



Job greening in the UK Financial Services Sector

PwC Green Jobs Barometer series, sectoral paper
in collaboration with the Financial Services Skills
Commission and the Aldersgate Group

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Contents

Executive summary	03
1. Introduction	09
2. The green transformations: financial services role in race to Net Zero	11
Fuelling the green transition, creating new opportunities	12
Expanding green offerings and processes	15
3. Green jobs in finance: new tasks, new skills	18
Reconfiguration of jobs into green	19
Implications for skills	27
4. The green skills gap: the challenge to meet Net Zero goals	31
Skills supply and green skills gaps	33
Barriers to closing the gap	35
5. Green upskilling: actions to prepare the workforce	39
Call to Action	40
Upskilling best practices	42
Green inclusion: sharing the opportunities while enlarging the talent pool	45
6. Recommendations	46

Executive Summary

The UK became the world's first major economy to set legally binding targets committing to achieving Net Zero greenhouse gas emissions by the year 2050. The green transition is well under way and the **financial services sector** is a key enabler in multiple ways, from facilitating funding for green initiatives to supporting sustainable lifestyles. Regulatory pressures, and from the public, have continued to intensify, and the sector is already experiencing several transformations. Strategies, services and products are increasingly aligning with environmental outcomes, including the rise of green finance, all of which is in increased demand globally.

To successfully navigate these transformations, the sector's workforce needs to develop the right green skills. As a result of either new job roles or traditional work tasks in finance that now need more alignment to sustainability issues and processes, new skills are needed. Sustainability officers, climate strategists, and ESG analysts are now becoming commonplace in financial institutions, as companies seek to strengthen their commitment to sustainability, navigate the complexities of changing regulations, and capitalise on the burgeoning demand for green investment opportunities.

Green upskilling of the sector is thus essential to meeting Net Zero targets, and also the UK's ambition of becoming the world's first Net Zero-aligned financial centre. This is good for the environment and good for the economy, by helping the UK to maintain the competitiveness of its financial sector and its economy. Furthermore, green upskilling presents as an opportunity to address historical inequalities, by creating opportunities that are accessible to all.

This report explores how jobs and the demand for skills are being reconfigured by the rise of green finance and other trends triggered by Net Zero goals. The research and insights are informed by new data from PwC's Green Jobs Barometer and by qualitative insights from dozens of interviews with financial services companies, where questions about green opportunities and how to prepare for them were covered. To overcome existing skills gaps, the report also identifies best practices for upskilling initiatives in the finance sector.

Key findings:

01

Financial institutions are increasing their green offerings. The consensus amongst businesses interviewed was that reaching Net Zero targets, as well as tackling the climate and nature crisis, has drastically shifted the priorities in their organisations - both operationally and commercially. Furthermore, organisations have anticipated regulatory changes and continue to position themselves to address future changes.

02

With the growth of green finance, new roles are emerging. As financial institutions recalibrate their priorities, strategy, and processes, they are inevitably reshaping jobs. Changes in the employment landscape are not only seen through the addition of new green jobs; an arguably bigger impact comes from the greening of already established, core job roles in financial services.

03

The number of green jobs demanded in the financial sector is increasing but falls below the UK average for green job concentration. Our data shows that the percentage of green job vacancies out of total job vacancies in the financial sector grew from 0.25% in the period of 2019/2020 to 2.2% in 2022/2023 - growing from a total of 4,900 jobs to 16,700. Given the scale of the green investment needed, in the UK and globally, this growth is expected to accelerate further. Despite this, the green concentration in the financial sector falls below the total UK sector average of 2.3%.

04

London has the highest absolute number of green jobs, while Scotland has the highest share of its financial services workforce going green. Green jobs account for 5.6% of all jobs that are demanded in the financial services sector in Scotland equivalent to 2,200 jobs. London follows behind with a green job concentration of 2.6% but accounts for the greatest number of green jobs demanded equalling 6,600.

05

The demand for green jobs demonstrates a remarkable resilience to economic downturns when compared to non-green jobs. Since 2019, the financial sector has seen non-green job demand drop from 1.9 million in 2019 to 740,000 in 2023. In contrast, green jobs have steadily grown over the same period, showcasing their resilience in the face of an economic downturn.

06

Demand for green jobs in finance is increasing across most regions though it is not equal. There is a significant disparity in the prevalence of green jobs in the UK across regions. London accounts for 6,600 of green jobs demanded, whilst Northern Ireland makes up 150.

07

The financial services industry is not doing enough to green upskill their current workforce.

As the demand for green talent and skills continues to grow, the supply of green talent both from new entrants and the existing workforce is failing to rise with it. Our interviews with business leaders in the financial services sector corroborates that a green skills gap exists and not enough is being done by the industry to close it.

08

Graduates alone will not be able to fill the green skills gap.

In 2023, the total number of green job vacancies equaled almost 16,700. We estimate that graduates with sustainability skills would only be able to fill 900 of these vacancies. Since 80% of the expected workforce in 2030 is already in the workforce now, upskilling and reskilling is urgently needed.

09

The shortage of new green talent is the result of a mix of forces. Notably, the absence of green knowledge in typical finance degrees, lack of knowledge amongst students about career pathways facilitated by green skills, and graduates with green skills shifting away from the financial sector to join industries they believe align more with their values.

10

Upskilling is essential for the new green demands.

Failing to upskill will decelerate progress towards Net Zero, and also make the UK less competitive in the sector. Furthermore, green upskilling can also lead to career progression of the sector's workforce by boosting earnings potential.

A holistic approach must be taken by the industry and policy makers to drive green upskilling of the existing workforce and new entrants, and to close green skills gaps. The research on the ground identified general enablers for upskilling widely and effectively:

A cycle of continuous upskilling. Firms will need to develop a culture of continuous learning, both within organisations and at the level of the economy. One-off actions are not enough.

Dialogue facilitation. Multi stakeholder task forces can facilitate dialogue between firms and educational institutions and help input into courses and training.

Inclusivity promotion. By facilitating training and access to green jobs across sociodemographic groups and regions, the industry (with support from Government) can not only contribute to sustainability but also tap into a wider talent pool, fostering innovation and resilience in the evolving world of green finance.

Actions for industry:



Offer firm-wide sustainability training programmes. Partnering with educational institutions can enhance the range of training offerings available to employees.



Target upskilling and recruitment from diverse backgrounds. From mentorship programmes to collaboration with social enterprises, there are innovative ways of enlarging the talent pool, including among disadvantaged groups.



Utilise the Apprenticeship Levy to fund green apprenticeships. More involvement of firms in the design of training will make it more relevant for their purposes.



Promote green culture. Training courses should be aimed at not only improving the green knowledge of employees but also promoting a green culture throughout the business.

Actions for education and training systems:

- **Incorporate green finance modules into the curriculum, including in apprenticeships.** Collaborating with businesses and employers can increase the relevance of the curriculum.
- **Create a standardised curriculum for sustainable finance accreditations.** Education bodies should work together with industry leaders to develop a relevant and standardised curriculum for sustainable finance accreditations across subsectors.
- **Promote green career pathways for new entrants.** Education institutions can facilitate talent attraction to the industry by effectively communicating what typical green career pathways for young people will look like.

Actions for Government:

- **Release concrete regulatory signals to encourage green upskilling.** Providing greater clarity on sustainability regulation will provide incentives for businesses to upskill.
- **Target funding.** This includes targeting greater government funding towards adult learning and upskilling initiatives, like Skills Bootcamps in green skills.
- **Reform the Apprenticeship Levy.** Greater flexibility in the use of the Levy will expand the training offerings of firms.

“

Addressing the green skills shortage in the finance sector is essential if the UK is to both meet its ambition of becoming the world's first Net Zero aligned financial centre and maintain the sector's competitiveness globally.

This report is an important first step in quantifying the green skills gap and sets out the policy change needed to ensure the sector has the capacity and capabilities to facilitate the transition to a Net Zero and nature positive economy.”

James Fotherby

Senior Policy Officer,
Aldersgate Group



1. Introduction



The world has been building momentum towards a Net Zero economy since the 2015 Paris Agreement, with countries setting more stringent targets this decade. The UK's world-leading financial services sector represents a significant opportunity to drive this transition - while creating further economic opportunities.

Be it via the funding of clean technologies, the offering of environmentally-conscious offerings like green mortgages or green investments, or insurers facilitating the transition through risk transfer, prevention and mitigation solutions, the financial services sector is an engine of the decarbonisation of the economy. Consequently, the industry is seeing a transformation as their strategies, services and product offerings are shifting to align with Net Zero goals. This is reconfiguring job roles and the skills needed in the sector.

Financial services will need to adapt globally, but the economic and job impacts can be more profound in the UK. The sector employs 1.5 million people and contributes more than 8% of the national economic output.¹ Furthermore, with London being a leading financial centre, the UK will play a major role in green and transition finance globally. Green finance, for instance, has grown fivefold in the UK since 2017.² Our own research shows that the UK has an opportunity to become a global centre for nature finance as well.³ This key role will be strengthened by a facilitating national context: the UK ranks top for foreign investment into green energy projects in 2022 and it also became the first major economy to set (in 2019) legally binding targets to reach Net Zero greenhouse gas emissions by 2050,^{4,5} backed by relevant Government strategies and plans.⁶ Furthermore, the UK is a leader on sustainability regulations and there is also awareness of the importance of supporting the financial services sector, where green jobs are already expanding.

New business areas for the green age will require new skills and talent. Whilst growth in green jobs remains most prominent in the energy sector, the growth rate in the financial services sector is rapidly increasing. PwC's Green Jobs Barometer defines green jobs as 'roles that have as part of their goals to improve products, services or processes to make them more energy efficient or better for the environment (using fewer natural resources)'.⁷ The Barometer also classifies green jobs as those that support the environment indirectly, e.g. by aligning processes to Net Zero objectives. Based on this definition, the percentage of jobs that are considered green jobs in the sector grew from 0.25% in the period of 2019/2020 to 2.2% in 2022/2023 - and in London green finance represents almost a quarter of all green jobs, the third highest proportion behind homes and buildings.⁸

This paper explores the rise in demand for green jobs, and subsequently green skills, within the UK financial services sector, in the form of both brand **new green jobs** and the **greening of skills in traditional jobs**. It also describes how businesses are preparing and the challenges that need to be overcome to tackle the significant green skills gap that currently exist in the UK's financial services sector.

¹ Financial services contributed £173.6 billion to the UK economy in 2021, equivalent to 8.3% of total UK economic output. Sources: UK Parliament, [Financial services: contribution to the UK economy](#), 2022; ONS, [EMP13: Employment by industry](#), 2023.

² Mobilising green investment: challenges and opportunities for the UK economy, University of Cambridge centre for science and policy 2023, <https://www.csap.cam.ac.uk/news/article-mobilising-green-investment-challenges-and-opportunities/#:~:text=Green%20finance%2C%20that%20is%2C%20financial.Green%20Finance%20Index%20since%202021>.

