



State of the Nation: Building Green and Sustainable Finance Capacity and Capability in UK Financial Services

March 2023

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1. Chair's Introduction

In 2021, Chancellor (now Prime Minister) Rishi Sunak set out plans for the UK to become the world's first net zero aligned financial centre, and for other countries to follow the UK's climate leadership. This ambitious goal requires the rapid decarbonisation and re-deployment of capital in support of net zero and a realignment of the finance sector so that in UN Special Envoy Mark Carney's words '... every professional financial decision takes climate change into account'. Many would argue that a broader range of environmental and social sustainability factors need to be taken into account too for a successful 'just transition'.

There are many global and national finance sector initiatives supporting the transition, which focus on aligning financial institutions with net zero through policy, regulation and collective commitments. Equally as important and urgent is collective action to upskill and reskill finance professionals to ensure that the UK and global finance sectors have the required capacities and capabilities to deliver the commitments made. To pass the 'Carney Test', every finance professional needs to develop their knowledge and understanding of climate change, green finance and sustainability. This must then be applied in practice to advise, finance and support customers and communities as they transition to a more sustainable, low-carbon world.

Yet, as this timely survey of UK financial services firms demonstrates, despite some examples of good practice led by UK professional bodies the majority of firms do not consider themselves to be well prepared for net zero. Worryingly, building capacity and capability in green and sustainable finance is not seen as a priority for the majority, with particular gaps in emerging areas of sustainable finance such as addressing biodiversity loss. Other countries are investing more in upskilling and reskilling finance professionals, and will soon overtake the UK if we – employers, educators and the government – do not act quickly. This report and survey are a call to action for the UK financial services community to accelerate investment in education and training in green and sustainable finance. The current position is, quite literally, unsustainable.

On behalf of the Green Finance Education Charter signatories (listed in Appendix 1), let me thank the Chartered Body Alliance (Chartered Banker Institute, Chartered Institute for Securities and Investment and Chartered Insurance Institute) for leading and sponsoring this research. All three bodies demonstrate global leadership in green and sustainable finance education and training in their respective sectors. I would also like to thank our colleagues at PwC UK, led by Sam Preece, for undertaking the research on our behalf which helps us, as the Charter signatories, focus our future efforts and influence the future direction of UK and global education and skills policy for finance professionals.

Simon Thompson FCBI

**Chief Executive, Chartered Banker Institute and
Chair, Green Finance Education Charter**

2. Background

Climate change and sustainability are two key issues of our time. They present significant financial risks to business and society, and offer opportunities to lead the transition to a sustainable, low-carbon world. It is central to providing the flows of capital needed to achieve the investment required in green and low carbon technologies, services, and the infrastructure for the UK government to meet its net zero emissions targets.

Earlier this year, the UK government issued a Call for Evidence to inform the revision of its 2019 Green Finance Strategy. The 2019 Green Finance strategy set out how the UK would achieve its ambition to create a sustainable and resilient economy, grasp the commercial potential arising from this transition, and accelerate the growth of green finance. Following the publication of the Green Finance Strategy, the UK government launched the Green Finance Education Charter in 2020, a collective initiative across UK finance professions to align professional education and training with national and global sustainability objectives.

To support the development of the revised Green Finance Strategy, the Green Finance Education Charter bodies, on behalf of the Department for Energy Security and Net Zero, wish to meet the following objectives.

1. Review current gaps and future knowledge and skills needs related to green and sustainable finance across finance professionals to support UK net zero and employer ambitions and targets.
2. Assess the current state and map the landscape of UK green finance education and training provision, drawing attention to strengths, weaknesses and gaps.
3. Benchmark the current state of green finance knowledge and skills in the UK against global good practice.

To capture this, the Chartered Body Alliance (CBA) commissioned PwC UK to:

1. Conduct an online survey of employers in the financial services sector in the UK; and
2. Perform desktop research of good practice of green and sustainable finance knowledge, skills, capacity and capability in Germany, Singapore, the Netherlands and the United States.

This report presents an analysis of the responses to the online survey by CBA and examples of good practice used to tackle knowledge and skills gaps in green and sustainable finance.

3. Summary of findings and recommendations

PwC UK was engaged to conduct the survey which consisted of 15 questions addressing the current state of skills and knowledge in green and sustainable finance in UK financial services organisations. The survey was conducted from 17th October 2022 until 28th November 2022. The sample comprised of 69 organisations of which the majority are operating in professional services (29%), banking (17%) and asset management (16%). Organisations surveyed were mainly small and medium sized organisations (66%) ranging from 1 to 999 employees.

Summary of findings

- 1) The majority of respondents do not consider their organisations to be highly prepared for future requirements in green and sustainable finance.**

Although the majority of respondents (55%) have engaged in training in this area, only 8% believe their organisation is highly prepared for future requirements in green and sustainable finance.

Our finding should be a cause for concern given the UK's net zero ambitions and the sustainability commitments and strategies of many financial services employers. Firms must be able to respond quickly to the rapidly evolving sustainability landscape to help clients and customers manage sustainability risks, and take advantage of opportunities offered by the transition.

- 2) The majority of respondents are not investing a significant portion of their budget in training employees in green and sustainable finance to support the organisation's sustainability strategy.**

The survey identified that 65% of organisations allocate 0-10% of their training budget to green and sustainable finance suggesting that the focus of organisations is not to upskill employees in the topic.

There is also an indication that budgets currently allocated to green and sustainable training are mainly targeted at only a small group of individuals. The survey identified that 34% of respondents prioritise training the Board, Senior Executives and key management personnel. Findings in the FCA's 'Finance for positive sustainable change' discussion paper (FCA DP 23/1) suggest that board members are not typically experts in this area, hence, there is a need to gain an understanding of the issues by seeking guidance from others with the relevant skills and expertise.¹

¹ DP23/1: Finance for positive sustainable change (2023), <https://www.fca.org.uk/publications/discussion-papers/dp23-1-finance-positive-sustainable-change> (accessed February 2023)

Organisations need to review their investment in board-level training in order to assess if it is an efficient use of the budget, and also prioritise those groups of employees that can leverage skills to capture opportunities in green and sustainable finance.

3) Organisations deem the green and sustainable finance skills gap to be wider than the knowledge gap.

51% of survey respondents agreed that their employees had the knowledge (theoretical understanding) to implement an organisation's green and sustainable strategy, whilst only 40% agreed that their employees had the skills (practical application of knowledge) to do so.

These findings coincide with those of the Skidmore Review² of the government's approach to delivering its net zero target and those stated in FCA DP 23/1³. The Skidmore Review argues that there is not only a gap in skills but also a decline in existing skills between 5-30%, depending on the sector of which some will be essential for the green transition. Similarly, findings in FCA DP 23/1³ note that there remains a gap in expertise on many boards. Firms should endeavour to appoint people with the right range of skills and competence on climate-related matters.

Knowledge and skills gaps differed in key topics of green and sustainable finance. 'International regulations' and 'UK government climate objectives' were considered as the topics with the biggest knowledge gaps by respondents whilst "Nature capital markets" and "transition finance" were considered as the topics with the biggest skills gaps.

Similarly, the Skidmore Review suggests that as nature based financial risks and opportunities grow, the government should explore frameworks such as the Taskforce for Nature-Related Financial Disclosures, expanding the focus of 'green' further than climate change. In a speech on the environmental, economic vision for the UK, Rt Hon John Glen echoed the government's key role in supporting nature capital markets, outlining that a new policy framework will be launched for the development of new nature markets.⁴

² Rt Hon Chris Skidmore MP, 'Mission Zero: Independent Review of Net Zero' (2023), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1128689/mission-zero-independent-review.pdf (accessed January 2023)

³ DP23/1: Finance for positive sustainable change (2023), <https://www.fca.org.uk/publications/discussion-papers/dp23-1-finance-positive-sustainable-change> (accessed February 2023)

⁴ Rt Hon John Glen MP, 'An environmental, economic vision for the UK' (2023), <https://www.gov.uk/government/speeches/an-environmental-economic-vision-for-the-uk> (accessed March 2023)

4) Organisations do not perform formal assessments of employees' knowledge and skills gaps in green and sustainable finance.

Despite 59% of organisations stating additional training is planned to address knowledge and skills gaps in green and sustainable finance, 63% of respondents noted that these gaps have not been formally assessed. This implies that a structured approach to training requirements has not been applied in this area.

The lack of formal assessment is further identified in responses on future training plans. Climate change was identified by respondents as the most prioritised topic of future training however this was not considered by respondents as a topic with the biggest knowledge or skills gap. International standards and regulations were identified as the biggest knowledge gap and transition finance were identified by respondents as the biggest skills gap.

5) Organisations aim to ensure the quality and standards of training through professional bodies.

It was identified that 48% of respondents ensure the quality and standards of training delivered through work with professional bodies. This indicates that organisations consider the role of professional bodies in the quality assurance of training programmes.

Voluntary commitments were identified as a key driver for organisations' green and sustainable finance strategy. Lack of regulation around voluntary commitments could create a question of scrutiny over training. This creates an opportunity for professional bodies to further adopt a role for external verification.

The Skidmore Review⁵ suggests setting clear standards for green finance will provide transparency and certainty, and support the transition to a greener financial centre.

Chapter 4 of the FCA DP 23/1 considers training and competence requirements for firms and poses questions on how the regulator should engage with firms to 'promote genuine capacity building and ensure expectations about sustainability related skills, knowledge and expertise are clear'.⁶

6) Organisations have not considered using government support for training employees (such as the apprenticeship levy) in green and sustainable finance.

⁵ Rt Hon Chris Skidmore MP, 'Mission Zero: Independent Review of Net Zero' (2023), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1128689/mission-zero-independent-review.pdf (accessed January 2023)

⁶ DP23/1: Finance for positive sustainable change (2023), <https://www.fca.org.uk/publications/discussion-papers/dp23-1-finance-positive-sustainable-change> (accessed February 2023)

Organisations are not using government support such as the levy to upskill in this area with only 7% of respondents currently utilising it for green and sustainable finance training.

Limited awareness of the programme, lack of interest from apprentices and lack of capacity and time were noted as key barriers to utilising the apprenticeship levy for training in this area. The Skidmore Review similarly found the levy in its current form ineffective, suggesting more flexibility and the possibility of shorter, more intensive courses which may be more effective for upskilling.

7) Green and sustainable finance upskilling and reskilling is a higher policy priority in other countries.

Our international research finds that governments and employers in other countries, especially in the ASEAN region, assign a greater priority and funding to building capacity and capabilities, linking this to national priorities. With countries elsewhere investing more in upskilling and reskilling finance professionals this puts the UK's global competitiveness ambitions at risk. To position the UK as a global green finance hub will require a significant acceleration of investment in education and training in green and sustainable finance.

For example the Monetary Authority of Singapore launched training support measures with the Institute of Banking and Finance (IBF) to strengthen the employability of Singapore's workforce. The initiatives subsidises up to 90% of fees for a number of training programmes accredited under IBF standards which includes a selection of programmes on green and sustainable finance.

Recommendations

To support the UK's net zero and international competitiveness ambitions, and maintain the UK's position as a global green finance hub, employers and others (including the UK government, professional bodies and training providers) need to significantly scale-up the priority given to building capacity and capabilities, backed by increased investment in relevant education and training.

1. Organisations should increase and prioritise investment in green and sustainable finance skills and knowledge.
2. Training programmes should build on the current knowledge of the workforce within the financial services sectors to address the skills gap and allow application of theoretical knowledge in practice.
3. Organisations should implement a formal training plan for green and sustainable finance including an assessment of current knowledge and skills gaps. While specific knowledge and skills requirements will vary between professions, across

roles and overtime, a common core of knowledge for all professionals has already emerged. We provide some examples in Appendix 2 of this report.

4. Training providers should consider the fluidity of their training programmes to address the evolving nature of green and sustainable finance.
5. Current public programmes such as the apprenticeship levy should be used by organisations as an opportunity to upskill their workforce in the green and sustainable finance space.

The above recommendations have been further expanded below for:

Employers

- Employers should increase the level of investment for green and sustainable finance training in order to capture and leverage the opportunities that arise from the 'shift' to clean and resilient growth.
- Employers should prioritise adoption of a more structured training approach. This will be beneficial to their green and sustainable strategies overall but only if firms first analyse their knowledge and skills gaps to ensure training programmes address the specific needs of their organisation.
- Employers should prioritise training in those groups of employees that can leverage the skills to capture opportunities in green and sustainable finance.
- Employers should explore additional training opportunities to upskill the workforce to facilitate and encourage practical opportunities for the application of theoretical knowledge.

Professional Bodies

- Professional bodies should provide more guidance around further integrating the principles and practice of green and sustainable finance into organisations' strategies, activities and operations, and in members' daily professional practice.
- Professional qualifications programmes should be revised to incorporate green and sustainable finance as part of the core education and training for future professionals.
- Professional bodies should work with employers to ensure quality and/or certify the standard of training provided by organisations.

