door to high-value career pathways in the built environment sector. Their Green Skills Programme, piloted in 2022, introduces young people to a huge range of modern job roles available that create a sustainable world. Last year, as a result of Construction Youth Trust's schools-based programmes, 88% of young people reported that they improved their knowledge of careers in the construction and built environment industry.

The charity also works with students aged 16 - 18, via their Pathways to Professional Careers Programme, by introducing them to alternative pathways into the industry such

as degree-level apprenticeships. Last year, 199 young people were supported on the programme, which includes the opportunity to work with the Construction Youth Trust team, who provide 1-2-1 coaching and develop an individual action plan to help the young people get closer to achieving their career goals.

Key to all of Construction Youth Trust's programmes is the opportunity for young people to meet with relatable industry role models working in sector, the development of new skills, visit construction workplaces, and participate in intensive work experience placements with employers.

Construction Youth Trust has long-standing links with employers in the built environment sector, and through these partnerships, has been able to facilitate a range of fantastic opportunities, such as work experience, for the young people they work with. In 2022, they facilitated work experience opportunities for 516 young people. Work experience placements give young people the chance to grow their confidence, and become one step closer to being work ready, as well as ignite their interest in the construction sector.

With an increasing focus on sustainability and new technology, as well as the emerging demand for workers with a specific skillset, Construction Youth Trust are working together with the sector to ensure young people from less advantaged and diverse backgrounds don't miss out on the exciting career opportunities opening in their communities, and the sector.



04



Conclusion

As the evidence above shows, there is a clear business case for sustained investment in upskilling, diversifying and expanding the built environment workforce. The sustainable development planning pipeline gives us a good indication of the kinds of skillsets which the industry will need in the near future in order to deliver Central London's sustainable developments.

In response to these compelling recommendations for action, the Skills for a Sustainable Skyline Taskforce will deliver two dynamic workstreams that will begin to address some of the major underlying issues standing in the way of Central London accessing the skilled workers it needs to achieve net zero goals.

These two workstreams will include a Response to the Barriers Workstream, which will pursue available policy and influence levers to address the systemic barriers discussed in the 'Barriers

and Evidence' section. The second workstream will be a 'Workforce Engagement Campaign Workstream' which will deliver a targeted industry campaign to encourage existing workers to upskill and reskill, including upskilling with more inclusive workplace and hiring practices. The Workforce Engagement Campaign will also aim to attract new entrants from untapped, diverse pools of talent.

The challenge before us to upgrade our workforce for the future cannot be overstated. However, the leadership of the Skills for a Sustainable Skyline Taskforce believes that with real collaboration across the sector and a willingness to adapt approaches to training, talent engagement and inclusivity, real change is possible.

This report is our call to action for the built environment to join us, to prepare our people for delivering a sustainable skyline that is fit for the future.

05



Appendix

Acknowledgments

Special thanks to the Strategy Steering Board, Arup, the CITB and the Workstream #1 (Evidence Base) Task Groups, who all helped compile evidence and interviewed key industry leaders, which formed the baseline for this report.

Additionally, thanks to Joanne Sainsbury and Luke Thompson from Arup, Ian Hill from CITB, Harish Ratna from TateHindle, Helen Yeulet from the Building Engineering Services Association, Kiri Shuttleworth and Shaun Andrews from Nexus Planning, Paula Lucci and Graeme Low from the City of London Corporation, Andrew Eldred from the ECA, David McMahon from Ryder Architecture and Paul Burns from CPJ Education Ltd for your editorial and research support.

As well as Dr Mario Gruber, Paul Stephens from the Institution of Engineering and Technology, Pippa Palmer and Aaron Gillich from London South Bank University / BSRIA Net Zero Building Centre, and Pascal Coyne from London Borough of Islington, for your support on this report.