³ PwC and the City of London (2023), A Global Centre for Nature Finance, supported by the Green Finance Institute Access: <https://www.pwc.co.uk/issues/esg/pdf/global-centre-for-nature-finance.pdf>

⁴ FDI table, FDI markets 2022, <https://www.fdiintelligence.com/content/rankings-and-awards/uk-heads-global-renewables-league-table-82307>

⁵ Net Zero Strategy: Build Back Greener, Department for Energy Security and Net-Zero, Department for Business, Energy & Industrial Strategy, 2021 <https://www.gov.uk/government/publications/net-zero-strategy>

⁶ Since 2019, the Government has backed these targets through the 2020 Ten Point Plan for a Green Industrial Revolution, and a £12 billion strategy outlining the UK's path to Net Zero. Source: The Ten Point Plan for a Green Industrial Revolution, Department for Energy Security and Net-Zero, <https://www.gov.uk/government/publications/the-ten-point-plan-for-a-green-industrial-revolution>

⁷ PwC's Green Jobs Barometer measures the relative performance of UK regions and sectors on developing green jobs over time, <https://www.pwc.co.uk/who-we-are/our-purpose/building-trust-in-the-climate-transition/supporting-a-fair-transition/green-jobs-barometer.html>

⁸ Green Jobs and Skills in London: cross-London report, WPI Economics, Institute for Employment Studies, Central London Forward (2021) <https://centrallondonforward.gov.uk/wp-content/uploads/2021/11/Green-Jobs-and-Skills-in-London-Final-Report.pdf>

2. The green transformations: financial services role in race to Net Zero



The greening of the financial services sector should not be treated as a by-product of the Net Zero transition. In fact, we must recognise that financial services will be a driving force underpinning the transition to Net Zero. And, in the process, financial services businesses will adapt their process and how they do things, from reporting to investments.

Fuelling the green transition, creating new opportunities

The financial services sector plays an important role in achieving Net Zero goals, in the UK and also globally. The UK's financial services sector can also contribute to the green transition in other countries given its global reach.

Ways of contributing to the green transition include funding clean technologies and enabling transition finance for carbon-intensive entities. To achieve a sustainable future, innovative technologies must access low-cost capital and expertise from the sector to scale up, while high carbon-emitting industries need support with their decarbonisation efforts. Insurance and underwriting risks will be important to facilitate the Net Zero transition too. Furthermore, the financial services sector can help individuals transition towards a more sustainable lifestyle through providing environmentally conscious products such as sustainable savings accounts, green mortgages and green bonds.

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The financial sector is absolutely critical to the UK's transition to Net Zero and the wider transition to becoming more sustainable. However, despite some good progress we need more knowledge sharing between the sustainability community and the financial sector to help drive the transition. IEMA has created its sustainable finance members group to increase collaboration between professionals and to bridge this knowledge gap.”

Ben Goodwin
IEMA, Director of Policy
and Public Affairs



The transition hinges on the swift mobilisation of green private finance. In order to achieve Net Zero globally, it is estimated that \$4.3 trillion of annual investment flows is required by 2030. As of 2021, global climate finance totalled only \$653 billion, a significant shortfall.⁹ To address this shortfall, multiple countries and jurisdictions across the globe - including the likes of Singapore, the EU, and the UK - have set out plans to crowd-in green private finance.

Singapore

In Singapore, which has pledged to reach Net Zero by 2050, the Monetary Authority of Singapore (MAS) has committed US\$1.8 billion of its reserves to climate related investments, leaving these funds in the hands of asset managers to manage new equity and fixed income mandates focusing on climate change and the environment. As a result of this and other related initiatives supporting green finance, Singapore's finance sector has become a major recruiter of green talent. This industry has a relatively high green skills intensity and in the last year has seen over 20% growth in green talent.¹⁰

The UK Government had taken significant strides in promoting green investments through the formulation of a comprehensive Green Finance Strategy in 2019,¹⁵ developed right before committing to becoming the world's first Net Zero-aligned financial centre (announced at COP26, 2021). Business-led green finance activity is already accelerating and the Government is seeking to balance adaptation with stability and the competitiveness of the sector (as outlined in the 2023 update of the strategy, summary in Box 1).

EU

The EU has laid out its goal of becoming climate neutral by 2050 as outlined in the European Green Deal.¹¹ They announced that €1 trillion will be invested into the green transformation of the European economy and highlighted the importance of a transition to sustainable finance.¹² This has spurred action on the European continent, as policymakers begin to recognize the role green finance will play in achieving Net Zero goals. Germany, in its sustainable finance strategy, outlined its goal of becoming a leading global hub for sustainable finance.¹³ Moreover, in 2019, France's financial regulator (AMF) announced the creation of a Climate and Sustainable Finance Commission with the role of supporting in the effective mobilisation of a sustainable finance sector.¹⁴

The transformation of the financial services sector is a **win-win** endeavour for the UK: with Net Zero goals becoming more achievable while the industry remains competitive and captures wider global commercial opportunities. The opportunities are potentially large: low-carbon financial services, expected to be the fastest growing low-carbon sub-sector of the economy, could generate an export opportunity of up to £7.5bn per year in 2030, rising to £17bn per year by 2050 - particularly to the EU where an estimated €470bn of green finance will be required each year by 2050.^{16,17} Nature finance is also a fast growing trend.¹⁸ By re-allocating capital towards greener activities, banks have an opportunity not only to aid the transition, but to protect their balance sheets and benefit from the debt financing activities of low carbon investments.¹⁹

⁹ Climate Policy Initiative, [Global Landscape of Climate Finance: A Decade of Data](#), 2022

¹⁰ Green skills intensity score refers to the average number of green skills held by industry workers

¹¹ European Commission, [A European Green Deal: Striving to be the first climate-neutral continent](#), 2019

¹² Intereconomics, [Green Finance in Europe – Strategy, Regulation and Instruments](#), 2021

¹³ The German Federal Ministry of Finance, [German Sustainable Finance Strategy](#), 2021

¹⁴ AMF, [Climate and Sustainable Finance Commission](#), 2023

¹⁵ GOV.UK, [Green Finance Strategy](#), 2019

¹⁶ Social Market Foundation, Financial services and net zero: Seizing the opportunity, LINK, 2022 <https://www.smf.co.uk/publications/financial-services-and-net-zero/>

¹⁷ CBI, LINK, 2023 <https://www.cbi.org.uk/media-centre/articles/pressing-the-accelerator-on-green-growth-could-earn-up-to-57-billion-for-the-uk-economy-by-2030/>

¹⁸ Significant commitments have been made during the Kunming-Montreal Global Biodiversity Framework at the UN Convention on Biological Diversity COP15 in December 2022.

¹⁹ Financial Institutions are making progress in navigating to Net Zero, but challenges lay ahead, Strategy& Luxembourg, <https://www.strategyand.pwc.com/lu/en/insights/financial-institutions-are-making-progress-in-navigating-to-net-zero-but-challenges-lay-ahead.html>



Box 1: Key goals and commitments outlined in Green Finance Strategy

The strategy aims to align the activities of UK financial firms with both domestic and global Net Zero targets. Among the objectives are ensuring that these firms fully adhere to their commitments under the Paris Agreement and effectively meet their domestic carbon budgets and solidifying the UK's position as a global frontrunner in green finance and investment. Five key goals are delineated:

1. UK Financial Services Growth and Competitiveness: initiatives include providing venture capital for innovative climate tech solutions, bank financing for major renewable projects, and asset managers allocating capital to future-oriented companies.

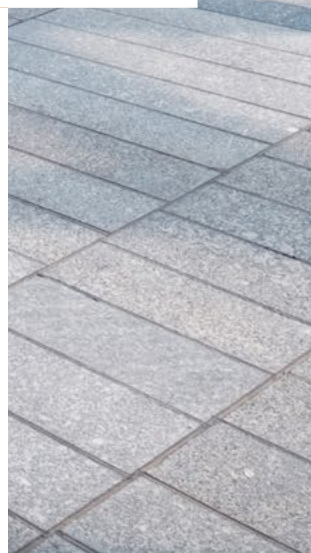
2. Investment in the Green Economy: funding will support future sectors and technologies and empower traditional industries to adapt. The country will need an additional annual capital investment of £50-60 billion to reach its Net Zero goals by the late 2020s and 2030s. Furthermore, fulfilling domestic nature-related goals may require £44-97 billion over the next decade.

3. Financial Stability: a well-structured green finance framework will enable the finance sector to manage climate and nature-related risks effectively. Under a disorderly transition scenario, UK banks could face £110 billion in additional losses by 2050, and insurers may experience 50-70% higher losses.

4. Incorporation of Nature and Adaptation: integrating both nature and climate and adaptation into the UK's green finance policy framework to support private investment in climate resilience.

5. Alignment of Global Financial Flows with Climate and Nature Objectives: the UK can seize economic opportunities by supporting the transition to greener practices worldwide, fostering stronger ties with high-growth emerging markets and developing economies in meeting their financing needs, and aligning global financial frameworks with climate and nature objectives.

UK cities and regions seem well positioned to benefit from the commercial opportunities of green finance: London has been ranked first in the Global Green Finance Index for two consecutive years ahead of New York, Singapore, Amsterdam and others. Other UK cities have also risen up the index; Edinburgh, for instance, is ranked 14th.²⁰ Overall, the new opportunities can help close regional economic divides since 2/3rds of financial services sector jobs are located outside of London in finance hubs such as Birmingham, Cardiff, Edinburgh, Glasgow, Leeds and Manchester.²¹



²⁰ The Global Green Finance Index 11, LINK, 2023 <https://www.longfinance.net/publications/long-finance-reports/the-global-green-finance-index-11-supplement-the-carbon-transition/>

²¹ The annual review of the UK financial services sector 2022 produced by the City of London in partnership with HMT. Access: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1092788/State_of_the_sector_annual_review_of_UK_financial_services_2022.pdf

Expanding green offerings and processes

As the leading net exporter of financial services across the world, and one of the largest asset management centres, the UK's finance sector has a far-reaching footprint globally.²² Consequently, it contributes significantly to the UK economy and many workers are employed across banking (382,000), insurance (324,000), fund management (63,000), accountancy (421,000) and other subsectors.²³ The sector is also a source of innovation (including a significant share of global fintech developments), and now it is expected to pioneer transformations to adapt processes and services to Net Zero goals and the green transition. For example, institutions such as the UK Centre for Greening Finance & Investment (CGFI) Innovation Hub are helping connect different actors to develop and provide environmental and climate solutions to financial institutions.²⁴

The sector is beginning to recognise its role in the green transition as well as the risks that climate transition poses to the industry. There has been a significant increase in demand for products, practices and tools that can support the transition. Furthermore, pressure from the public and regulators has meant that the industry must shift its strategic priorities to align with the UK's Net Zero goals and climate transition promptly.