Government Bodies

- The UK government should ensure that capacity and capability building, to support the UK's net zero ambitions and global competitiveness, is coordinated

across all relevant departments, working with employers, professional bodies, universities and others to deliver a step-change in relevant knowledge and skills.

- Policy support for upskilling and reskilling should be a priority through funding for organisations and industry-wide initiatives. An example of where this could be achieved is through amending the current structure of the apprenticeship levy to allow access to green and sustainable finance programmes.

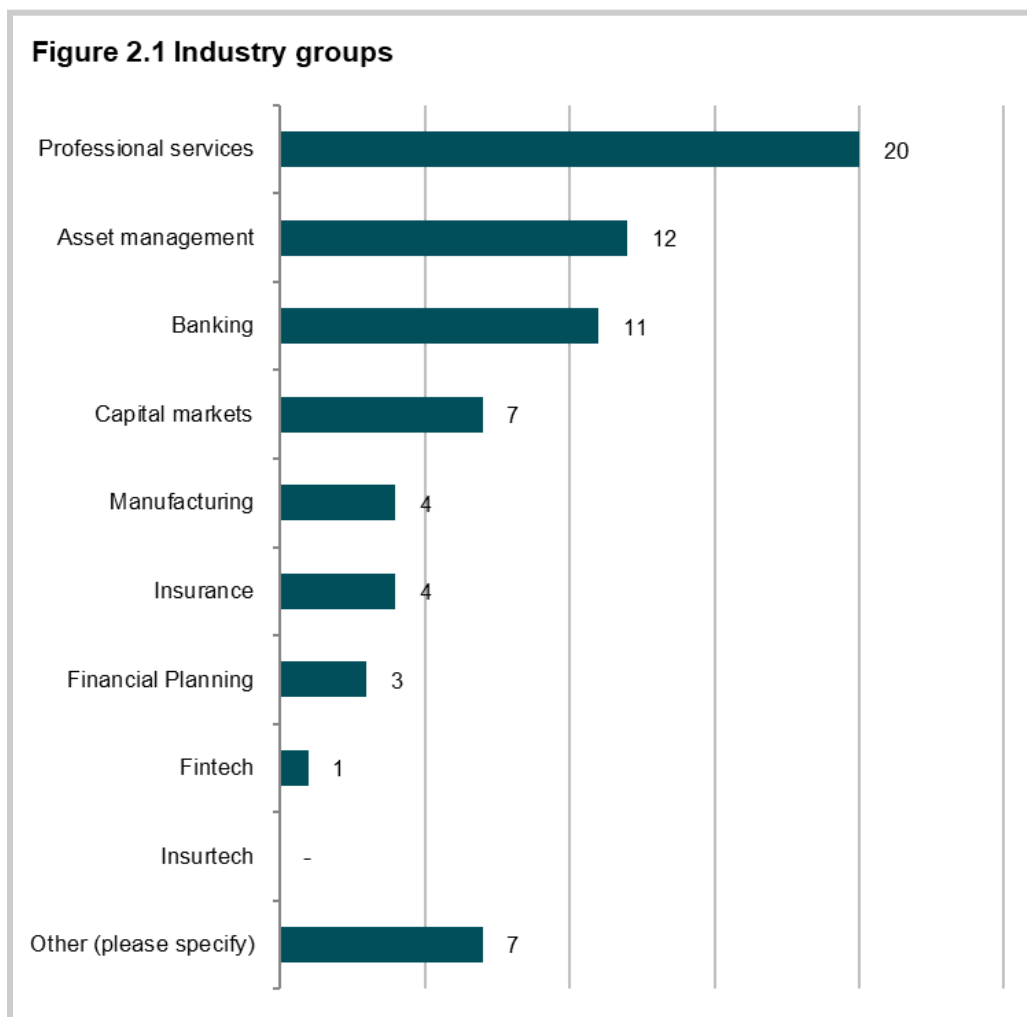
4. Survey

In order to review the current scope and scale of training in green and sustainable finance, the Green Finance Education Charter and CBA commissioned PwC UK to conduct a survey of professional services organisations in the UK. The survey was shared via email with the members of the UK professional bodies captured in the Green Finance Education Charter (refer to Appendix 1).

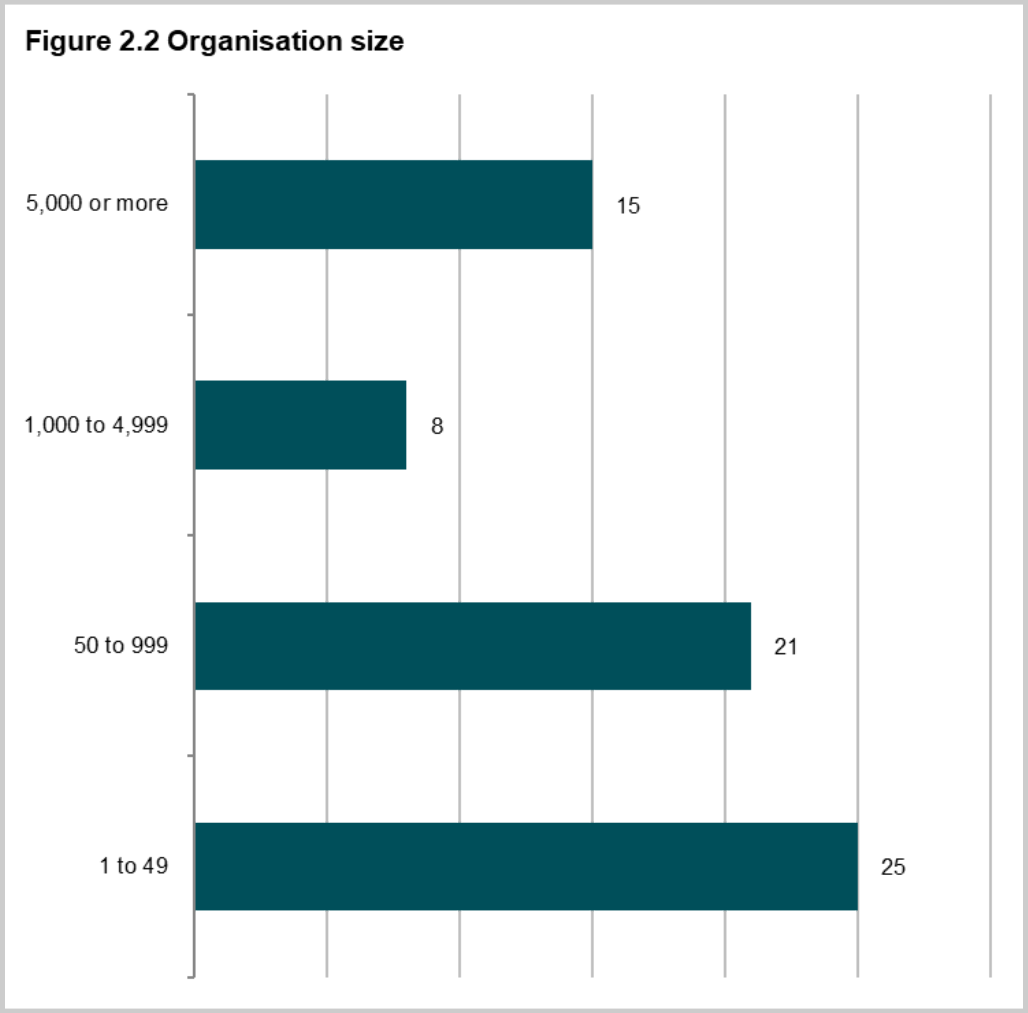
The online survey was open from 17th October 2022 until 28th November 2022 and consisted of 15 questions addressing subjects of interest in the area of green and sustainable finance.

Overview of respondents

A total of 69 organisations and individuals responded to the questionnaire. The largest group of respondents came from representatives of Professional Services (29%). Other significant groups included Banking (17%) and Asset Management (16%).



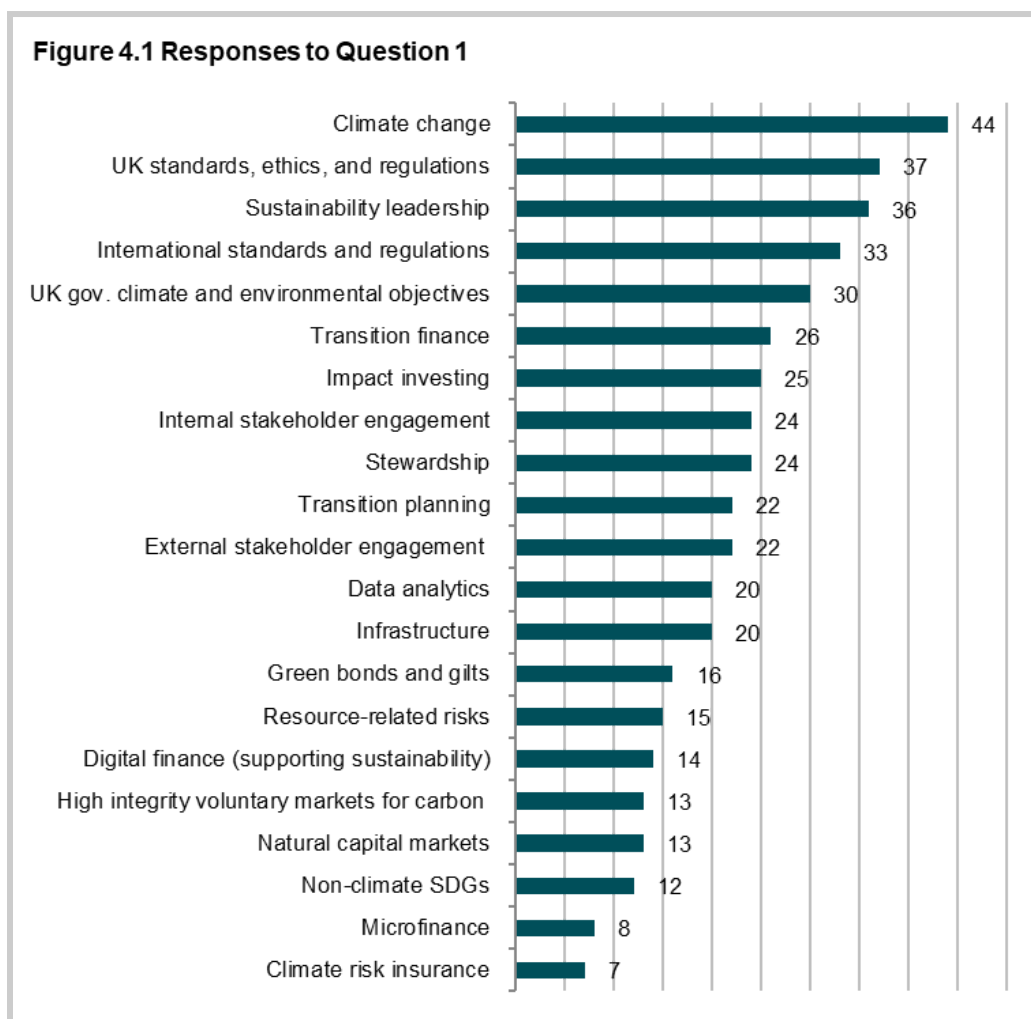
Respondents were asked to clarify the size of their organisation. All respondents provided this information (see Figure 2.2). Most respondents were small and medium sized organisations, ranging from 1 to 49 employees (36%) and 50 to 999 employees (30%). A smaller share of respondents were large organisations, with 12% of respondents from companies of 1,000 to 4,999 employees and 22% from companies of 5,000 or more employees.