Thank you to the Workstream Chairs

Task Group #1 (Design and Planning Pipeline) was led by Conor Storkey (Brookfield Properties)

Task Group #2 (Skills Gaps) was led by Julia Barrett (Willmott Dixon) and David Frise (BESA)

Task Group #3 (Qualification and Training Gaps) was led by Fiona Morey (London South Bank University)

Task Group #4 (Business Case for Investment in Skills) was led by Hannah Vickers (Mace) and Benjamin O'Connor (New London Architecture)

Task Group #5 (Barriers to Action) was led by Iain McIlwee (FIS)

About the Taskforce:

The Skills for a Sustainable Skyline Taskforce's aim is to better understand the barriers in attracting the diverse workforce the sector requires and find solutions to help promote the reskilling and upskilling of existing workers, whilst raising career awareness amongst Londoners, particularly those from underrepresented demographic backgrounds.

It is chaired by Deputy Chairman of the City of London Corporation's Policy and Resources Committee, Keith Bottomley. City Property Association's (CPA) Chief Executive, Charles Begley, serves as Deputy Chair.

The Taskforce is supported by leaders from across the commercial built environment, including representation from local authorities, central Government, employers, industry bodies and training providers.

The Taskforce will deliver three key 'Workstream' focus areas:

Workstream #1: Building the evidence base on the planning pipeline, skills gaps, qualifications gaps, identifying barriers to action, and the business case for investing in green skills.

Workstream #2: Delivering impactful interventions which directly address the issues raised in the evidence piece. This may involve career and qualification pathways, unlocking financing for upskilling, planning policy, procurement rules etc.

Workstream #3: Delivering an industry engagement campaign to promote reskilling and upskilling among the existing workforce, and raising career awareness amongst Londoners, including those from underrepresented backgrounds.

Methodology for Sector Survey and Stakeholder Interviews:

Green Skills Pulse Survey

To provide the Skills for a Sustainable Skyline Taskforce with a starting point to capture the views of built environment professionals on green skills, the Taskforce ran a 'Green Skills Pulse Survey' from October 2022 to February 2023.

The survey included 28 questions which covered areas such as respondents' views on workforce shortages, barriers to upskilling, specific emerging green skills, the business case for upskilling and what the Taskforce could do to promote workforce upskilling, diversity and expansion.

Overall, 118 built environment stakeholders responded to the survey. Respondents included representatives from architecture firms, construction firms, SMEs, subcontractor, qualification and training providers, other organisations.

Some of the key findings from the Survey included:

- 90% of respondents said that providing their workforce with green skills, now or in the future, was a priority their organisations planned to invest in;
- 81% of respondents were unaware of the provision of green skills training to support their career development
- 43% of respondents struggled to recruit skilled hires to support sustainable commercial projects, and 39% of respondents said that retaining workers was a problem for their organisation
- The most significant barriers to hiring for green skill roles were: the industry's poor engagement with schools around the range of available careers opportunities; a lack of skills and responsibilities; small budgets for recruitment; and a shortage of younger people in the workforce.

Stakeholder interviews

Spanning the UK built environment sector, Task Group members heard from more than 55 individuals in structured one-to-one interviews from September 2022 to March 2023. Interviews were used to develop qualitative observations and findings and recommendations used throughout this report. The interviews covered stakeholders from a spectrum of backgrounds, including employers, training providers and prospective students, and other industry leaders.

Areas of focus:

An initial literature review by Work Advance was undertaken alongside bi-lateral meetings with Taskforce members and external stakeholders, during 2021-2022. This provided the basis for developing five initial focus areas to gather evidence, for this report. These areas included: future planning pipeline, current skills gaps, training and qualification gaps, the business case, and skills barriers to action.

These focus areas were then used to formulate framework interview questions for each of the key stakeholder groups during the evidence gathering phase.

Definitions

The definition for 'green skills' which the Taskforce's Strategy Steering Board agreed to use is 'any role in the project life cycle for which the outcome is a sustainable commercial building,' and the definition of a 'sustainable building' will be the UK Green Building Council definition, which focuses on embodied carbon.