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We've invested in this space, we see it as a market differentiator and competitive advantage. We want to be known for providing these [sustainable] products and services”

Geoff Hopwood

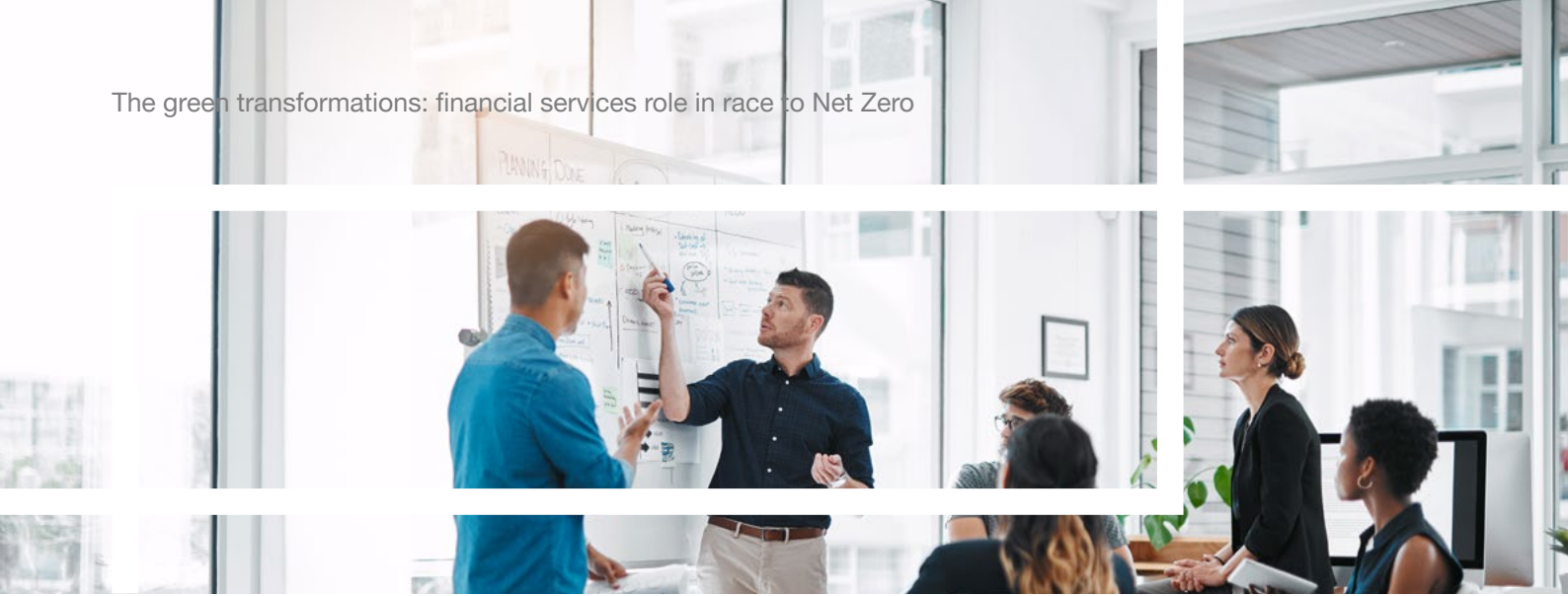
Executive Director, Sustainable Finance, Standard Chartered



²² The UK is the world's largest asset management centre outside of the US with £11.6 trillion of assets under management. The Global City, [A global asset management powerhouse](#), 2023

²³ TheCityUK, [Key facts about UK-based financial and related professional services 2022](#), 2022

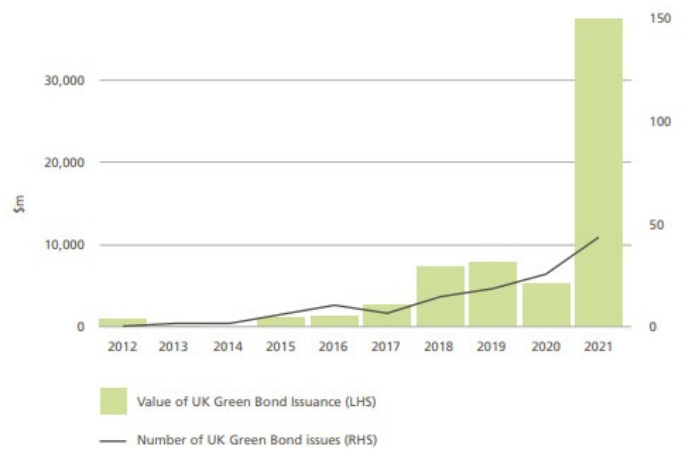
²⁴ CGFI, [LONDON CGFI INNOVATION HUB](#), 2023



This has resulted in a transformation across most sub-sectors within the industry:

- Green finance has grown from \$5.2 billion in 2012 to \$720 billion in 2021, with the proliferation of a variety of green products and endeavours: green bonds, green loans, venture capital and private equity for green tech green, initial public offerings (IPOs) and green acquisitions, among others.²⁵
- Funds with an ESG mandate have tripled their assets globally since 2015 and are expected to continue to grow due to several trends such as intergenerational wealth transfer to GEN-Z, rising climate concerns and better understanding of ESG risks.²⁶
- The thirty largest asset managers in the world, with a combined total of \$9 trillion worth of assets under management, signed in 2020 the Net Zero Asset Management Initiative - committing to aligning the goals of managed assets with Net Zero attainment by 2050.
- Green bond issuance in the UK has gone from \$1.1 billion in 2012 to \$37.4 billion in 2021 with a cumulative issuance of \$65 billion. The UK green equity market capitalisation has also seen significant increases, standing at \$1.1 billion at the year end of 2016 it grew to almost \$9 billion by the end of 2021 (Figure 1).²⁷

Figure 1: The rise of green bonds in the UK



These are just a few examples of how “green transformations” are expanding and becoming ingrained within the industry. Greenwashing to satisfy regulations or stakeholder pressure still exists, but trends show that financial institutions have moved from ESG ‘tickboxing’ to developing legitimate and transparent green strategies that align with the values of their consumers and investors.²⁸ Barclays, for instance, has a new target of facilitating \$1 trillion of Sustainable and Transition Financing by 2030 and Lloyds has set a target of offering £15 billion worth of sustainable finance for corporate and institutional customers by 2024.^{29,30}

²⁵ Forrester, [Global Green Finance Saw Record Growth In 2021, Exceeding US\\$720 Billion](#), 2022

²⁶ OECD, [Financial Markets and Climate Transition: Opportunities, Challenges and Policy Implications](#), 2021

²⁷ TheCityUK, [Green finance: A quantitative assessment of market trends](#), 2022

²⁸ In a global survey conducted by Mambu, 48% of respondents stated that green financial services have become more important to them over the past five years. Source: MAMBU, [Is the grass greener on the sustainable side?](#), 2023

²⁹ Barclays, [Barclays significantly increases sustainable finance as the opportunity to accelerate the transition grows](#), 2022

³⁰ Lloyds, [Environmental sustainability](#), 2023

A large source of pressure and change comes from a changing regulatory landscape in the UK, the EU, and globally. A key part of the UK Government's strategy to develop a sustainable finance system is ensuring that investors and consumers are able to access sustainability information from companies.³¹ The economy-wide Sustainability Disclosure Requirements, SDRs, will require disclosure on: corporate sustainability metrics, investment products and asset management.^{32,33} The idea is to inform investors' and consumers' financial decision making by improving access to consistent and comparable sustainability information from companies. This will enable them to gain a more comprehensive understanding of a company's performance and commitment to drive sustainable value creation.

All these trends bring transformations. New services and processes, as well as new regulatory requirements, all affect ways of doing things (new jobs or new tasks) in financial institutions and the transformations are expected to continue - e.g. regulatory disclosure will likely become more complex in the future.³⁴

Upskilling and reskilling will thus be one of the key steps that financial institutions will be taking to rewire for the green economy - in addition to other often mentioned processes like setting up good governance structures, revised risk management processes, Net Zero embedded technology and data strategy, and reporting.³⁵

³¹ HM Treasury, *Greening Finance: A Roadmap to Sustainable Investing*, 2021

³² The SDR regime builds on existing climate-related disclosure requirements, which are based on emerging recommendations of the Task Force for Climate Related Financial Disclosures (TCFD), to bring together existing sustainability related disclosure requirements under one integrated framework and develop further requirements as time progresses. See *Greening Finance: A Roadmap to Sustainable Investing*. Gov.UK, *Greening Finance: A Roadmap to Sustainable Investing*, 2021

³³ This will help ensure consumers know if their assets are managed according to their sustainability preferences.

³⁴ The Task Force for Nature-Related Financial Disclosures (TNFD) is publishing recommendations for a framework for nature disclosure that involves companies reporting on issues such as biodiversity, nature loss and degradation. Source: HM Government, *Mobilising Green Investment: 2023 Green Finance Strategy*, 2023

³⁵ Strategy&, LINK <https://www.strategyand.pwc.com/lu/en/insights/financial-institutions-are-making-progress-in-navigating-to-net-zero-but-challenges-lay-ahead.html>

3. Green jobs in finance: new tasks, new skills



As financial institutions recalibrate their priorities, strategy, and processes, they are inevitably reshaping the workforce. Just one example is how climate scenario stress test methodologies and tools are now being developed to help financial institutions better understand their climate risks.³⁶ This requires new knowledge and new skills (including digital and others). There are new types of jobs or green roles and many traditional jobs that now do new (green) tasks. The examples of raising jobs vary by specific subsectors of the financial services industry but the common denominator is the need for new skills.

Reconfiguration of jobs into green

Demand for green jobs in the financial services has been growing at a significant rate.

Comparing the time period of 2020 to 2023 the demand for green jobs has grown from **4,900 green jobs to 16,700 increasing by a factor of more than 3**. In terms of green jobs demanded as a proportion of the total financial sector job market, it is equivalent to an increase from 0.26% to 2.2% (**Table 1**).

This is a significant increase in demand and indicates that the financial sector is beginning to recognise the importance of bringing in green talent in order to meet sustainability targets and Net Zero goals. Another notable finding is that the demand for green jobs is more resilient to economic downturns. The demand for non-green jobs in financial services, by contrast, fell from approximately 1.9 million to 740,000 from the period of 2019 - 2020 to present.

When compared to various other sectors, the financial industry occupies a mid-tier position, ranking 9th out of 18 in terms of its concentration of green jobs. Leading the pack is the “Electricity, gas, steam, and air-conditioning supply” sector, boasting a substantial concentration of 31.2%, while “Education” lags behind as the lowest-ranking sector with a mere 0.23% green job concentration. The overall green job concentration across the United Kingdom stands at 2.3%, signifying that the financial sector might be trailing behind in its transition towards a more sustainable workforce and practices.