Summary of responses by question

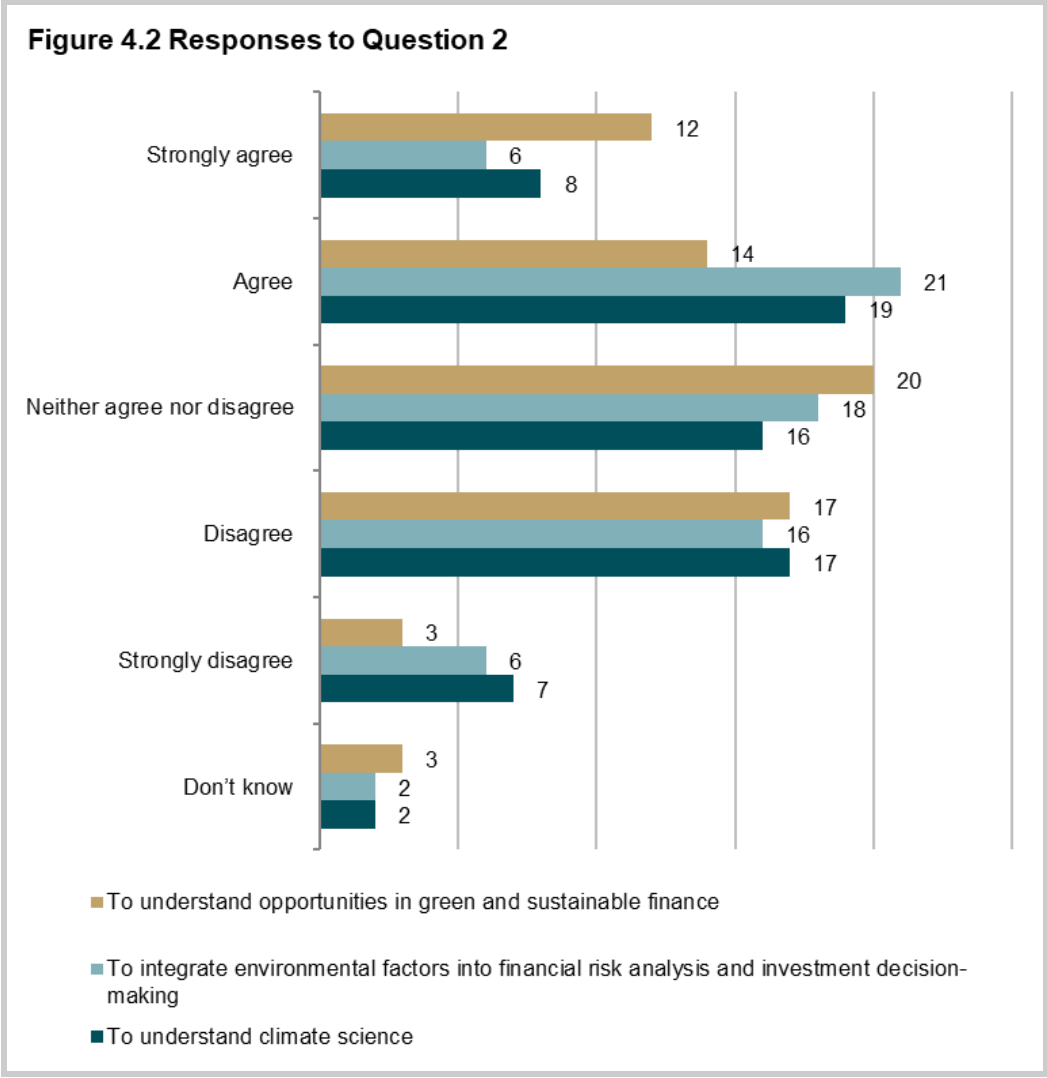
This section provides a summary of the responses to the survey questions.

Question 1 asked which elements of green and sustainable finance are most important to their organisation. Respondents were able to select multiple options in response to this question therefore the total number of responses (477) is greater than the total respondent count.



Perhaps not surprisingly, climate change (44 responses), UK standards, ethics and regulations (37 responses) and sustainability leadership (36 responses) were considered by respondents as the most important elements of green and sustainable finance in their organisations. More surprisingly, digital finance (supporting sustainability) (14), high integrity voluntary markets for carbon (13), non-climate SDGs (12), microfinance (8) and climate risk insurance (7) were selected as the least important issues.

Question 2 asked to what extent the participants agreed with the statement ‘My colleagues have the skills and knowledge needed to a) understand opportunities in green and sustainable finance, b) integrate environmental factors into financial risk analysis and investment and c) understand climate science.’



Responses to these questions were largely mixed with a similar proportion of respondents agreeing and disagreeing to the statements whilst a number of respondents remained neutral and neither agreed or disagreed.

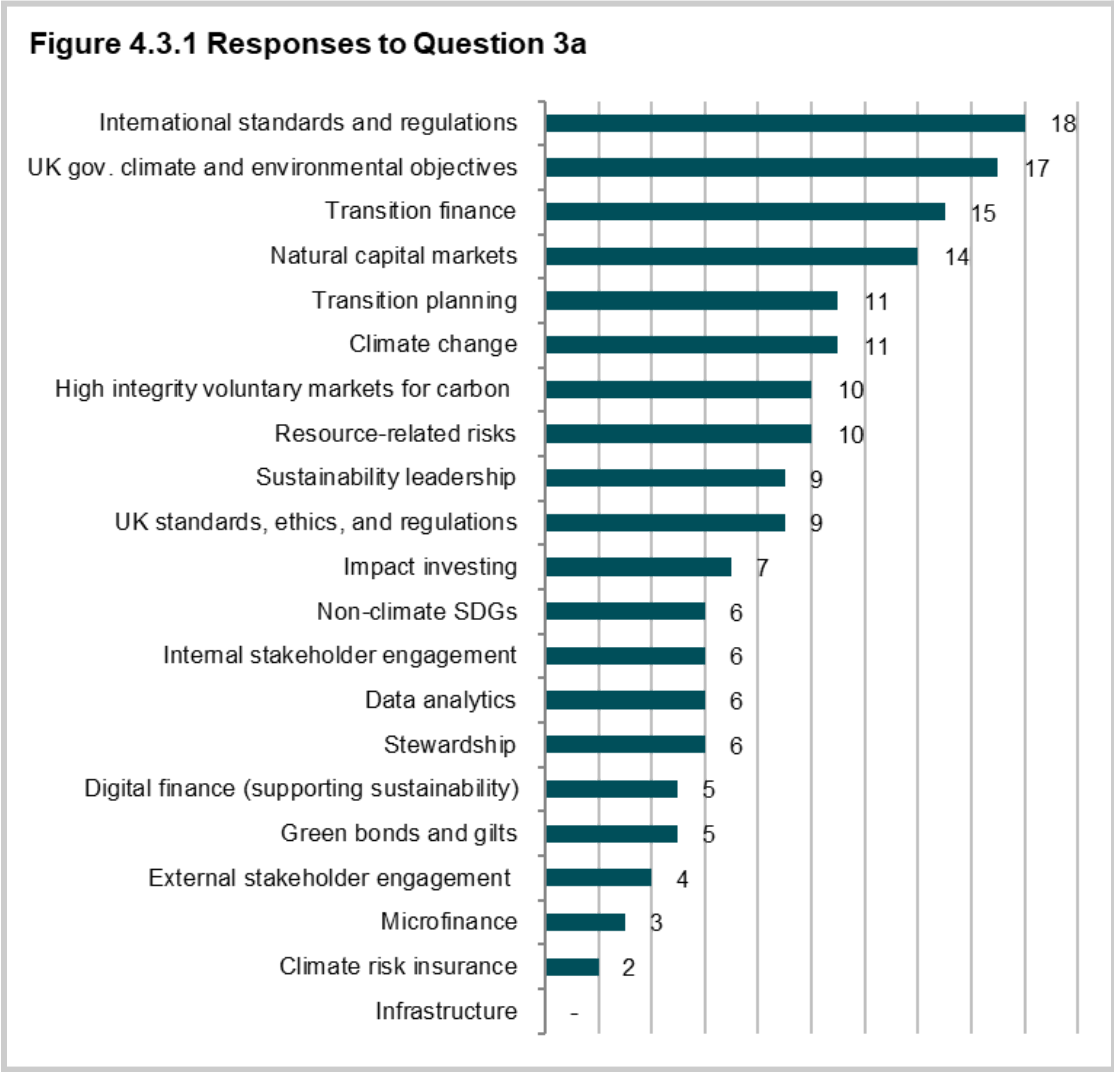
A small majority of respondents (29%, 20 responses) neither agreed or disagreed with the statement that their colleagues have the skills and knowledge needed to understand opportunities in green and sustainable finance. Other respondents were split between disagreeing with the statement (25%, 17 respondents) and agreeing with the statement (20%, 14 respondents).

20 respondents (29%) agreed with the statement that their colleagues have the skills and knowledge needed to integrate environmental factors into financial risk analysis and investment decision-making. 18 respondents neither agreed or disagreed and 16 respondents disagreed.

19 respondents (28%) agreed with the statement that their colleagues have the skills and knowledge needed to understand climate science. 16 respondents disagreed and 18 respondents neither agreed or disagreed.

The responses demonstrate a lack of understanding around the skills and knowledge of respondents' colleagues in these 3 areas. This would suggest that such skills are not considered a priority in onboarding/upskilling/reskilling discussions and planning.

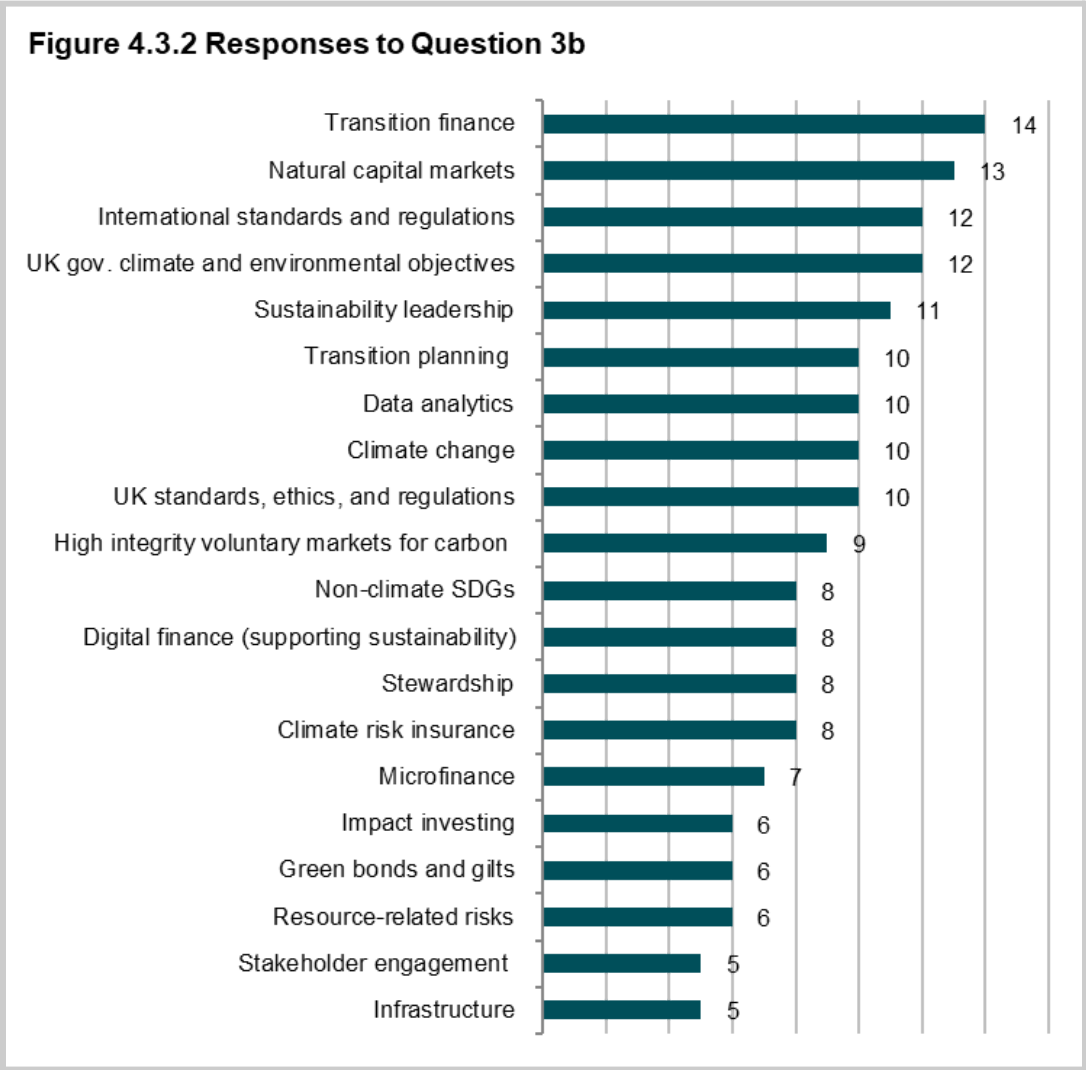
Question 3a asked which green and sustainable finance topics currently present the largest knowledge gaps in the participant’s organisation. Respondents were able to select multiple options in response to this question therefore the total number of responses is greater than the total respondent count.



The three topics considered most important for respondents (climate change, UK standards, ethics and regulations and sustainability leadership) were not ranked as the largest in terms of the knowledge gaps. This suggests that respondents are comfortable with the level of knowledge around the key areas of focus for their organisation.