Planning Policy

The early stages of a commercial development in London typically involve the process of obtaining planning permission from the relevant local authority or borough council. In order to obtain a resolution to grant, the design team must demonstrate compliance with all relevant planning policy. The GLA already have a range of policies in place which put specific emphasis on sustainable development. The complexity of commercial developments (and the associated sites) in London make it difficult to apply some criteria to specific projects. Policy is often driven by a need to solve a specific problem, creating criteria which in isolation may meet broader objectives but may then conflict with one another.

The planning policy stage of development presents a significant opportunity to set a framework for sustainable commercial development which addresses all the aspects of development that need to be considered and monitored.

During this life cycle phase, the industry sectors predominantly involved in the process are:

- Architects
- Engineers – including structural, mechanical, electrical, and civils
- Specialist consultants, including facades, fire, acoustics, and sustainability
- Quantity surveyors
- Local authority planners;
- Client and developers
- Planning consultants

Funding and Investment

Commercial development requires funding and investment for project creation. This phase of the life cycle is a key milestone in setting the overarching objectives for the development and therefore can

have a significant impact on the sustainability of the scheme. Increasingly investors have developed a corporate ESG policy which will set the framework for the sustainable aspirations of a project. During this life cycle phase, the industry sectors predominantly involved in the process are:

- Clients and developers
- Investors

Design

The design phase is a critical stage for the positive development of the building in the sense of sustainability, constructability and future-proofing the building lifecycle.

Key roles in this stage that contribute significantly to the design are:

- Architects
- Engineers
- Specialist consultants, including facades, fire, acoustics and sustainability
- Clients and developers

These roles use skills in innovation, communication and understanding of regulations to design developments that meet both the client's aspirations and planning policy. With a focus on material use, construction and efficient designs, LCAs inform the wider team on the carbon impact of the project and whether it is in line with the Route to Net Zero guidelines.

Construction

At the construction stage, the commercial development sector is a dynamic and fast-paced environment, with constant pressure to deliver projects on time, within budget, and to the highest quality. During the construction phase, there are several key trends and practices that are driving innovation and efficiency in the industry.

At this stage, the key roles involved are:

- Contractors;
- Sub-contractors;
- Designers;
- Client and developer

In-use operation

In the in-use stage, facilities and building management teams play a critical role in ensuring that commercial developments operate efficiently, effectively and as designed. Their roles involve the ongoing maintenance, repair, and management of commercial buildings to ensure they are operating at optimal levels.

To design commercial developments for the best system use, it becomes essential for facilities and building management professionals to be involved in the design process and subsequently be fully trained in the operation and management of the systems as designed, to ensure optimum performance and an ability to meet the sustainability targets such as energy usage set during design phases.

Deconstruction & Reuse

As an alternative or additional workflow alongside demolition, deconstruction refers to the process of carefully dismantling a building, salvaging the

usable materials, and recycling or disposing of the remaining waste. This contrasts with the traditional full demolition of the building.

Deconstruction is often used as a more environmentally sustainable alternative to demolition, as it can reduce the amount of waste that ends up in landfills and decrease the carbon footprint of the demolition process. In addition to environmental benefits, deconstructing a building can also allow for the preservation of historic features and materials and can be a safer alternative to demolition.

Issues arise from identifying who benefits from any of the carbon saving in the process of deconstruction, and without transparency of carbon benefits building developers often disregard considering deconstruction as its benefits are not always accounted for in existing buildings. It is also difficult to predict whether there will be a market for reusable products when the time comes to reuse, meaning that the benefits that are predicted may not materialise.

The reuse of building systems allows for products that have not reached their end of life to be repurposed into new building fit out. This saves capital carbon costs of the manufacture of brand-new products in relation to the product build and transportation.

Special thanks to the City Property Association (CPA), Construction Industry Training Board (CITB) and EC BID for their sponsorship and support of this report.





CITY
OF
LONDON