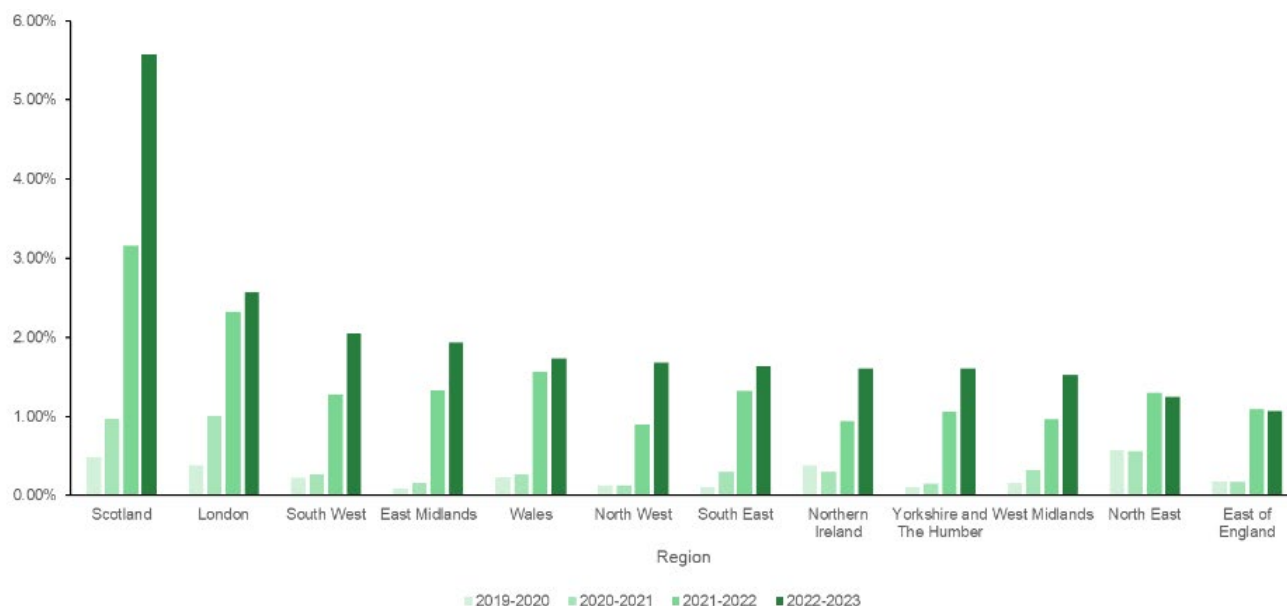
³⁶ As a result, credit risk agencies are integrating climate related transitions risk and opportunities into their assessments. Including climate risk and transition analysis into credit ratings will help to identify issuers and businesses that are in the best position to transition towards a green economy. See OECD, [Financial Markets and Climate Transition: Opportunities, Challenges and Policy Implications](#), 2021

Table 1: Green job proportion growth by sector (2021 - 2023)**Source: PwC Green Jobs Barometer**

Sector	Green job proportion 2021 Q3 – 2022 Q2 (%)	Green job proportion 2022 Q3 – 2023 Q2 (%)	Green job proportion annual growth
Electricity, gas, steam and air-conditioning supply	32.09%	31.23%	-0.86%
Water supply; sewerage and waste management	24.88%	18.57%	-6.31%
Professional, scientific and technical activities	5.93%	7.04%	1.11%
Mining and quarrying	6.78%	6.81%	0.03%
Public administration and defence; compulsory social security	6.00%	4.69%	-1.31%
Agriculture, forestry and fishing	3.78%	4.40%	0.62%
Construction	3.37%	3.54%	0.18%
Manufacturing	3.32%	3.32%	0.00%
Financial and insurance activities	1.64%	2.20%	0.56%
Information and communication	1.86%	2.01%	0.15%
Other service activities	1.47%	1.91%	0.44%
Administrative and support service activities	1.53%	1.81%	0.28%
Transportation and storage	2.31%	1.47%	-0.84%
Arts, entertainment and recreation	1.18%	1.24%	0.06%
Wholesale and retail trade; repair of motor vehicles	1.23%	1.10%	-0.14%
Accommodation and food service activities	1.12%	0.86%	-0.26%
Human health and social work activities	0.24%	0.31%	0.07%
Education	0.27%	0.23%	-0.04%
Total	2.18%	2.32%	0.14%

Most regions in the UK have seen an increase in green jobs within the financial sector, although the demand in each region differs dramatically (Figure 2). As the financial hub of the UK, London has the greatest demand for green jobs of almost 6,600, accounting for 2.6% of all of London's job vacancies. Scotland ranks as the 2nd highest for total number of green jobs demanded in the financial sector at 2,200, however it has the highest proportion of green jobs, standing at 5.6%. Conversely, the East of England had a green job share of 1.09% in the financial sector. These statistics highlight the disparity in the development of green finance in the UK, and further sections address the question of how to ensure a 'just transition'.

Figure 2: Total proportion of green jobs demanded in the finance services sector by region (2019 Q3 - 2023 Q2)



Despite the regional disparities of green jobs, the overall trend is a positive one. The share of green jobs in the financial services sector in most regions has grown year on year and the UK green job financial services market is growing at a far greater rate than the rest of the labour market. In fact, as the rest of job market saw negative growth in 2020-2021 post-COVID, the demand for green jobs in the financial sector continued to grow.

Behind these numbers is the expansion of several job roles. Sustainability officers, climate strategists, and ESG analysts are now becoming commonplace in financial institutions, as companies seek to strengthen their commitment to sustainability, navigate the complexities of changing regulations, and capitalise on the demand for green investment opportunities.

Green transformation of businesses has implications for existing jobs and roles

Across jobs and occupations, at least general knowledge is now needed on both sustainability and ESG. Specific job roles and work tasks are also changing, and some trends are specific to subsectors of finance. Insurance is more likely to demand data scientists for green endeavours than banking, for instance. Table 2 summarises some transformations by sector: including banking, insurance and asset management. Accountancy is also experiencing changes as businesses are now required to disclose their carbon footprint and sustainability efforts accurately, thus the need for accountants to be well versed in carbon accounting and reporting - to comply with evolving regulatory frameworks and international standards.³⁷

³⁷ ACCA, [Green finance skills: the guide](#), 2023

Table 2: Green transformations and new roles across selected subsectors of Finance

Sector	Green Transformations	Green roles (examples) ³⁸
Banking	<ul style="list-style-type: none"> Pressure from regulators, stakeholders and consumers to integrate ESG and sustainability considerations into their strategies. Global sustainable finance market grew to \$1.6 trillion in 2021 and is still growing at a rapid rate.³⁹ Total value of responsible investment in UK management funds grew by 60.1% from 2020 to 2021 to a total of £89 billion.⁴⁰ Changes in roles: senior executives must be well versed in sustainability issues to drive business strategy; relationship managers must now be able to engage with clients on green issues as they demand more sustainable investment opportunities; and employees at the entrant level are also expected to have a baseline understanding of green issues. 	<ul style="list-style-type: none"> Sustainability Stewardship role ESG Relationship Manager Sustainability Change Manager ESG Risk Analyst Sustainability Engineering
Insurance	<ul style="list-style-type: none"> The insurance industry has the capacity to support up to 1/3 of the total investment needed by 2035 in green finance.⁴¹ Heightened significance of environmental risk assessment and climate risk analysis for underwriting processes.⁴² Surge in demand for green insurance products, tailored to support sustainable businesses, via innovative policies covering renewable energy projects, green infrastructure, and eco-friendly businesses.⁴³ Changes in roles: insurance companies are increasingly recruiting professionals skilled in data science, artificial intelligence, and machine learning. 	<ul style="list-style-type: none"> Sustainability analyst Climate risk specialist ESG actuary Climate Change Transformation actuary Renewable energy underwriter
Asset Management	<ul style="list-style-type: none"> ESG funds under management could account for more than 50% of mutual fund assets by 2025, representing compound annual growth of 28.8% between 2019 and 2025.⁴⁴ Asset managers are facing multiple pressures to act on ESG and sustainability (e.g. changing public attitudes, investor demands, regulatory pressures).⁴⁵ The EU sustainable Finance Action Plan (launched in 2018) has resulted in various new legislative proposals introducing new frameworks for sustainable finance (e.g. SFD). Changes in roles: managers must have an in-depth knowledge of ESG and sustainability issues as well as a firm understanding of the quickly changing regulatory landscape of sustainable finance. 	<ul style="list-style-type: none"> ESG Research Analyst Natural environment asset manager Climate Change Specialist Climate transition fund manager Group Climate Risk & Reporting Manager

³⁸ These are just a few examples and the list is non-exhaustive.

³⁹ PwC, [Financing sustainable growth: An emerging opportunity](#), 2022

⁴⁰ The Global City, [Sustainable Finance Hub](#), 2023

⁴¹ The Association of British Insurers, [Climate Roadmap](#), 2022

⁴² Bank for International Settlements, [Turning up the heat – climate risk assessment in the insurance Sector](#), 2019

⁴³ McKenzie B, [Green Insurance: An increasingly crucial trend](#), 2022

⁴⁴ PwC, [Embracing ESG transformation: How asset managers are leveraging regulation to drive value creation](#), 2021

⁴⁵ In a survey conducted on asset managers in the UK with a total of £15.5 trillion assets under management 75% said that specific investor demand had played a significant role in promoting the firm's focus on ESG: PwC, [Embracing ESG transformation: How asset managers are leveraging regulation to drive value creation](#), 2021

Interviews with several businesses in the sector confirm two trends:

- Sustainability and ESG teams have been created where they did not exist previously and have seen significant growth in their size.
- Specialist roles in new business areas have been created, such as Heads of Nature or Head of Just Transition.

Changes in the employment landscape are not only seen through the addition of new green jobs; an arguably bigger impact is being caused by the greening of already established, core job roles in financial services (Figure 3). Those working in established ‘traditional’ roles within the financial services sector that are not typically considered as ‘green’ are seeing an increasing need for an understanding of sustainable finance and skills to learn new tasks. For example, relationship managers advising their clients on their sustainability journeys, portfolio managers needing to monitor for ESG ratings and insurers needing to manage climate risks.

“

Nearly all our larger clients want to talk to us about ESG or sustainability linked transactions, so we’ve needed to scale up the volume of expertise so our teams can support the relationship leads in structuring those transactions.”

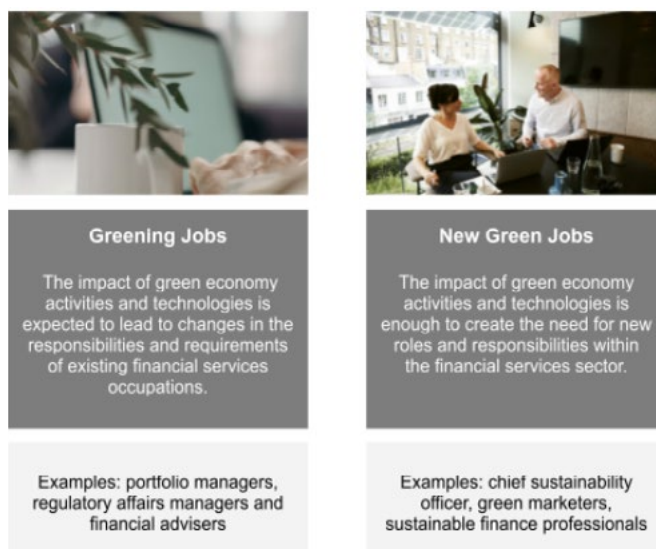
Gary Laphorn

Head of Sustainability & Responsible Business, Lloyds Banking Group





Figure 3: Job Transformation types in the green economy⁴⁶



Roles changing to adapt to ESG and Green Finance

New work tasks are starting to proliferate in job advertisements, including also for those more traditional jobs like relationship managers in banks or actuaries in insurance (Box 2 shows a description of evolving roles). Another example is that of portfolio managers in asset management: traditional tasks include investment strategy and process; portfolio construction and execution; performance measurement and risk management. In the green economy, tasks for the same job role are looking different: developing ESG and climate reports; analysing trends linked to ESG funds; producing and reviewing climate risk assessments for client portfolios.