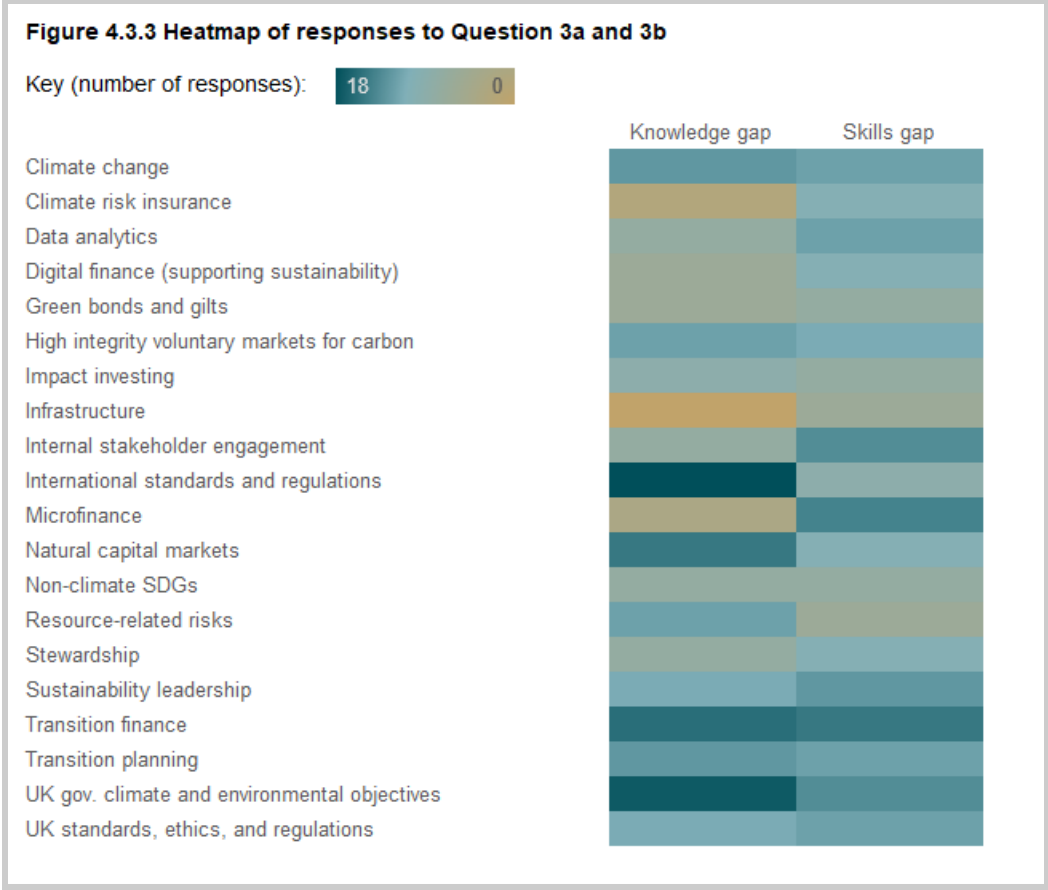
The topics which were seen as having the largest knowledge gaps were international standards and regulations (18 responses) and the UK government’s climate and environmental objectives (17 responses). This indicates that compliance with regulations is a key consideration when analysing knowledge gaps amongst employees.

Question 3b asked which green and sustainable finance topics currently present the largest **skills gaps** in the participant’s organisation. Respondents were able to select multiple options in response to this question therefore the total number of responses is greater than the total respondent count.



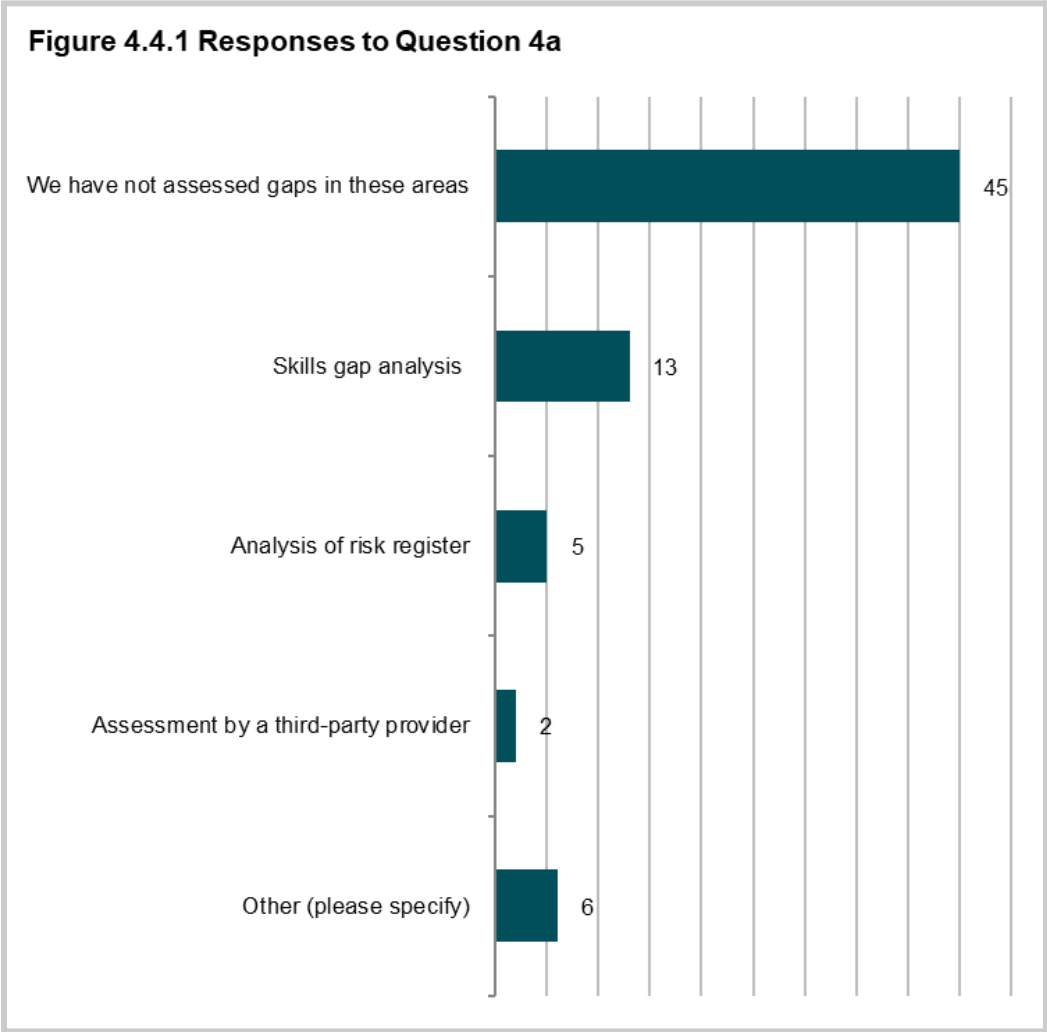
Participants were presented with the same topics as in Question 1 and Question 3a. The responses to this question (Question 4b) were more evenly distributed across each topic when compared to responses in Question 1 and Question 3a. This indicates that organisations have a greater skills gap across a wider set of topics. Topics differ from responses to Question 3a with transition finance (14 responses) and natural capital markets (13 responses) considered as presenting the biggest skills gaps.

International standards and regulation was regarded as the third most important topic for respondents as well as the largest in terms of knowledge gap which suggests it is considered a key topic for respondents.



The above diagram illustrates the knowledge and skills gaps identified by respondents from Question 3a and 3b by topic. It is clear that organisations identify a skills gap across a wider range of topics whilst knowledge gaps identified are largely concentrated on 3 topics (international standards and regulations, UK government climate and environmental objectives and transition finance.)

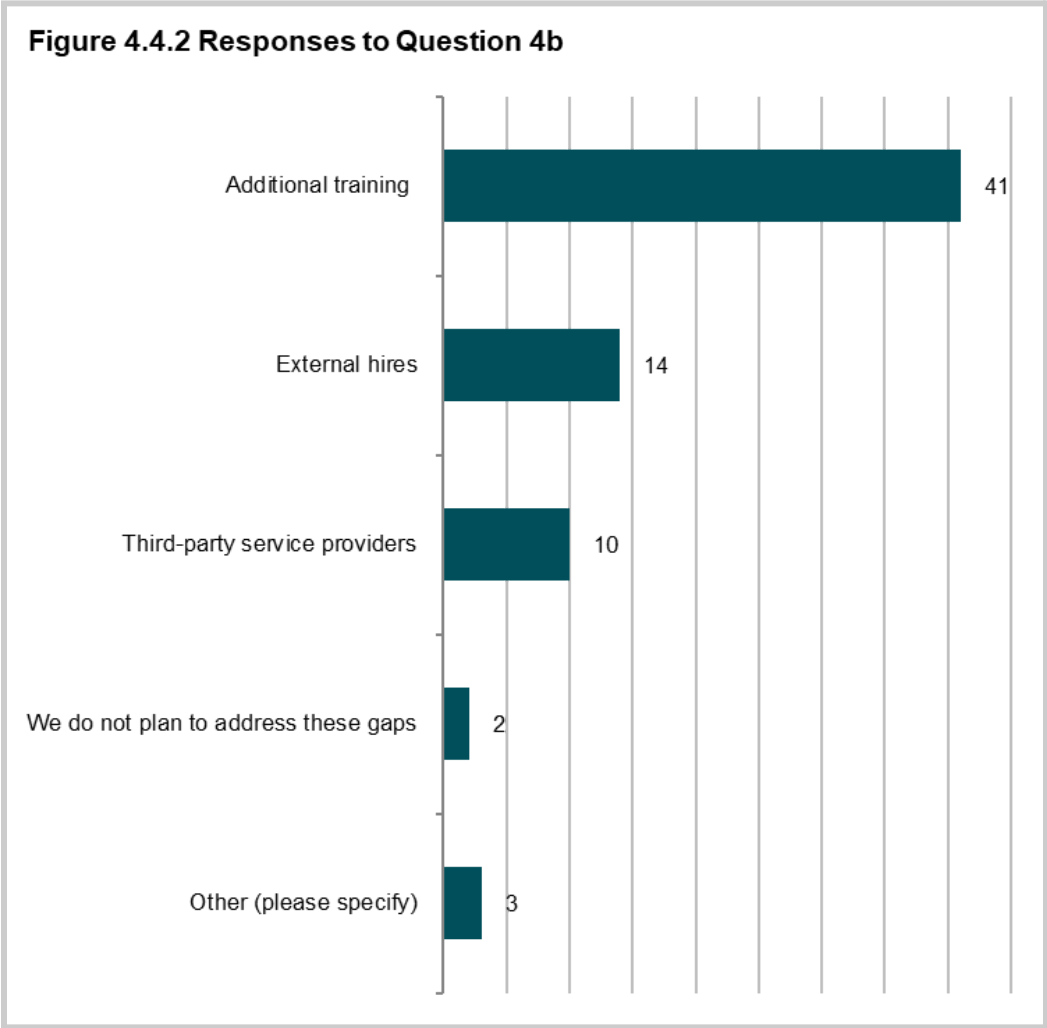
Question 4a asked what strategies the participant’s organisation has used to assess skills and knowledge gaps.



The majority of participants responded that their organisation had not assessed gaps in these areas (45 responses, 63%). The minority of respondents used strategies such as skills gaps analysis (13 responses), risk register analysis (5 responses) and assessment by a third party provider (2 responses). Through the open ‘other’ text box, organisations elaborated that some will undertake an initial gap analysis internally, and bring in third parties when gaps are identified. One organisation stated they assume no knowledge and start from basics. A smaller organisation (1 to 49 employees) highlighted cost factors into assessing skills and knowledge gaps.

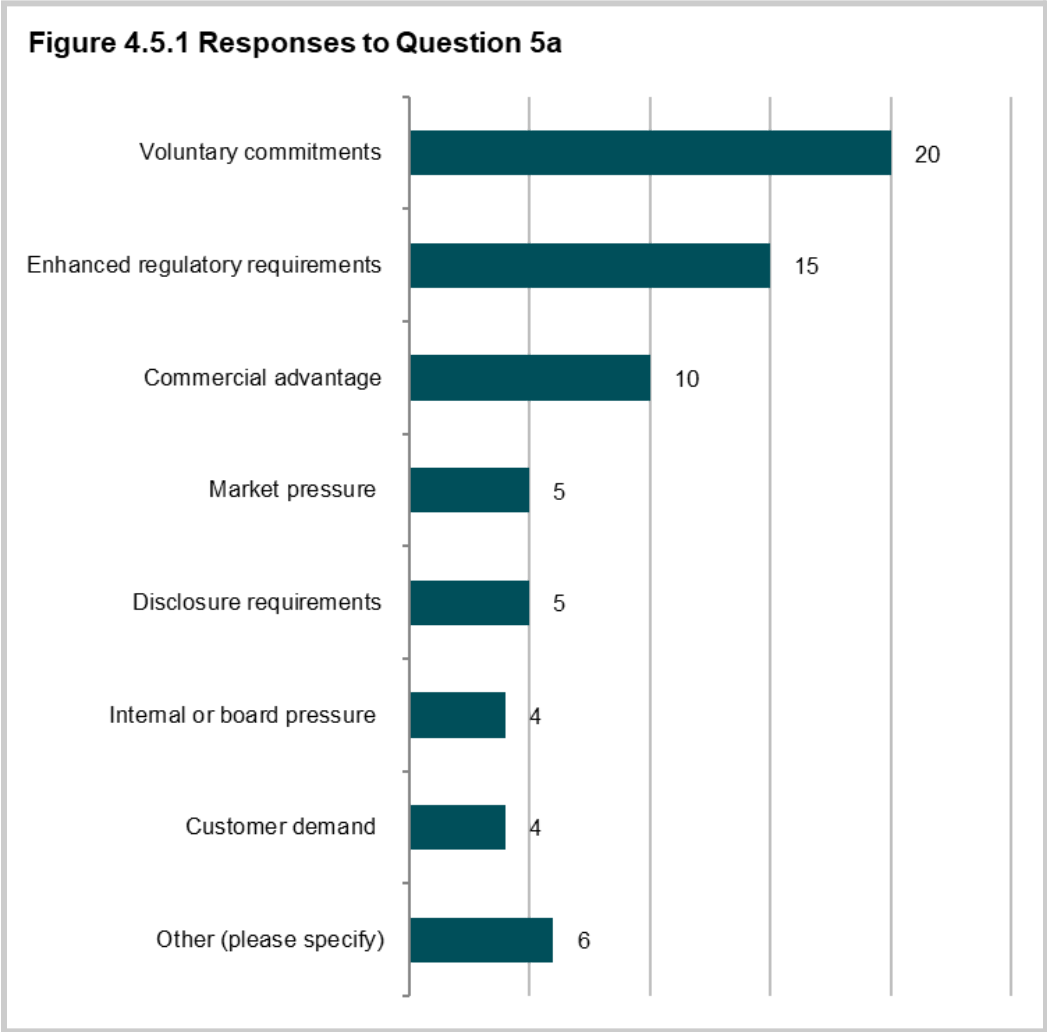
The lack of assessment suggests that the majority of organisations do not follow a structured approach to training and development planning in green and sustainable finance topics.

Question 4b asked what strategies the participant’s organisation plans to use to address skills and knowledge gaps.



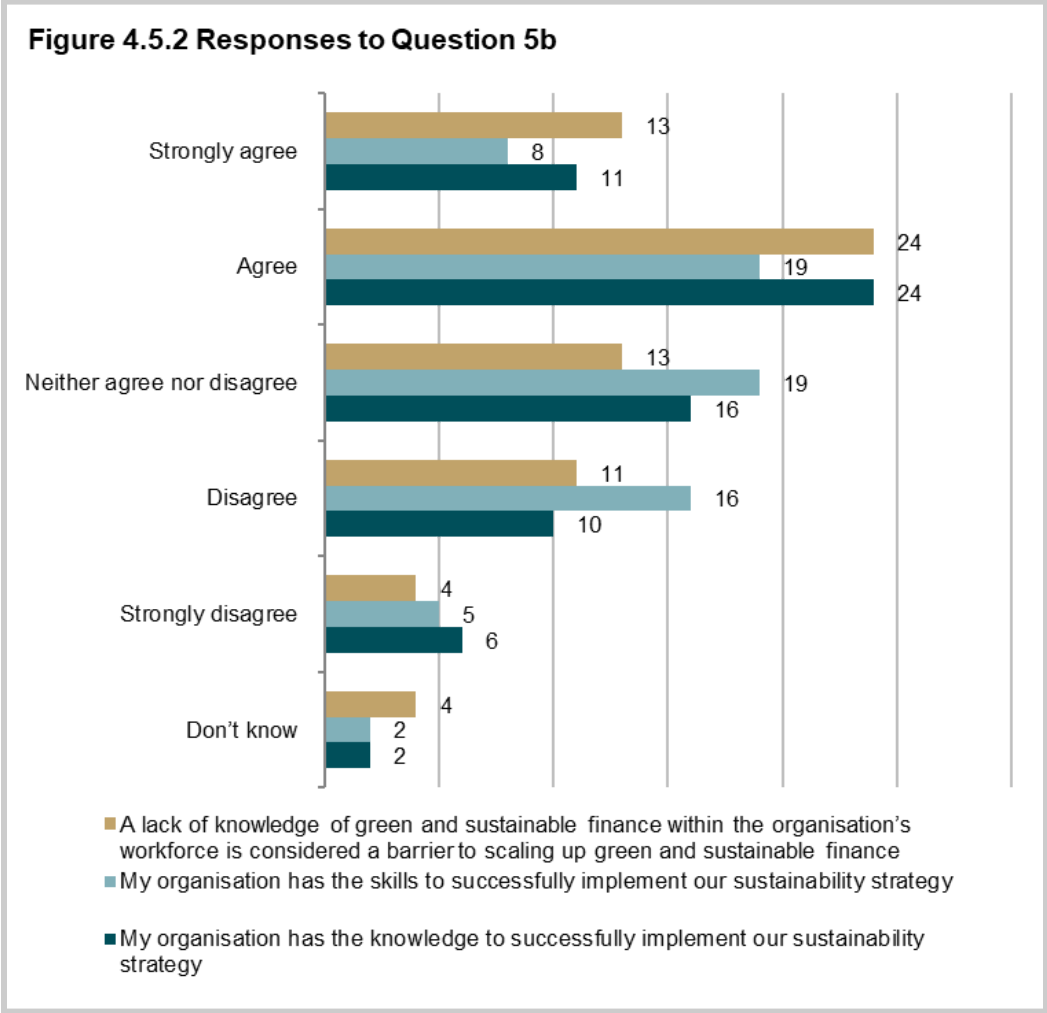
The majority of participants responded that their organisation is planning additional training (41 responses, 59%). The minority of respondents plan to use strategies such as external hiring (14 responses), third-party providers (10 responses) and partnerships (1 responses) to address current skills and knowledge gaps. Two organisations responded that they do not plan to address the gaps.

Question 5a asked what the primary driver for the participant's organisation's green and sustainable strategy has been.



Key drivers were voluntary commitments (20 responses), enhanced regulatory requirements (15 responses), and commercial advantage (10 responses). Voluntary commitments as a primary driver suggests that organisations are looking to get ahead of regulation.

Question 5b asked to what extent the participant agreed with a) ‘My organisation has the knowledge to successfully implement our sustainability strategy,’ b) ‘My organisation has the skills to successfully implement our sustainability strategy’ and c) ‘A lack of knowledge of green and sustainable finance within the organisation’s workforce is considered a barrier to scaling up green and sustainable finance.’

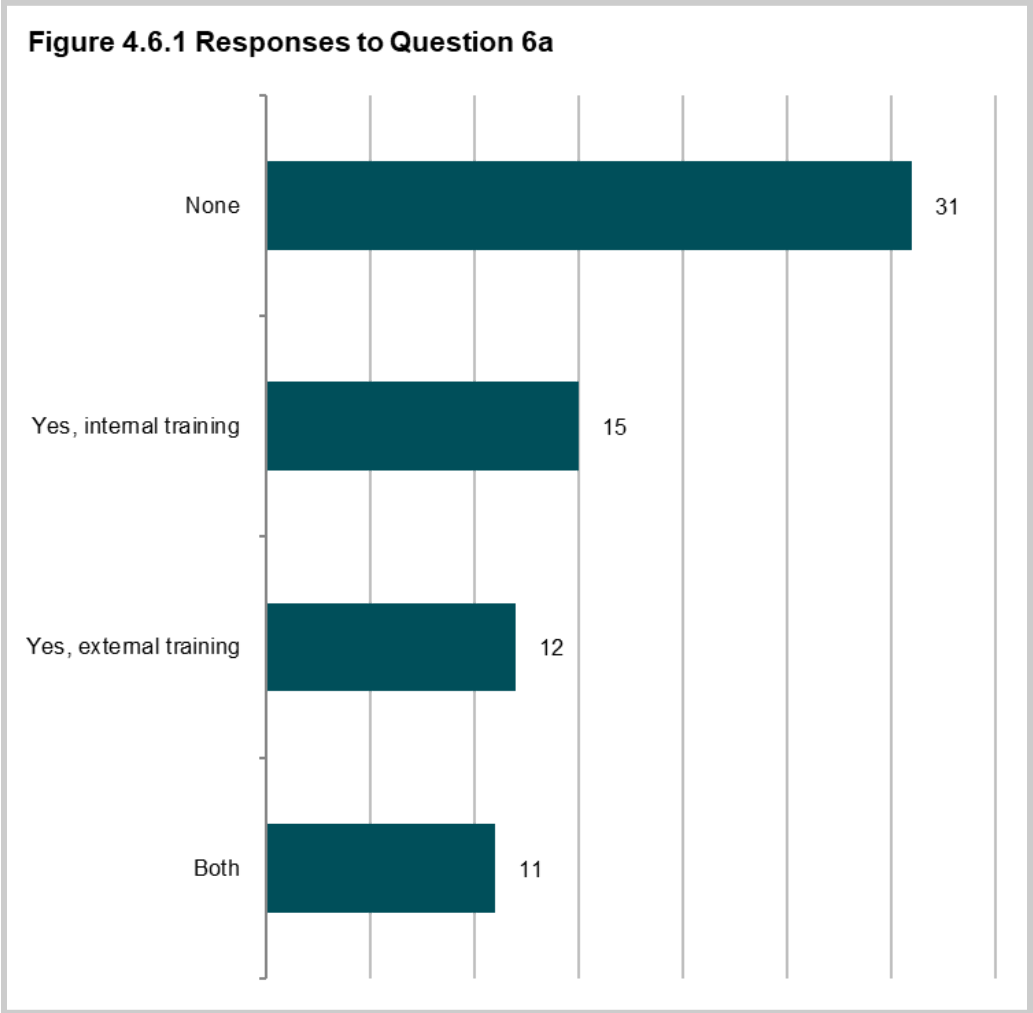


A majority of respondents (51%) agreed (24 respondents) and strongly agreed (11 respondents) that their organisation has the knowledge to successfully implement its sustainability strategy. 16 respondents (23%) neither agreed or disagreed and 10 respondents (14%) disagreed with the statement. Respondents were evenly distributed between those who agreed and those who neither agreed or disagreed (19 respondents, 28%) that their organisation has the skills to successfully implement its sustainability strategy.

The majority of respondents (53%) agreed and strongly agreed that a lack of knowledge within the organisation’s workforce is considered a barrier to scaling up green and sustainable finance. Responses to Question 5b mirrored the response in Question 3b

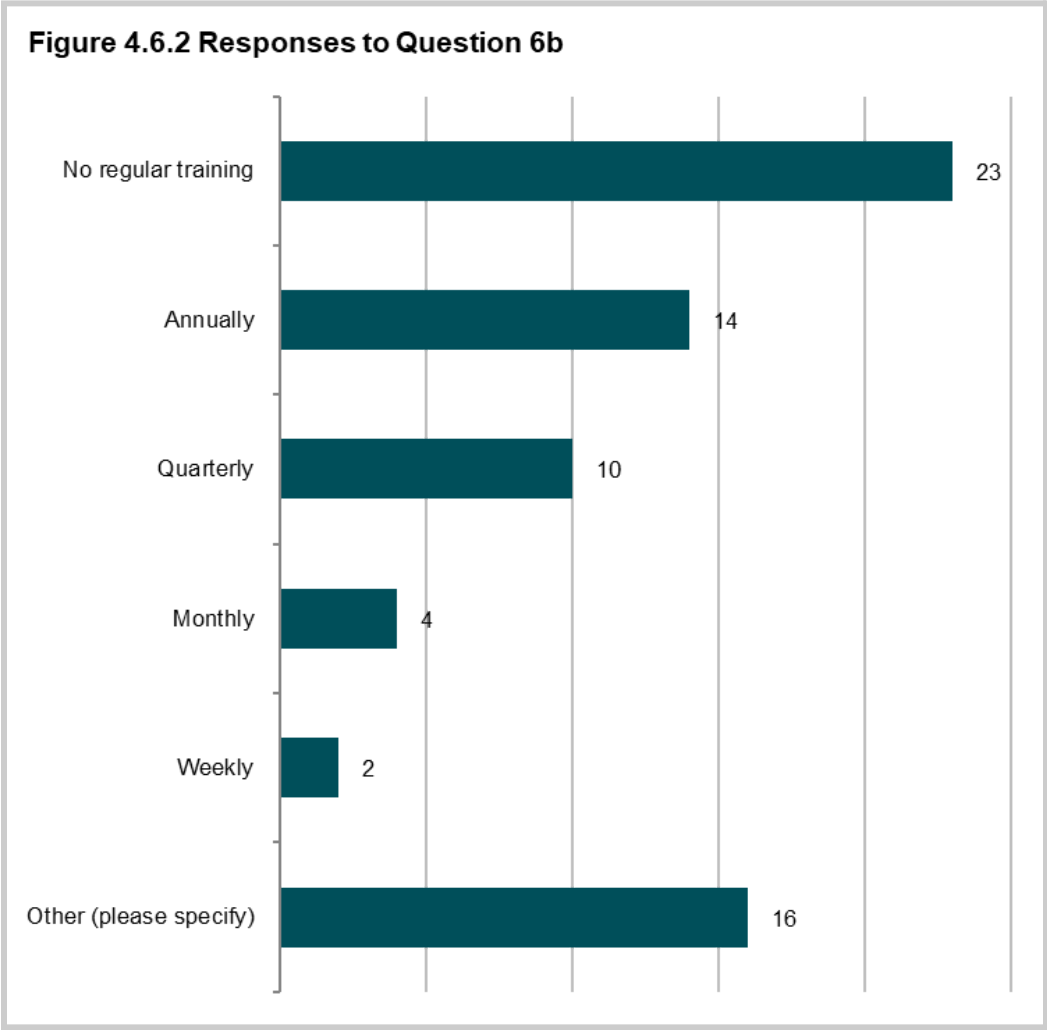
that respondents consider a wider skills gap than knowledge gap in green and sustainable finance.