⁴⁶ In addition to these two types, there are jobs that do not have green elements but are growing as a result of the green economy, often supporting the technical green jobs emerging.

Box 2: Examples of changing job demands for traditional jobs

Relationship Manager in a Bank

Traditional role	Green role
<ul style="list-style-type: none"> Customer relationship management Identifying new business opportunities Understanding customer requirements Structuring deals Sales and marketing of wide spectrum of banking products and services to meet the financial and investment needs of clients. 	<ul style="list-style-type: none"> Engaging and informing customers on ESG and sustainability related opportunities and products. Developing plans for the implementation of emerging and developing ESG issues with a focus on social issues and impacts. Monitoring ESG best practice, market practices, regulations, standards development, and performance and reporting outputs. Working alongside internal stakeholders to incorporate social aspects of ESG performance management into process processes. Managing databases on ESG related commitments.

Actuary in insurance

Traditional role ⁴⁷	Green role
<ul style="list-style-type: none"> Compiling and analysing statistical data and other information. Estimating the probability and likely economic cost of an event such as death, sickness, an accident, or a natural disaster. Designing and testing insurance policies, investments, and other business strategies to minimise risk and maximise profitability. Calculating cash reserves needed, based on existing policies and liabilities, in case of payout or claims. Producing charts, tables, and reports that explain calculations and proposals. Explaining their findings and proposals to company executives, government officials, shareholders, and clients. 	<ul style="list-style-type: none"> Analysing in regard to climate-related property claims. Impact assessment on investment risks, returns, and strategy, and the development of innovative investment vehicles to assist in climate change adaptation and mitigation Risk management in developing methodologies to recognise the impact climate change could have on insurance products, markets, reserving, and regulation. Evaluating wider risks to business due to environmental change and regulation. Evaluating the potential insurance costs for carbon capture and storage. Valuing fossil fuel reserves.

⁴⁷. Role and job descriptions were taken from LinkedIn, Indeed and Glassdoor

To perform some of these new tasks, teams are also working in new ways: with broader sets of stakeholders or colleagues, with different dynamics and decision-making processes. All this requires new knowledge, information to be processed and also skills to collaborate.

“

In the last two years we are seeing portfolio managers bring in their ESG team to help make investment decisions. They have a different agenda to portfolio managers. The power has shifted, decisions can now be overruled by the ESG team. There's a new person at the table.”

David Luck

IEMA, Chair of Sustainable Finance steering group



Implications for skills

The creation of new, green job roles, together with the greening of work tasks linked to more traditional finance jobs, is shaping the types of skills that are in demand. Most jobs in financial services across the board now need a more comprehensive understanding of the green economy, and thus skills in ‘sustainability’ and ‘infrastructure’ are becoming commonplace in job descriptions - calling for knowledge on climate change and general environmental awareness. More specialised skills or areas of expertise are also in increasing demand, such as expertise on energy efficiency and clean technologies (Table 3) - which in financial services are useful in activities like evaluating the validity of green investments.

“

I think it is invaluable to be able to view the wider environmental challenge as a whole and therefore be able to understand the complex collective impacts of the projects we finance. It's more than just ticking an ‘ESG’ box. It's about recognising the complexities of impacts and how they play together. That's a much more difficult skill set.”

Amy Robinson

Corporate Projects Manager,
Triodos Bank UK





Table 3: Most demanded green skills from employers in the financial service sector

PwC analysis of job vacancy data, Q3-Q4 2021

Green skills (financial services sector)	Rank
Sustainability	1
Infrastructure	2
Renewable energy	3
Climate change	4
Energy industry	5
Energy markets	6
Energy efficiency	7
Environmental awareness	8
Solar energy	9
Clean technologies	10

The demand for “sustainability” knowledge or skills can be wide-ranging; for instance, accountants and other finance professionals now need knowledge on the landscape of green incentives and taxation providing guidance on tax credits, grants, and other financial incentives to support sustainability initiatives.

As traditional roles continue greening, organisations increasingly need to upskill their workers with sustainability and financial expertise (e.g. climate finance courses giving the fundamentals of climate risk integration or carbon pricing), and broader skills too.

Our conversations with businesses on the ground offered the following insights:

- Upskilling is needed so that diverse job roles can engage with clients on sustainability offerings and opportunities (e.g. relationship managers).
- Key skills involve those for better understanding climate risk, and its drivers, as well as carbon literacy more generally. It was also deemed important that workers had a broad understanding of regulation, impact, investments - and how they tied together.
- Organisations view digital and technology skills as an enabler of their green transition, by facilitating change within organisations.

“

Technological changes and the increased focus on green finance require enhanced knowledge and skills in the workplace. Much of the new knowledge on topics such as sustainable finance and managing climate risks builds on existing Financial Services expertise and is crucially underpinned by behaviours such as data analytics & insights and relationship management.

These behaviours have been identified as critical Future Skills by employers and are included in our Future Skills report and Future Skills Framework, and support firms to build skills, attract and retain talent, which will help to drive innovation and growth.”

Claire Tunley

CEO, Financial Services
Skills Commission

Among the skills in growing demand are some that perhaps are not the first to come to mind when talking about green skills, but that are boosted by the green transition. One example is the increase in AI and data skills for the expansion of green finance (see Box 3). A survey conducted by the Financial Services Skills Commission of its member firms indicates that data analytics and machine learning are among the most cited skills in the context of ESG (and digital skills dominate in general), particularly for the analysis of key sustainability metrics and for informing decision making.



Box 3: The role of AI in green finance

Along the green revolution, the technological revolution is gaining pace - particularly with the rise of AI. Financial institutions are finding applications to enhance customer experiences, streamline operations and boost productivity. Recent reports suggest, for instance, that AI's integration into the banking industry could result in approximately \$140 billion in productivity gains by 2025.⁴⁸ AI, data, and technology in general, can advance sustainability strategies and help navigate climate and ESG risk. A survey by the Financial Services Skills Commission finds that financial institutions see Digital and Technology skills as some of the top skills in the context of ESG and the growth of green finance, particularly in the application of machine learning and AI.

Top future skills augmented by ESG⁴⁹

Relationship management

Data analytics

Machine learning/AI

Adaptability

Critical thinking

UX

Agile

AI offers several avenues to promote more sustainable finance. In addition to facilitating assessments of investment viability, it also helps make processes more efficient; examples include:

Risk Assessment: AI has seen considerable growth in its application for risk assessment within sustainable finance. By analysing data, AI can predict the impact of climate change risk, supply chain issues, and other ESG concerns. For example, AI has been used to analyse the effects of events like floods and gas flaring by processing satellite and sensor data.^{50,51}

Decision-Making Processes: AI can provide insights into the sustainability performance of companies and investments, enabling investors to make more informed decisions. For instance, algorithms like ClimateBERT can identify climate-related financial information from financial reports.⁵²

⁴⁸ Accenture, [Three ways data is your most vital relationship](#), 2023

⁴⁹ Financial Services Skills Commission, [Reskilling Everywhere All At Once. Skills for the future of financial services 2023](#), 2023

⁵⁰ Kocornik-Mina, A., McDermott, T., Michaels, G. and Rauch, F., [Flooded cities](#), 2020

⁵¹ Bellon, A., [Does private equity ownership make firms cleaner? The role of environmental liability risks](#), 2021

⁵² ChatClimate, [ClimateBert](#), 2023

4. The green skills gap: the challenge to meet Net Zero goals



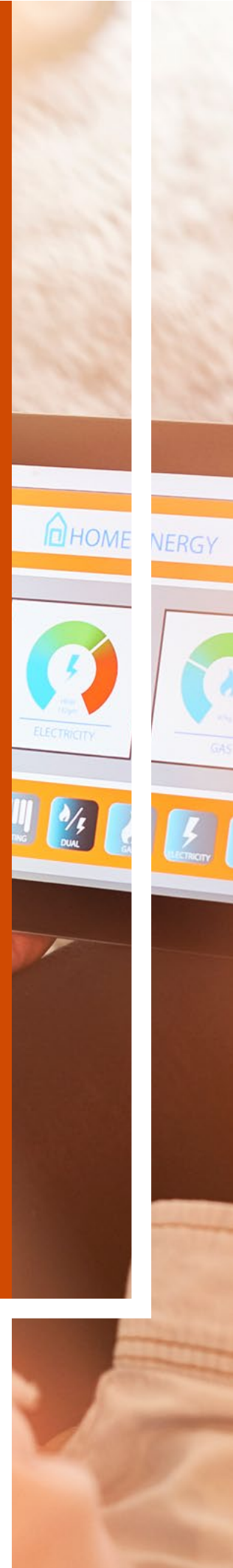
The UK financial services sector faces a substantial green skills gap and is not moving fast enough to close it, which can jeopardise Net Zero and sustainability goals. Both current workforces and young people in education need new expertise and knowledge in environmental and sustainability issues required by changing job demands. Despite recent efforts by the Government to build skills and capabilities on green finance (see Box 4), the current workforce is not upskilling at a rate fast enough to address changing job demands. A few barriers need to be overcome to boost access to green skills.

Box 4: Recent Government efforts to build skills and capabilities on green finance

In the 2019 Green Finance Strategy, the UK Government acknowledged the “need to upskill finance professionals and government officials... to unlock the full potential of green finance”. Announced measures included:

- Launching the Green Finance Education Charter in July 2019 alongside professional finance bodies. The Charter commits these bodies to identify and address gaps in the development of green finance skills and engage members on climate change.
- Creating a short course with the University of Oxford for UK Government policy officials to provide foundational knowledge on green finance.
- Organising a public-sector conference on green finance in October 2019 to provide opportunities for peer learning and exposure to latest best practices on green finance.

The update to the Green Finance Strategy (2023) committed to re-launch the Green Finance Education Charter as the Sustainable Finance Education Charter, with a wider set of professional bodies and a broader remit to include biodiversity loss, nature-based finance, transition planning, and an economically and socially inclusive transition.



Skills supply and green skills gaps

Existing workforce

Amid the new opportunities emerging, there is talent scarcity when it comes to ESG and green skills. The financial services sector is lagging behind other industries in terms of the green skills used or available among its workforce. The 2023 LinkedIn green skills reports shows that the global average of green skill concentration (the proportion of employees with at least one skill) at an industry wide level is 12.3% whilst the UK green skills concentration in the financial services sector is 7.6%.⁵³ Furthermore, research focusing on the 200 largest banks and asset management companies globally, reveals that only 14% of employees in sustainability related roles possess ESG-related degrees. There are also several knowledge gaps currently: the State of the Nation survey identified international standards and regulations concerning green and sustainable finance as the areas with the most significant knowledge gaps, closely followed by UK Government climate and environmental objectives.⁵⁴ It will take time to build deep expertise in this area as well as developing skills to operate in an environment in constant flux.⁵⁵

“

There's sometimes a disconnect between people who are passionate about the green agenda and people with strong commercial skills. We're asking ourselves how do we best combine that commercial appetite and focus with technical skills in the ESG area.”

Aileen McAvoy

Organisational Effectiveness,
Danske Bank UK



⁵³ LinkedIn, [Global Green Skills Report 2023](#), 2023. Green talent refers to the share of workers in an industry who have at least one green skill.

⁵⁴ PwC, [Embracing ESG transformation: How asset managers are leveraging regulation to drive value creation](#), 2021.