Question 6a asked if the participant’s organisation conducted training on green and sustainable finance.



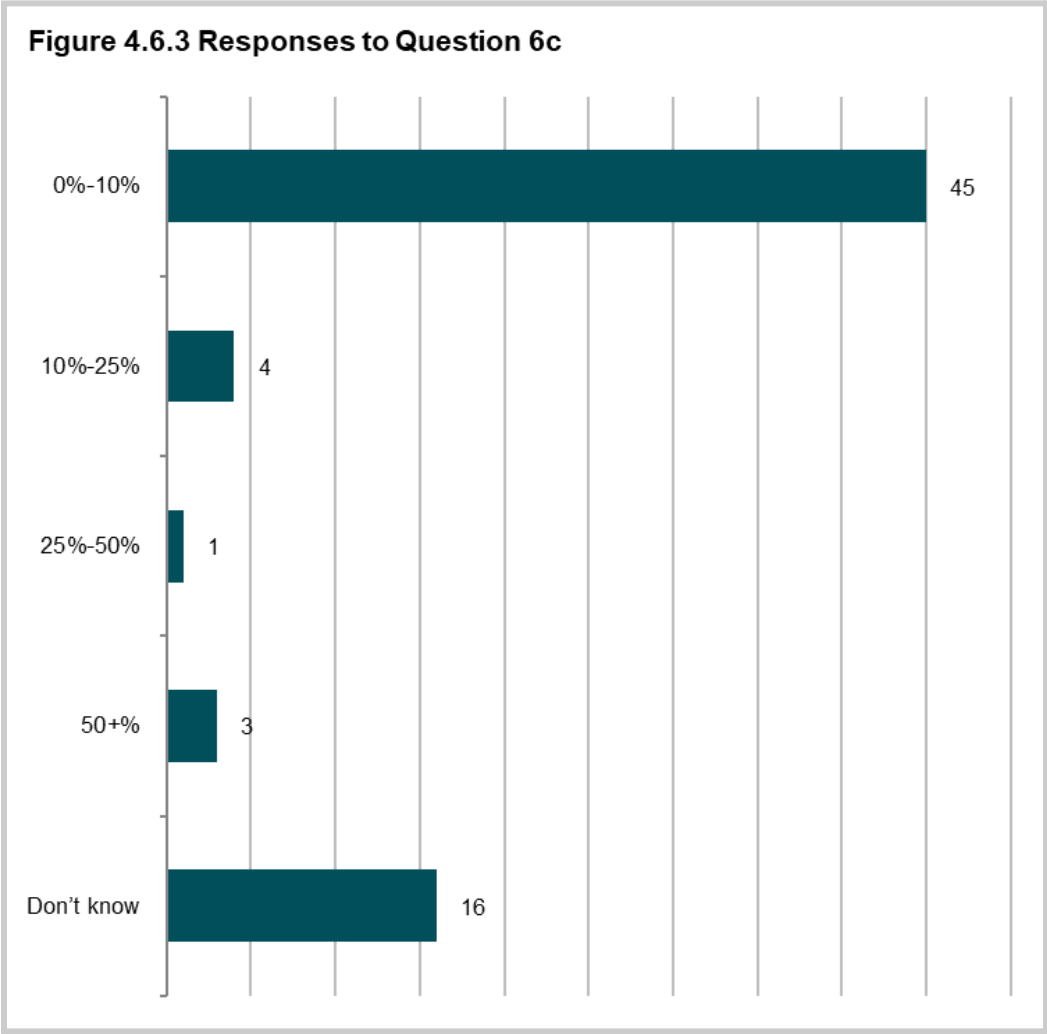
Almost half of respondents (45%) had not conducted training on green and sustainable finance. Respondents who did conduct training were split between those that ran internal training (15 responses), external training (12 responses) and both (11 responses).

Question 6b asked how often the participant’s organisation engages in green and sustainable finance training.



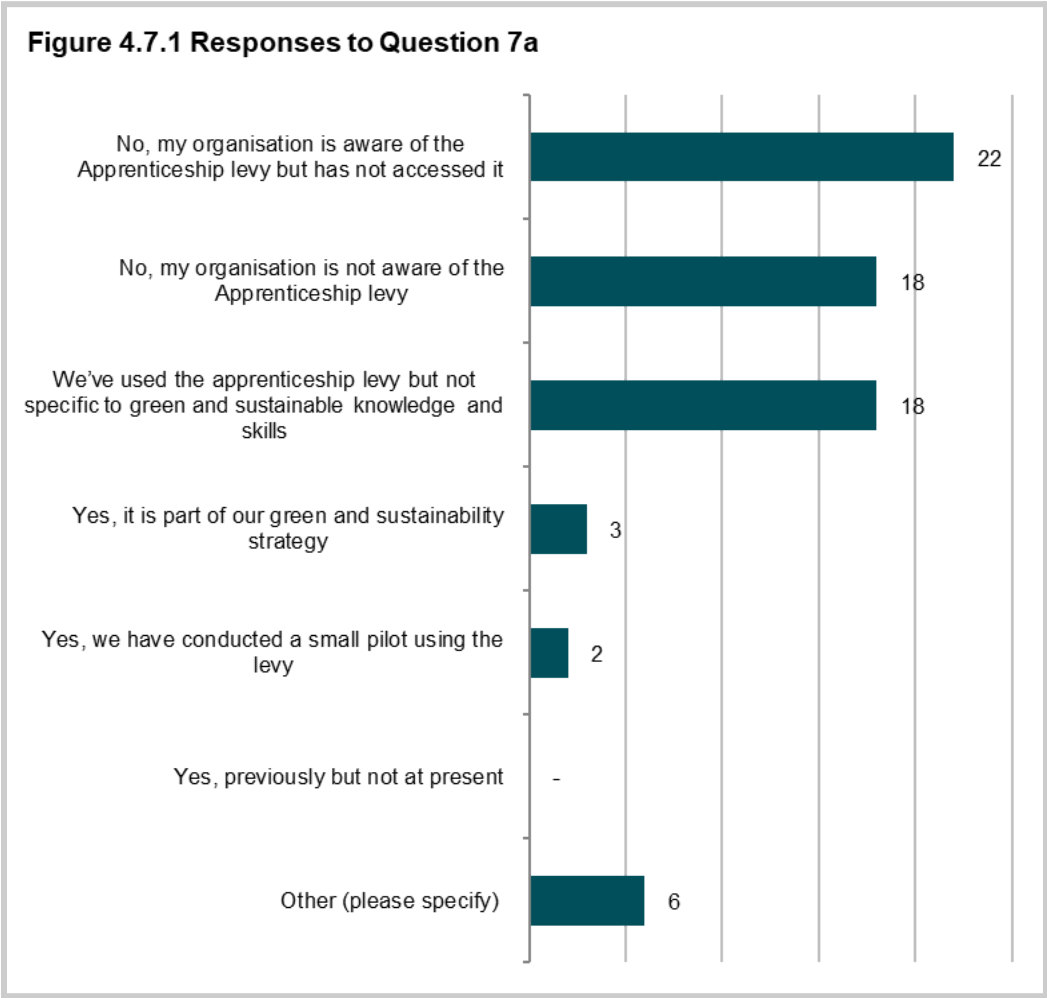
In line with responses to Question 6a, the majority of respondents (33%) reconfirmed that they did not engage in training regularly. Respondents who did conduct training were split between those who ran training annually (14 responses), quarterly (10 responses). Key ‘other’ responses included on-demand access to a training platform (4 responses), ad-hoc training (3 responses), or by meeting individual Continuous Professional Development (CPD) requirements (2 responses).

Question 6c asked approximately how much of the organisation’s training budget is currently used on training in green and sustainable finance.



The majority of respondents (65%) noted that its organisation allocated 0-10% of its training budget to green and sustainable finance indicating that the focus of organisations is not to upskill employees in this topic.

Question 7a asked whether the participant’s organisation uses the UK apprenticeship levy to help address gaps in green and sustainable knowledge and skills.



The apprenticeship levy is a tax on employers to create long term sustainable funding for apprenticeships and provide employees with a range of training opportunities.

Most respondents had not used the apprenticeship levy to help address training gaps in green and sustainable knowledge and skills. Organisations were either aware of the apprenticeship levy but had not accessed it (22 responses), used the apprenticeship levy but not specific to green and sustainable knowledge and skills (18 responses) or were not aware of the apprenticeship levy (18 responses).

Question 7b and 7c asked what barriers and challenges organisations have found to accessing and using the Apprenticeship system. Participants were asked to provide an answer in an open text box.

Common themes were limited awareness of the apprenticeship system or apprenticeships in sustainability, and problems with the complexity of the system.

Although organisations seemed to be interested in taking on apprentices, some responses indicated a lack of interest from apprentices in this area, due to low remuneration, led to a limited number of high quality applicants or poor performance.

Other organisations stated limited capacity, time and financial constraints, or no internal arrangements to take on apprentices. Factors that contribute to this were noted by respondents as short-termism and the lack of immediate business impact to encourage uptake. Covid has also had an impact on organisations, with some respondents highlighting that apprentices need face to face supervision which was not possible over the past two years, reducing uptake.

Question 8 asked what factors (if any) the organisation used to select the correct training programme. Participants were asked to provide an answer in an open text box.

A key theme in responses to this question was the reputation of training providers, such as those that had been recommended by peers, and a provider's experience, skills and knowledge. Providers who could accommodate for a range of needs were considered when selecting training programmes. Programmes that provided updates for the latest development in green and sustainable finance were valued by respondents.

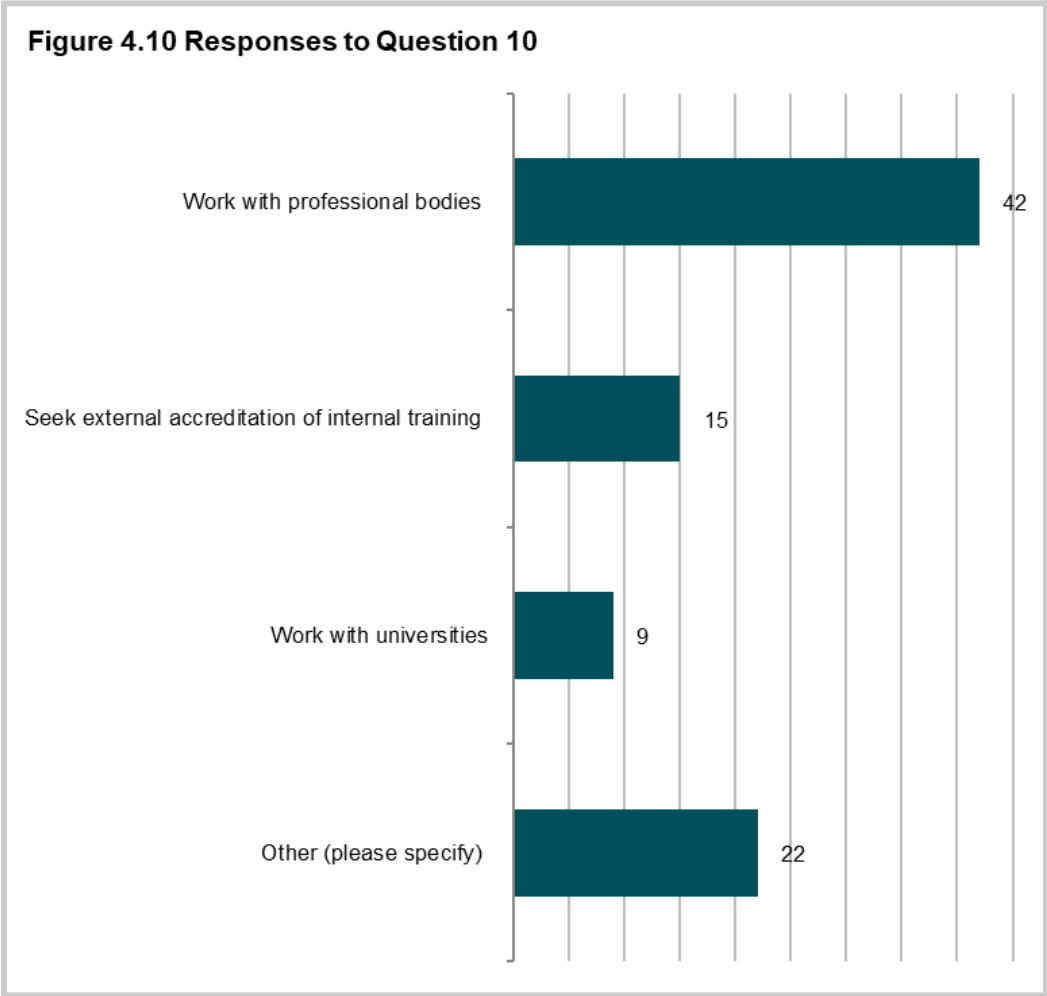
Respondents also focused on the value outcomes from training. Responses compared the cost and time required for training programmes versus the potential impact of the training across stakeholders when selecting the correct training programme.