⁵⁵ Other practical challenges include the fact that there is nascent technology, poor data coverage and market standards in this area making it difficult to make data-informed decisions.

Financial services institutions do not seem well prepared for the green economy when it comes to skills. As the greening of the finance industry is a relatively new phenomenon, many industry leaders lack the experience needed to embed Net Zero considerations into overall strategy.⁵⁶ A recent survey on the state of skills and knowledge in green and sustainable finance within UK financial services organisations, conducted by PwC and the Chartered Banker Institute, revealed that 55% of respondents did not consider their organisations well-prepared for future demands in green and sustainable finance. Furthermore, the survey found that a substantial 65% of organisations allocated just 0-10% of their training budget to green and sustainable finance initiatives. Finally, despite 59% of organisations acknowledging the need for additional training to address the knowledge and skills gap in green and sustainable finance, 63% of respondents admitted that these gaps had not been formally assessed implying that a structured approach to training requirements has not been applied in this area.⁵⁷

New entrants

New entrants into the financial services sector will play a vital role in the long term success of a sustainable financial system. However, the supply of entrants with green skills moving into the sector is not enough to match demand. In the year 2022, approximately 11,500 graduates were recruited into the financial sector and approximately only 900 of those graduates will have a sustainability related degree. Furthermore, research indicates that there is a prevalent knowledge gap amongst students on what green skills are and how they can be used to develop a career. In a survey conducted by CapitalMonitor, 87% of respondents admitted to lacking comprehension regarding the essence of green skills.⁵⁸ Moreover, they expressed uncertainty about channelling their passion for sustainability into a practical and fulfilling career path.



⁵⁶ Heidrick & Struggles and the INSEAD Corporate Governance Centre, *Changing the Climate in the Boardroom*, 2021

⁵⁷ Chartered Banker Institute, *State of the Nation: Building Green and Sustainable Finance Capacity and Capability in UK Financial Services*, 2023

⁵⁸ CapitalMonitor, *Who is closing the ESG education gap in sustainable finance?*, 2022

Barriers to closing the gap

It is clear that the financial services sector must attract a greater number of new entrants with green skills into the industry as well as increase the rate and number of current workers being green upskilled. However, this is no easy task for several reasons.

Workforce Skills beyond the basics

A pivotal issue in adequately bridging the green skills gap within financial organisations is the rapidly evolving nature of environmental and sustainability issues. While ESG and sustainability knowledge has long been pivotal in the context of climate change and Net Zero targets, the contemporary business landscape demands expertise that extends far beyond the basics.

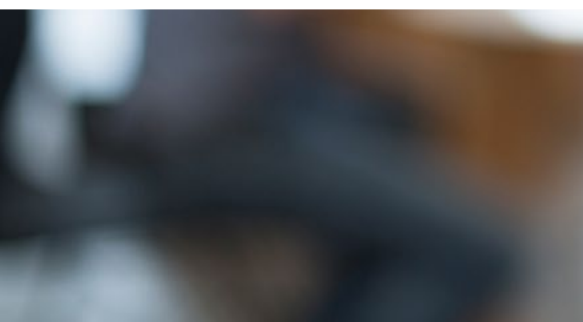
It necessitates a comprehensive understanding of nuanced environmental issues such as biodiversity, nature conservation, and the intricate dynamics of the green technological transition. However, internal resources available to train current workers are not currently at a sufficient level to match the widening skills gap. Research shows that the financial sector has one of the lowest amounts of total training expenditure in 2022, equalling £1.8 billion. For comparison the Primary Sector & Utilities had the lowest training expenditure of £1.2 billion while Business Services had the highest of £13.1 billion.⁵⁹ As a result, they must explore non-traditional financial areas to recruit individuals with green and sustainable expertise.

59. GOV.UK, [Employer Skills Survey](#), 2022

“

The main driver for the sustainability training programmes was that we had noticed more of our clients were making announcements on managing risks or taking opportunities related to sustainability, we wanted to help our people understand what is on the mind of their clients and stakeholders.”

Gary Laphorn
Head of Sustainability &
Responsible Business,
Lloyds Banking Group



Standardisation

The absence of accreditations and standardisation for courses in this field compounds the difficulties faced by both individuals seeking to enhance their green skills and employers endeavouring to assess the quality and relevance of training programs. Furthermore, it can also create the risk of ‘competence washing’ when firms overstate their claims of environmental and suitability competence.⁶⁰ For example, an hour long ESG course, whilst useful, does not lead to ESG expertise. While institutions like the University of Cambridge Institute for Sustainability Leadership have taken steps to develop postgraduate programs and accreditations in sustainability leadership, these often require a significant time commitment that not all individuals can readily provide.⁶¹

“

There needs to be more clarity in the industry on ESG and sustainability accreditation and what is recognised.”

Amy Robinson

Corporate Projects Manager,
Triodos Bank UK

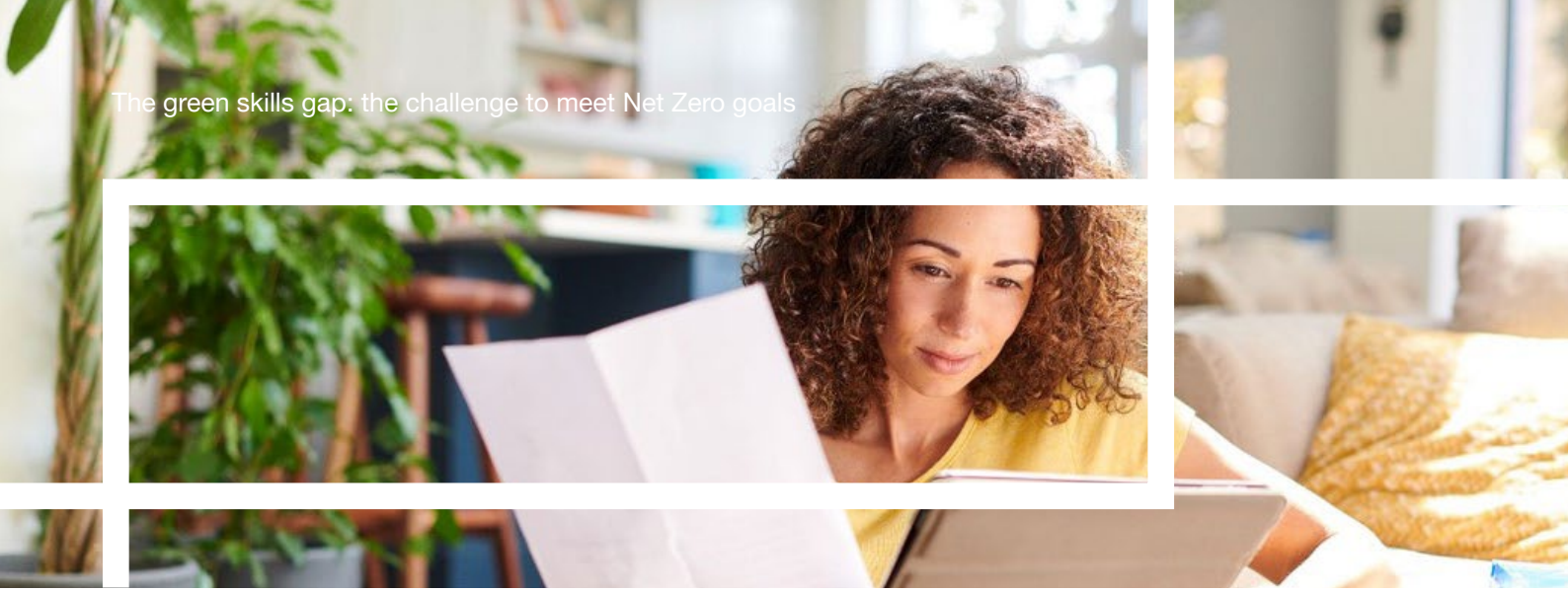
“Some External ESG accreditations we’ve looked at appeared too cumbersome, or required significant time commitment. And while they offered an academic background they perhaps didn’t develop an understanding of the commercial impacts arising.”

Chris Martin

Head of Sustainability,
Danske Bank UK

⁶⁰ Responsible investor, ‘Competence greenwashing’ could be the next risk for the ESG industry, 2020

⁶¹ The University of Cambridge, Cambridge Institute for Sustainability Leadership, 2023



Gap identification

Identifying where green skills gaps exist within an organisation is a challenge in itself. The Government has outlined its expectations and guidance on company governance and climate change risk reporting, and recommends that trustees carry out skills audits in relation to expertise on climate change and undertaking governance activities.⁶² Not only do organisations have to identify current skills gaps amongst their workforce but they must now forecast where skills gap might be in the foreseeable future. Certain financial organisations have begun to forecast their skill needs, however it is reported that they only take place within individual business units or on an ad hoc basis. Furthermore, in a recent survey conducted by FSSC, it was reported that whilst 63% of members forecast skills for the following year, only 21% forecasted up to five years.⁶³ This can cause problems for firms trying to shift the workforce to in demand skills as developing green skill training programmes is a costly and timely endeavour.

Integration of green skills into finance courses

A key issue in the supply of new entrants with green skills is the limited integration of green skills into financial academic programmes. Few educational institutions offer courses that incorporate green skills into their bachelor degree programmes, leaving some graduates ill-equipped for the evolving demands of the financial services job market. Although we are seeing a growth in degree courses offering modules in sustainable finance such as those found at the University of Reading, sustainability issues should be a core component of all financial courses.⁶⁴

Career pathway ambiguity

There seems to be a knowledge gap in students' awareness of what green skills are. Furthermore, it is reported that a lack of awareness about viable career pathways in the sustainability sector is preventing passionate individuals from pursuing careers.⁶⁵ Currently environmental and sustainability issues are not part of standard curriculums in UK schools and there are few offerings to students on career guidance in terms of green jobs and careers. This knowledge gap presents an opportunity for the financial sector and educational bodies to engage and educate the workforce of the future in green and sustainable finance practices and the roles that are in fact available to them.

⁶² Department for Works & Pensions, [Governance and reporting of climate change risk: guidance for trustees of occupational schemes](#), 2021

⁶³ FSSC, [Reskilling Everywhere All At Once: Skills for the future of financial services 2023](#), 2023

⁶⁴ University of Reading, [Sustainable Finance](#), 2023

⁶⁵ Learning and Work Institute, [Lack of know-how stopping young people plugging green skills gaps](#), 2022

Shifting values

Another issue pertains to shifting values among graduates. Graduates increasingly prioritise values when selecting industries and employers, emphasising the environmental and social impact of their work.⁶⁶ This change poses an exceptional challenge for the financial sector in attracting graduates with degrees centred on sustainability. Notably, graduates with sustainability skills or passion for sustainability are eschewing offers from major banks in pursuit of careers they perceive as more socially and environmentally conscientious.

“

In my opinion, students believe that the barriers into sustainable finance are far higher than they actually are.”

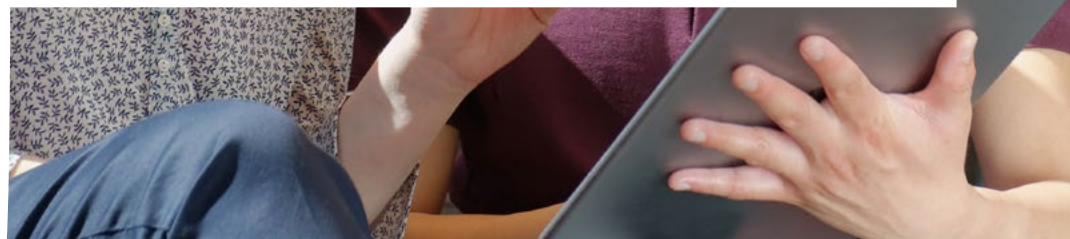
Aidan Brennan

Head of Investment Strategy,
Prosper Social Finance



⁶⁶ Bloomberg, [The Thunberg Generation Demands Jobs That Mirror Green Values](#), 2021

5. Green upskilling: actions to prepare the workforce





Call to Action

The Call to Action for consistency is clear, the demand for green skills in financial services is rapidly outpacing supply. Skills gaps are a cause for concern in any sector, but is of particular importance in the financial services sector that facilitates the capital flows to projects that may hold the solution to our decarbonisation needs. Failure to close the green skills gap in time will result in the UK missing its publicly-stated Net Zero target and immediate action is needed.⁶⁷ Furthermore, a solid green talent pool will strengthen the global competitiveness of the UK financial services sector.

The UK Government, regulators, business leaders and education bodies must work together to upskill the financial services sector. An example of success of multi-stakeholder collaboration can be found in Edinburgh, which has become globally regarded as a sustainable financial hub (See Box 5). It is also increasingly clear for businesses that supporting the development of skills is for their own benefit, and there are already examples that can be used as case studies for how to do it effectively.

67. The UK's Net-Zero targets are imminent, the first milestone of reducing emissions by 68% in 2030 compared to 1990 levels is already off-track, with the Government recognising it will only achieve 92% of the emissions reduction needed to hit this target. Source: Government policy on reaching Net-Zero by 2050, Westminster hall debate briefing June 2023, <https://environment.inparliament.uk/files/environment/2023-06/Government%20policy%20on%20reaching%20Net%20Zero%20by%202050%20Westminster%20Hall%20briefing%20-%20June%202023.pdf>.

Box 5: Edinburgh city spotlight - a collaborative effort towards a green workforce

Scotland has positioned itself as one of the global leaders in the transition to a green and sustainable economy. Ranked first in the UK Green Growth Index and also PwC's Green Jobs Barometer (given its high proliferation of green jobs), it is one of the few countries to integrate UN Sustainable Development Goals (SDGs) into its National Performance Framework.^{68 69} Beyond its evolving energy sector, a key success factor has been the development of a green and sustainable financial system.

With £9.5 billion of responsible funds managed in the country, having founded the first green bank in 2012, and supported by initiatives like the Task Force for Green and Sustainable Financial Service, Scotland is now looking to cement itself as the global leader in sustainable and ethical finance.⁷⁰

Edinburgh, home to the second largest financial hub in the UK, is an example of a city taking a collaborative approach towards developing green talent to support a sustainable financial system. Over the past decade the city has facilitated collaboration with financial business leaders, leading research institutions, education bodies and Scottish Government to further Scotland's ethical and sustainable finance agenda by building the capacity of green skilled workers. There have been several initiatives and institutions based in the city that have been pivotal in its development.

The Ethical Finance Round Table: this award-winning, Edinburgh-based series is the longest running platform in ethical finance.⁷¹ Established in 2010, the platform brings together leaders in the field to: (i) identify and facilitate discussion of key ethical finance themes; (ii) encourage diversity of financial thought and insights and; (iii) enable commercial opportunities by connecting people and ideas.

Ethical Finance Hub (EFH): it emerged from the Ethical Finance Round Table series and was launched in 2016 with funding from the Scottish Government.⁷² As an advocacy and advisory body, it promotes research for the development of Scotland's sustainable finance system, including delivering education and training courses - e.g. asset owner masterclass, SDG Workshops, Ethical Finance Study Tour, among others.⁷³ Also, an ethical finance internship programme gives Scottish students the opportunity to gain practical work experience within financial institutions committed to ethical finance.⁷⁴

Academic institutions: Edinburgh's universities, including the University of Edinburgh, Heriot-Watt University, and Napier University, are at the forefront of promoting a sustainable and ethical financial system in the region. The University of Edinburgh has partnered with the Global Ethical Finance Initiative (GEFI) to advance ethical finance and combat climate change.⁷⁵ Heriot-Watt University hosts the Scottish Ethical Finance Hub, fostering research and collaboration in ethical finance.⁷⁶ Napier University is actively engaged in similar initiatives. These universities are nurturing a skilled workforce and driving innovation in sustainable finance.

⁶⁸ Lloyds Banking Group, [Scotland to lead UK's green economic growth](#).

⁶⁹ PwC, [Green Jobs Barometer](#), 2022

⁷⁰ BBC, [UK's first green bank officially opens](#), 2012

⁷¹ GEFI, [Ethical Finance Round Table](#), 2023

⁷² Ethical Finance Hub, [DRIVING FINANCE FOR POSITIVE CHANGE IN SCOTLAND](#), 2023

⁷³ Ethical Finance Hub, [Mapping the Responsible Investing Landscape in Scotland](#), 2020

⁷⁴ Ethical Finance Hub, [Research & Campaigns](#), 2023

⁷⁵ The University of Edinburgh, [Ethical finance commitment strengthened by new partnership](#), 2022

⁷⁶ Heriot-Watt University, [Scottish Ethical Finance Hub launches at Edinburgh Campus](#), 2015

Upskilling best practices

Organisations cannot expect to see a substantial change in their workforce's behaviours without creating a change in their culture. PwC's 2021 Global Culture Survey showed that 72% of respondents believe that culture helps successful change initiatives happen.⁷⁷ To drive meaningful change, upskilling initiatives should be implemented as part of a cultural shift to create a purpose-led empowered workforce who believe in the green transition.

Our research allowed us to identify a set of purpose-led actions that businesses can follow when upskilling their workforces, so that employees are aligned with a new greening organisational purpose and motivated to pursue continuous sustainability training.

Transformative Leadership: leaders within an organisation are responsible for setting the tone from above and role modelling change. Whilst sustainability training programmes may be offered to all employees, those at the executive committee should undertake targeted training to learn how to implement sustainability initiatives into overall business strategy.

People Experience: firm-wide sustainability training, in partnership with accredited professional institutes, should be offered to different segments across the organisation. A sustainability foundation course offered to all employees will provide the basics of sustainability knowledge and an understanding of the firm's decarbonisation strategy. Additional training may then be offered to subgroups within the organisation to provide targeted training relevant to different roles.

Sustainable behaviours: the learnings of sustainability training programmes are diminished unless put into practice, as employees will be able to better advise clients on their sustainability journeys if they lead by example. Firms should empower sustainable behaviours across the organisation through green initiatives, for example through supporting green vendors, offering rewards for sustainable transportation or conserving energy throughout office space.

Measuring progress: utilising reporting insights to measure progress of both sustainability training initiatives (e.g. publish the number of people completing sustainability training, offer rewards for employees who reach a certain level) and overall company emissions reductions will inspire the workforce to continue contributing to the firm's sustainability journey.

There are already businesses leading the way in sustainable upskilling for their employees and demonstrating best practices principles such as Lloyds Banking Group (see Box 6).

“

The group approach began with engaging the board and senior executives on raising awareness of the climate challenges, which helps feed into the discussions they have with executives and their teams - the more you get people thinking about sustainability the greater the benefits.”

Kevin Treco

Head of Environmental
Sustainability Centre of Excellence,
Group Environmental Sustainability,
Group Sustainable Business,
Lloyds Banking Group

⁷⁷ PwC Global Culture Survey of 3,200 leaders and employees worldwide, <https://www.pwc.com/gx/en/issues/upskilling/global-culture-survey-2021.html>, 2021

Box 6: Lloyds Green Upskilling

Lloyds Banking Group has used its long standing partnership with the Cambridge Institute for Sustainability Leadership (CISL) to provide sustainable upskilling for their employees. In 2021, the group developed a Sustainability foundation level training programme for all employees covering the Group's Net Zero ambition and strategy as well as sector deep dives. The mandated parts of the training were completed by 60,000 employees by the end of 2022. The Commercial Banking division programme, which was started in 2017, is focused on relationship managers so that they can support their clients on their sustainability journey. Over time, sector specific programmes have been developed, for example the Royal Agricultural University and the CISL to train specialist relationship managers on the impacts of the transition on the agricultural sector given its importance to the UK. The group has further set the pace by encouraging training programmes across different levels of seniority, with the Head of Sustainability & Responsible Business, Gary Laphorn, having completed a leadership programme in Business and Sustainability from the University of Cambridge. In 2022,⁷⁸ training was provided to the Responsible Business Committee and the Group Executive Committee on nature and biodiversity. In future, training is expected to expand with a continuation of the existing foundation programme and a release of further sector specific training for those at all levels across the group.

"I came away from the University of Cambridge Business and Sustainability leadership programme with an action plan to start mobilising internally. That course was essential for me, I would not have been able to do my job for the last seven years without it. We needed to find a rhythm on how to equip our leaders with how things have changed, the implications for them and how that manifests in the way we lead our people." Gary Laphorn, Head of Sustainability & Responsible Business, Lloyds Banking Group

While major corporations are making significant efforts to upskill their employees, it is crucial to recognize the role institutions at the local and community level can play in green upskilling. Around the UK, charities and social enterprises have also been contributing to the green agenda. Social enterprises and charities play a crucial role in the green finance space by providing opportunities to marginalised and less privileged groups. They contribute to a just transition by creating accessible pathways to green careers and ensuring that the benefits of sustainability reach a wider spectrum of society (see Box 7).

⁷⁸ Environmental Sustainability Report, Lloyds Banking Group, <https://www.lloydsbankinggroup.com/assets/pdfs/investors/financial-performance/lloyds-banking-group-plc/2022/full-year/2022-lbg-environmental-sustainability-report.pdf>, 2022

Box 7: Prosper Social Finance - Introducing green finance to students

Prosper Social Finance is the UK's first socially responsible investment fund run entirely by students at the University of Edinburgh. Their aim is to deliver positive social change through responsible student-led investment.⁷⁹ Throughout the year, while managing their funds, Prosper Social Finance runs two green financial training programmes open to students of all academic backgrounds. The aim of the courses is to give students an understanding of finance and investment as well as teach them the fundamentals of ESG.

Prosper Social Finance Analyst Programme:

- Eight-week training programme
- No prior financial knowledge required
- 30 students per semester
- Training timeline that includes modules from introduction to socially-responsible investments and ESG analysis to investment pitching.

Applications for the programme have risen year on year since the company's inception, which is largely attributed to increased student interest in sustainable finance and their understanding that the sustainable finance space is developing more viable career paths.⁸⁰

Prosper Social Finance serves as an example of a community-based organisation helping drive the green finance agenda. While the government and financial sector companies must lead the charge in the green transition, it is important to consider how local businesses, charities and enterprises can be supported. By supporting them effectively, it can facilitate green upskilling and economic opportunity at the community level.