Question 9 asked what factors (if any) the organisation used to assess the success of training programmes. Participants were asked to provide an answer in an open text box.

A common method to assess the success of training programmes by organisations was participant and trainer feedback in the immediate-term after training. Some respondents measured performance participants following the training programme and requested training participants to measure the impact on their performance in the long-term.

Respondents also highlighted that when external accredited training was used, organisations measured success quantitatively through completion rates, exam passes or certification. A significant minority of organisations did not assess the success of training, or had no formal processes to assess impact.

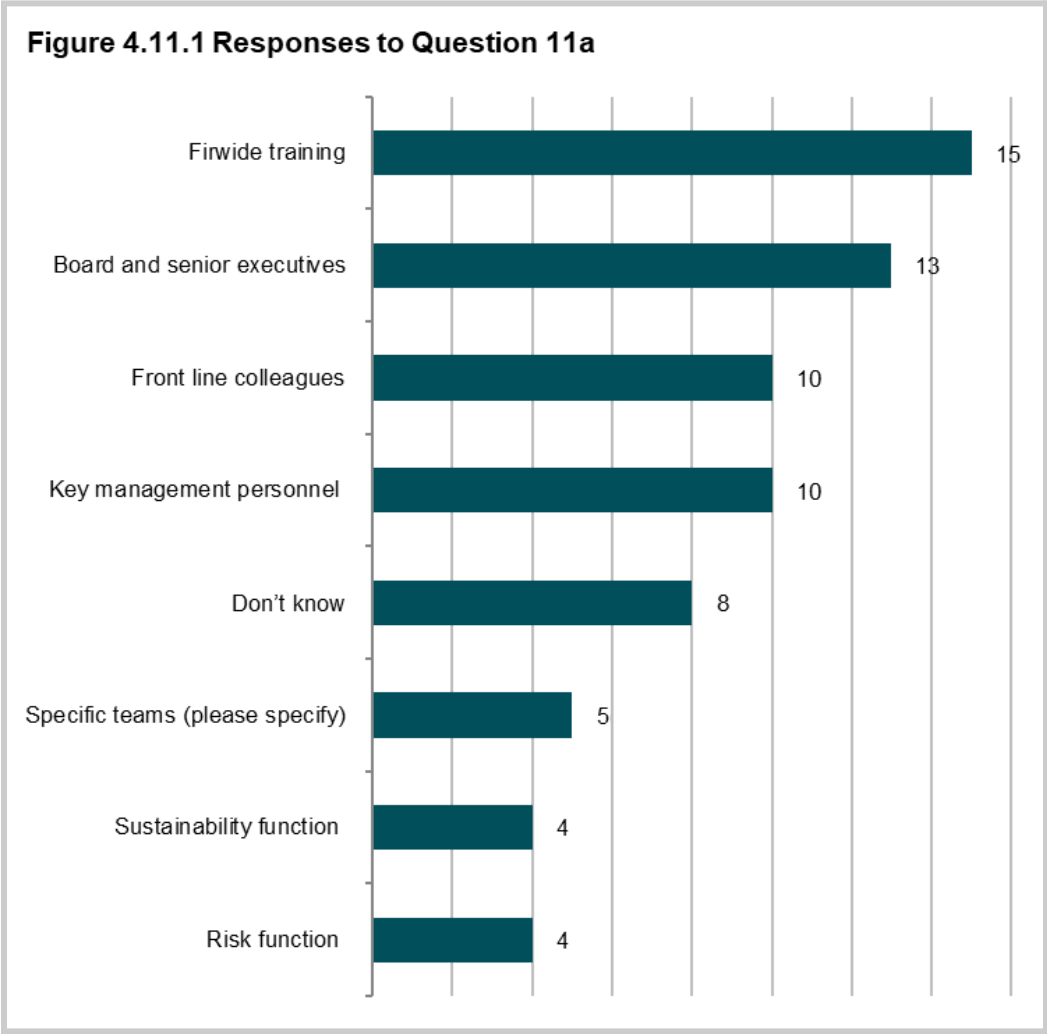
Question 10 asked how the participant’s organisation ensured the quality and standards of the training delivered.



Almost half of the organisations ensure the quality and standards of training through work with professional bodies (42 responses, 48%). A minority of respondents use external accreditation (15 responses, 15%) or work with universities (9 responses, 10%).

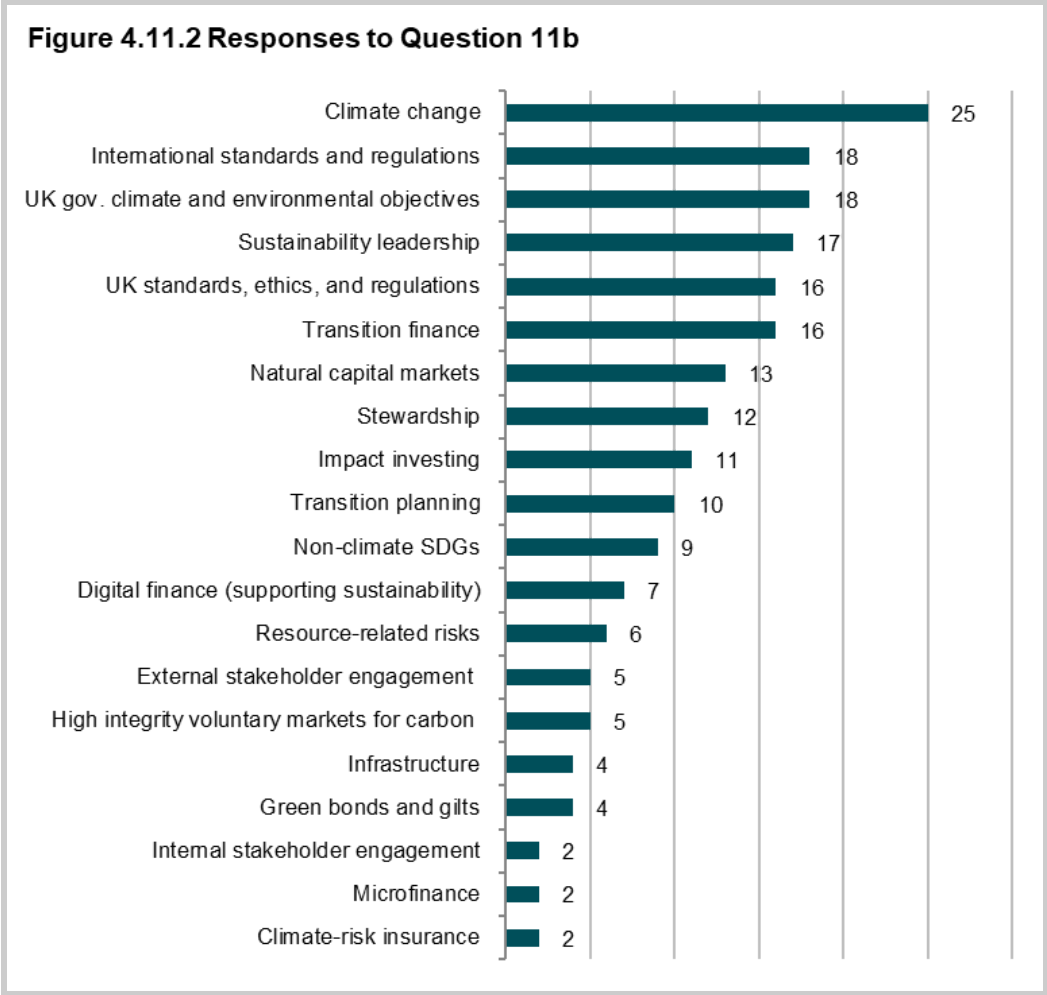
Respondents who selected ‘other’ were either unsure of the measurement of quality and standards or placed value in the external training provider’s reputation.

Question 11a asked how the participant's organisation will prioritise for future training to address opportunities arising from green and sustainable finance.



Responses were distributed evenly with 22% of respondents planning to provide firm wide training (15 responses). The most frequently prioritised groups were the organisation's board and senior executives (13 responses, 19%), front line colleagues (10 responses, 15%) and key management personnel (10 responses, 15%).

Question 11b asked which green and sustainable finance topic areas are expected to be prioritised for future training by the participant's organisation. Respondents were able to select multiple options in response to this question therefore the total number of responses is greater than the total respondent count.

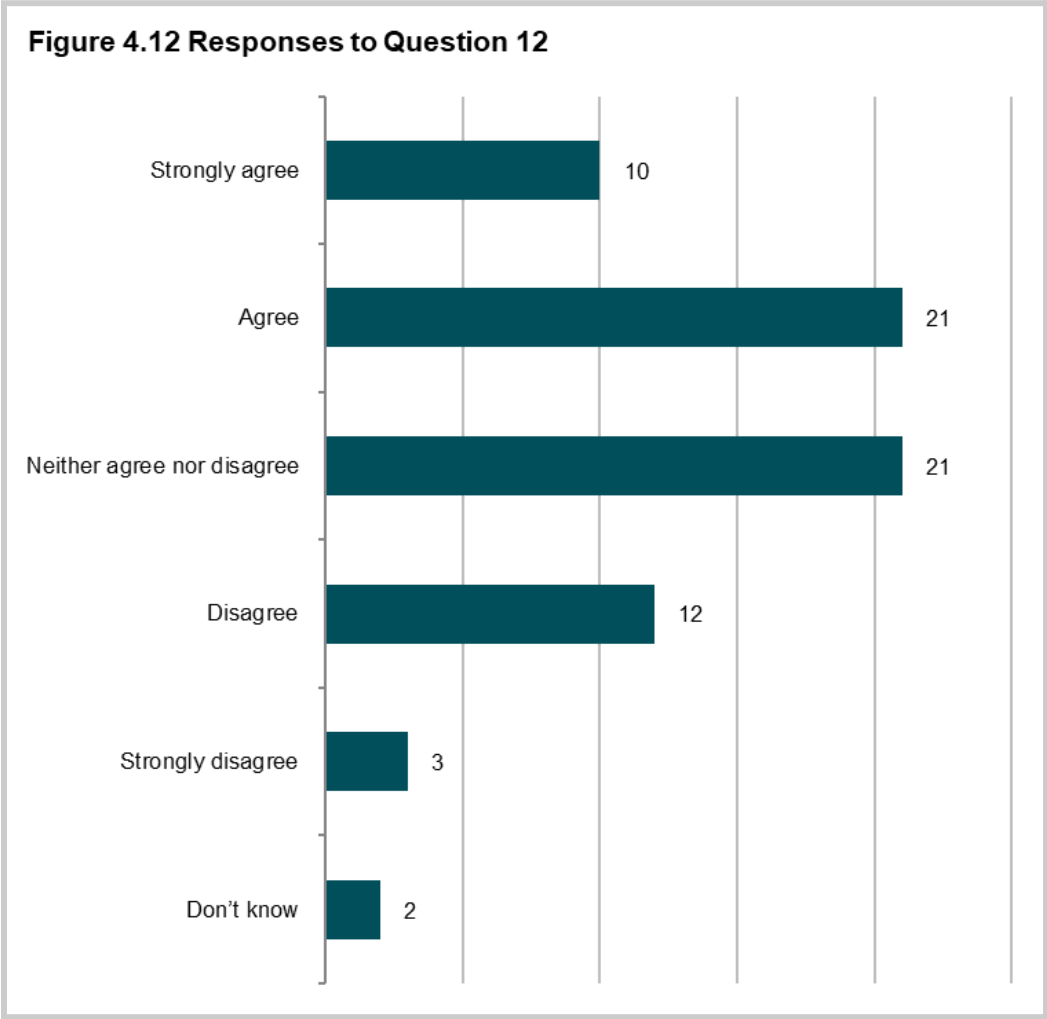


Topics which are expected to be prioritised for future training were climate change (25 responses), UK government’s climate and environmental objectives (18 responses) and international standards and regulations (18 responses).