⁷⁹ Prosper Social Finance, 2023

⁸⁰ Insight obtained from an interview with Grace Gubbay, Executive Director of Prosper Social Finance.

Green inclusion: sharing the opportunities while enlarging the talent pool

Whilst this transition has the potential to offer vast opportunities through the provision of high-demand quality green jobs, they need to be accessible to all.⁸¹

The goal of a just transition, defined by the International Labour Organisation as ‘greening the economy in a way that is as fair and inclusive as possible to everyone concerned’ is a key economic goal for transitioning communities, national economies and their respective governments.⁸² Normally discussed in the context of the decarbonisation of the energy sector, a just transition also matters for financial services given the potential lack of representation of disadvantaged populations. Wider access to new jobs is good for the employment of different segments of the population, thus benefiting society a large, but it also makes business sense for organisations. A fair and just transition will not only help to overcome historical inequalities within the sector,⁸³ but also enlarge the talent pool that is so needed to solve the existing green skills gaps.

Upcoming research for PwC Green Jobs Barometer is focused on the theme of ‘Green & Inclusive’ and will explore two interrelated questions: (i) whether green jobs are good jobs and (ii) how widely accessible those jobs are across sociodemographic groups and regions - and actions to take to improve access to opportunities and inclusion.

The message for financial services in order to enlarge the talent pool is to acquire and develop green skills through a range of channels (e.g. including via social enterprises) and from diverse segments of society, with different socioeconomic backgrounds. Supported by diversity and inclusion targets, they can use vehicles like the Apprenticeship Levy and others to direct efforts to relevant green apprenticeships,⁸⁴ supporting key demographics and youth employment.

Support from the Government is also needed to enlarge the talent pool, together with educational institutions and other stakeholders. One example of the Government’s facilitating action would be to reform the Apprenticeship Levy to allow greater flexibility in order to promote sustainable finance apprenticeships. The next section presents key areas of action for businesses, government and the education sector.

“
We have a partnership with Babbasa, a social enterprise that provides services to support aspiring underrepresented young people (aged 16 to 30) to pursue their professional aspirations whilst also supporting organisations to create an inclusive work environment for these young people to thrive”

Amy Robinson
Corporate Projects Manager,
Triodos Bank UK

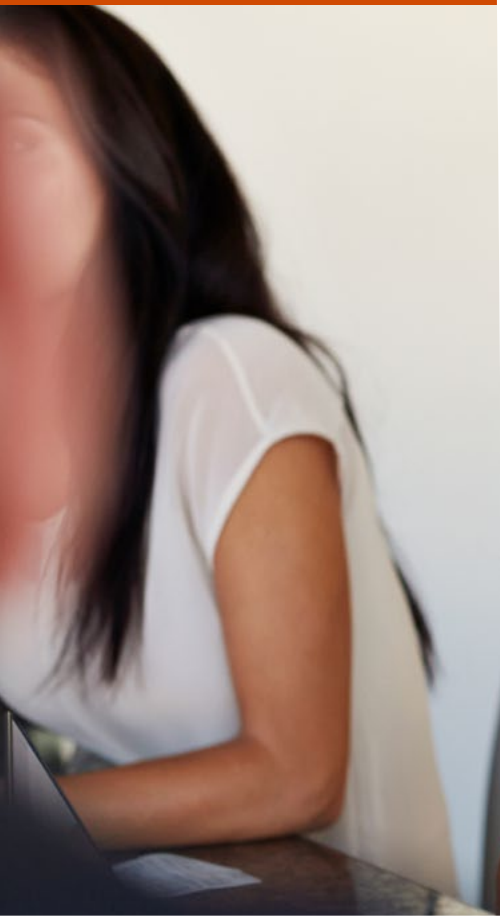
⁸¹ The green economy is not always inclusive. A study by the OECD showed that in 2021 only 31% of green jobs in the United Kingdom were held by women. Source: Job Creation and Local Economic Development: Bridging the Great Green Divide, (OECD, 2023), <https://www.oecd.org/employment/job-creation-and-local-economic-development-26174979.htm>.

⁸² International Labour Organisation, Frequently Asked Questions on just transition website, https://www.ilo.org/global/topics/green-jobs/WCMS_824102/lang-en/index.htm.

⁸³ The financial services sector traditionally under-represents marginalised groups such as women and ethnic minorities. Whilst there has been progress in certain aspects, with the number of women working in authorised positions in the UK banking sector rising from 9% to 20% between 2001 and 2020, ethnic minorities continue to face hurdles, though it has likely improved in 2018 less than 1 in 10 management jobs in the finance industry are held by members of the BAME community. FCA, [diversity and inclusion in the financial sector - working together to drive change](#), 2021; Randstad, [Paying Attention](#), 2018.

⁸⁴ The Apprenticeship Levy is a tax on UK businesses to create funding for apprenticeships.

6. Recommendations



The UK financial sector faces a pressing green skills gap, with implications for the UK's Net Zero goal. This challenge includes a shortage of graduates with green expertise, limited awareness of green career paths, and changing values. Potential 'brain drain' of talent looking at other financial services hubs globally, particularly if the UK does not keep up with training and innovation, could further limit the size of the talent pool. Furthermore, the rapid evolution of environmental issues and a lack of standardised accreditations for working professionals pose additional hurdles. To address these issues, the sector must integrate green skills into education, improve career guidance for students, and upskill current employees. Collaboration between government, educational institutions and the financial sector is essential to meet Net Zero objectives and promote sustainability in finance. However, the gap is too substantial to be filled by new entrants alone, furthermore the urgency of the climate crisis and the looming deadline of the UK's Net Zero requires immediate action that the education system is not able to respond to fast enough. Addressing the skills gap will require effective and comprehensive green upskilling of the existing workforce in the financial services industry. Reskilling takes time and the transition to Net Zero is already underway, so investment in resources and training should commence straight away.

In order to close the green skills gap in the financial services industry, a multifaceted approach must be taken to ensure that the workforce is effectively green upskilled. As green and nature finance continues to grow it is important that graduates and students understand that green skills are no longer a niche specialisation and are in fact more in demand than ever before. Having green skills is now exceptionally attractive to finance employers and can open a host of different career opportunities. We have outlined a series of recommendations aimed at promoting green upskilling within the current workforce in the financial services and new entrants joining the industry:

- **A cycle of continuous upskilling:** developing a culture of continuous learning, within organisations and at the level of the economy. One-off actions are not enough.
- **Facilitate dialogue:** a government formed taskforce with financial institutions, educational institutions, and regulators (like the FCA), possibly chaired by the Department for Education, can facilitate dialogue between firms and educational institutions and help input into courses and training.
- **Inclusivity promotion:** by facilitating training and access to green jobs across sociodemographic groups and regions, the industry (with support from Government) can not only contribute to sustainability but also tap into a wider talent pool, fostering innovation and resilience in the evolving world of green finance.

Actions for Industry:

- **Offer firm-wide sustainability training programmes for employees:** firms should partner with educational institutions to offer a range of sustainability training courses to employees; including both sustainability foundation courses as well as targeted training across different business units and leadership levels.
- **Target upskilling and recruitment from diverse backgrounds:** one option is to partner with social enterprises and education bodies to increase diversity in hiring practices. For example, by taking part in mentorship programmes and expanding careers talks in areas which typically contain a higher concentration of marginalised groups.
- **Utilise the Apprenticeship Levy to fund green apprenticeships:** with firms more involved in the design of relevant training.
- **Promote green culture:** these courses should be aimed at not only improving green knowledge of employees within the culture but also promoting a green culture throughout the business.

Actions for education and training systems:

- **Collaborate with businesses and employers to increase the relevance of the curriculum:** incorporating specific green skills into the core curriculum that would aid in reaching their Net Zero objectives. The recently introduced T-levels also provide opportunities to increase access to the sector through alternative career pathways.⁸⁵ In 2023, over 20 T-levels are on offer, with accreditations in Finance and Accounting available to those wishing to enter the financial services sector.
- **Create a standardised curriculum for sustainable finance accreditations:** education bodies should work together with industry leaders to develop a relevant and standardised curriculum for sustainable finance accreditations across the subsectors, regulated by the Office of Qualifications and Examinations Regulation (Ofqual). Universities should include sustainability modules in finance-related degrees.
- **Promote green career pathways for new entrants:** education institutions can facilitate talent attraction to the industry by effectively communicating what typical green career pathways for young people will look like.



⁸⁵ T-levels, launched in 2020, are an alternative to A-levels which focus on vocational skills and industry experience. On the 4th October 2023, UK Prime Minister Rishi Sunak announced plans to combine A-levels and T-levels into one qualification. In the event of a new combined qualification, the recommendation remains to focus on incorporating green finance into the curriculum.

Actions for Government:

- **Release concrete regulatory signals to encourage green upskilling:** the Government should provide greater clarity on sustainability regulation and guidelines on the skills needed to provide incentives for businesses to upskill. There is uncertainty, for example, around the UK Green Taxonomy. Whilst the Government has committed to delivering a taxonomy, and requiring companies to report against it voluntarily for at least two reporting cycles, we are still awaiting the consultation, which was expected in Autumn 2023. This is the second delay the taxonomy has experienced this year, as the UK Government missed its 1 January 2023 legal deadline to put the climate elements of the taxonomy into law.⁸⁶ The Government should provide a clearer timeline on when it expects to consult and implement the taxonomy, as well as when businesses will be required to report against it on a mandatory basis, to allow businesses lead time to plan and upskill accordingly.
- **Target funding:** this includes targeting more Government funding for adult learning and upskilling initiatives, like green skills bootcamps. By channelling resources into these programmes, The Government can cultivate a workforce that is not only adept at environmentally sustainable practices but also equipped to address the growing demand for green jobs.
- **Adapt the Apprenticeship Levy to fund green apprenticeships:** reforms to make it more flexible will allow financial institutions to use it to fund green apprenticeship training. A major issue with the Levy is that it limits how businesses can train employees and makes it difficult to integrate apprenticeships with wider training and skills development workers need.⁸⁷ As a result, between 2019-2022, over £3 billion of Levy was returned to HMT in unspent funds. Reform should allow more modular apprenticeships and standard frameworks to ensure apprenticeships are being tailored according to business' needs. The Levy could also be reformed to allow companies to spend a proportion of levy contributions on non-apprenticeship training.⁸⁸

⁸⁶ Ends report, <https://www.endsreport.com/article/1808932/government-misses-legal-deadline-put-climate-element-taxonomy-regulations>, 2022

⁸⁷ An assessment undertaken by the Chartered Institute of Personnel and Development (CIPD) found that from 2016 to 2020 the annual number of total apprenticeships was in decline. Furthermore, employer investment into training, which the levy was supposed to boost, had also declined. CIPD, *Apprenticeship Levy has failed on every measure*, 2021; also see Skills and Net-Zero, Professor Dace Reay, Climate Change Committee 2023, <https://www.theccc.org.uk/publication/skills-and-net-zero-expert-advisory-group/>

⁸⁸ See the Aldersgate Group, *Keeping Pace in the Global Race to Net Zero - Responding to the Inflation Reduction Act*, <https://www.aldersgategroup.org.uk/content/uploads/2023/09/Aldersgate-Group-IRA-Response-1.pdf>

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