Topics highlighted as priority in this question were largely aligned with topics considered important to respondents in Question 1.

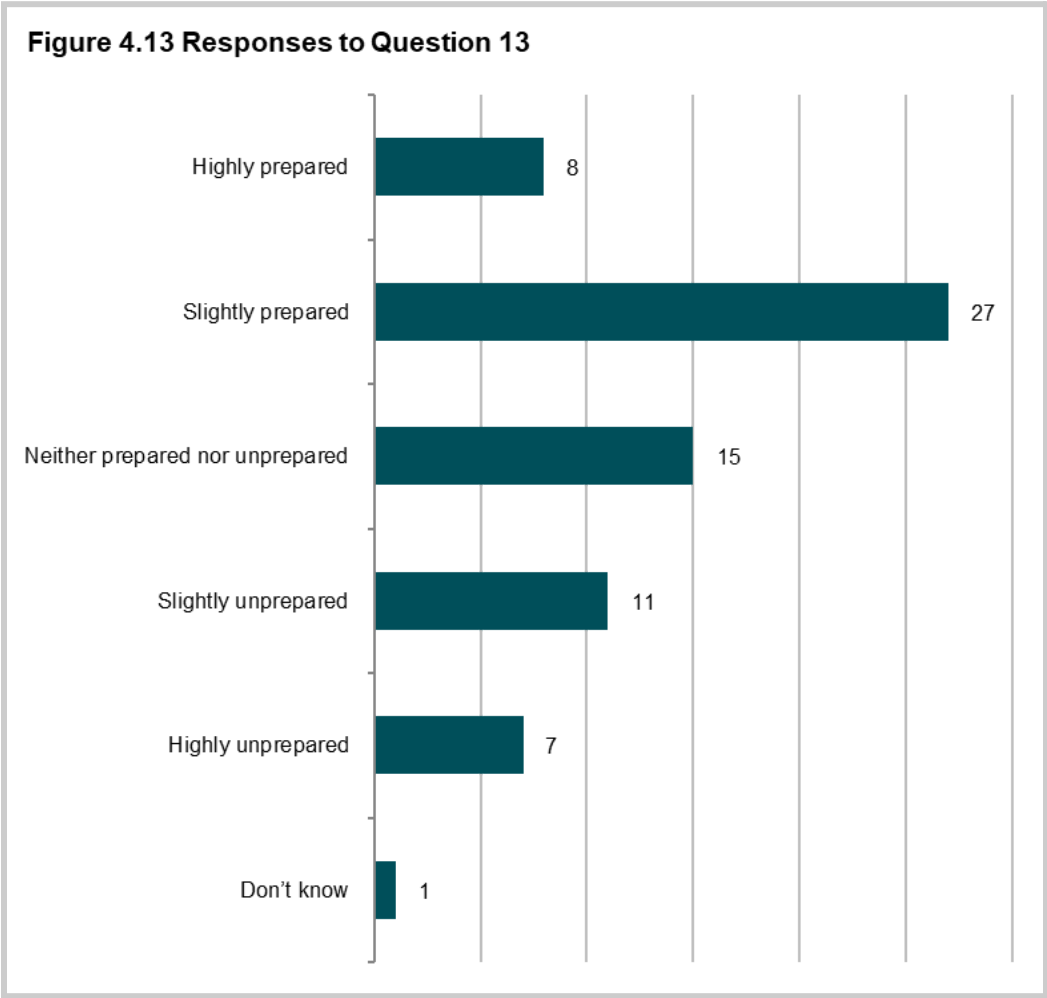
Responses in the open text box of ‘other’ outlined a framework for understanding and managing the socio-economic consequences of climate risk is expected to be prioritised whilst another respondent outlined that all topics are integral to understanding the landscape.

Question 12 asked to what extent the respondents agree with the statement: ‘My organisation has a clear understanding of how future requirements in green and sustainable finance will impact us.’



The majority of respondents either agreed or neither agreed or disagreed (21 responses) with the statement above. There was a skew towards positive responses, with only 12 respondents disagreeing.

Question 13 asked to what extent the current knowledge and skills of the participant’s workforce mean the participant’s organisation is prepared for future requirements in green and sustainable finance.



A majority of responses stated that their workforce is slightly prepared (27 responses, 39%) for future requirements in green and sustainable finance. 15 respondents considered that their workforce is neither prepared nor unprepared (22%). 12% of respondents believed their workforce to be highly prepared (8 responses).

Question 14 asked what aspects of climate and sustainability-related regulation are likely to most impact the participant's organisation. Participants were asked to provide an answer in an open text box.

Although responses to Q14 were wide-ranging, key themes include:

Disclosures and Reporting Requirements

Common concerns were raised around the disclosures and reporting requirements, and what would be expected of an organisation. This was closely linked to additional concerns on the complexities of reporting disclosures with specific issues arising from legislation around when it will come into effect and the scope of legislation.

Future of Work

More broadly, concern was also raised about the 'future of work' in the industry and how market sentiment and the competitive landscape might shift.

Regulations

- Participants named a range of general and specific UK and EU sustainability linked regulations as being the most impactful on their organisations, for example, the Task Force on Climate Related Financial Disclosure (TCFD), SDR (Sustainability Disclosure Requirements) and SFDR (Sustainable Finance Disclosure Regulation). A range of general investment and investment labelling regulations were also named as having the most impact on their organisation.
- Beyond the local market regulations, it was identified that participants felt that the 'equivalence on a global scale' would impact them. With participants citing 'international regulations and standards' and 'the proliferation of non-consistent reporting frameworks/taxonomies globally [adding] complexity and costs' as key impacts for their organisation.
- In addition, participants also stated that 'costs', 'impact on revenue' and 'penalties', as a result of sustainability and climate regulation, would most likely impact their organisation.

ESG (Environmental, Social and Governance) Factors

- Participants named specific ESG issues as having the most impact on their organisation such as 'biodiversity', 'net zero', 'renewables', 'recycling', 'carbon offsetting', 'climate change', 'social [impact]' and 'waste' as having the most impact.
- Furthermore, participants also named transitional areas of concern such as 'infrastructure', 'utilities', 'resettlement' and 'governance' in their responses. This suggests that in addition to specific ESG topics, participants are aware of pressure points in the sustainability agenda and that addressing them will have a large impact on their organisation.

Additional Responses

Participants' sentiment also suggested concerns about their own workforce and employees within their organisations. For example one participant stated what they felt would have the biggest impact on their organisation was 'Staff being too keen to make future commitments without facts being checked' as well as '[poor] awareness in the organisation [on sustainability]' and 'resource planning'.

The wide range of named areas of concern supports the sentiment that 'education' and '[addressing the] skills gap' would have the most impact on the participants' organisation. Participants also stated that they would like to receive training as well as access to 'appropriate [and] reliable resources'.

5. Examples of Good Practice in Selected Countries

Overview

In order to review examples of good practice in sustainability-focused training across the key countries of focus, a desktop review was performed and discussions with Subject Matter Experts (SMEs) were conducted to identify areas where upskilling or gap closure programmes have been successfully implemented.

The study was limited to findings from our desktop research and discussions with SMEs and not a comprehensive view of all available methods, mechanisms and incentives used in the countries examined. We have limited our research to examples in Germany, Singapore, the United States, Ireland and the Netherlands.

Germany

The German government has recognised the importance of education as a method of progressing their Sustainable Finance Strategy.

Historically Germany has not been a frontrunner in driving progression of sustainable finance, however, recent action suggests that this is changing.⁷ As introduced in the German Sustainable Finance Strategy⁸ (2021), the German government is pursuing the goal of establishing Germany as a leading centre for sustainable finance. Moreover, the German government plans to take elements of this strategy to the EU, using its influence to progress sustainable finance within the economic bloc. It is recognised that in order to match the German government's ambition a strong education piece must happen in tandem.

In order to achieve the German government's goal of establishing the country as a leading centre for sustainable finance, the German Green Finance Strategy outlines 'generating and knowledge sharing' as one of its key fields for action and measures.⁹ This lever has five distinct measures each of which directly contribute to this goal, for example, better informing investors, strengthening basic research and knowledge transfer, and ensuring competent advice by integrating sustainability into competency exams, training courses and a broad advance training portfolio.

⁷ Sustainable finance in Germany: mapping discourses, stakeholders, and policy initiatives (2020), <https://www.tandfonline.com/doi/abs/10.1080/20430795.2020.1783151?journalCode=tsfi20> (accessed March 2023)

⁸ German Sustainable Finance Strategy (2021), https://www.bundesfinanzministerium.de/Content/EN/Standardartikel/Press_Room/Publications/Brochures/sustainable-finance-strategy.pdf?__blob=publicationFile&v=8 (accessed March 2023)

⁹ German Sustainable Finance Strategy (2021), https://www.bundesfinanzministerium.de/Content/EN/Standardartikel/Press_Room/Publications/Brochures/sustainable-finance-strategy.pdf?__blob=publicationFile&v=8 (accessed March 2023)

The Sustainable Finance Committee (SFB) was established by the German government to advise on the development and implementation of its Sustainable Finance Strategy.¹⁰ The SFB echoed the need for a strong education piece to progress the strategy outlining that sustainable finance should be included in the education and training schedule of commercial managers/chief financial officers as well as in the training of insurance specialists and bankers with the support of local chambers of commerce, industry and technical colleges.¹¹

At present, there does not appear to be public incentives in Germany to promote the upskilling of employees within financial services organisations.

Based on desktop research and interviews with subject matter experts there does not appear to be any current public initiatives for organisations to upskill workforces, with the majority of training conducted internally in organisations or externally by private training providers and schools.

The Green and Sustainable Finance Cluster (GSFCG) fosters the establishment of forward looking and effective financial market structures to support the transformation towards a sustainable global economic system.¹² In recognition of broad training and capacity needs, the GSFCG publishes a list of training providers in green and sustainable finance as a reference for organisations to allow more transparency of opportunities available to upskill employees.

A leading training provider in Germany is the Frankfurt School of Finance and Management. The Sustainable World Academy at the Frankfurt School offers a variety of professional and executive courses dedicated to the advancement of the UN Sustainable Development Goals.¹³ The courses available at the academy have a clear finance or management lens, demonstrating their role in driving education in the green finance sphere.

Other training providers include both German and overseas private commercial providers, universities and professional chartered bodies.

There appears to be a wider skills gap than knowledge gap in green and sustainable finance within German organisations.

¹⁰ The Sustainable Finance Committee of the Federal Government (2020), <https://www.greenfinanceplatform.org/policies-and-regulations/sustainable-finance-committee-federal-government> (accessed February 2023)

¹¹ Interim Report: The Significance of Sustainable Finance to the Great Transformation (2020), https://sustainable-finance-beirat.de/wp-content/uploads/2020/03/200306_SFB-Zwischenbericht_EN.pdf (accessed February 2023)

¹² Green and Sustainable Finance Cluster, <https://gsfc-germany.com/en> (accessed February 2023)

¹³ Frankfurt School of Finance and Management, <https://www.frankfurt-school.de/en/home/international-advisory-services/sustainable-world-academy> (accessed March 2023)

Similar to the findings from our survey, training accessed by organisations provides employees with the knowledge on green and sustainable finance, however has not upskilled employees to allow them to apply this knowledge in practice.

SMEs interviewed highlighted that in order to address this gap, bespoke training programmes focussed on a sector level should be accessed by organisations.

Accessing tailored training curriculums is a key challenge for German organisations.

Training available is largely basic and standardised to cover a number of sectors and therefore is not as effective as training directly tailored for an organisation's sector.

A leading training provider noted that a key challenge is that German universities are independent and it is therefore not easy to centralise a sector specific curriculum that ensures skills and knowledge gaps are addressed through education programmes. An example given was the banking sector, where due to higher levels of regulation, staff are trained independently.

Reflecting on this observation, a syndicate of organisations in Germany recognised the merits of tailoring sustainable finance training to the banking sector and have created a basic curriculum for the banking sector. The curriculum allows each member of the syndicate to access tailored training materials in a more cost efficient way in comparison to bespoke training accessed via private providers.

SMEs interviewed highlighted that skills, capacity and cost are key factors preventing organisations from accessing tailored training. Small and medium-sized enterprises are particularly struggling to allocate training budgets to fulfil regulatory requirements, such as the Corporate Sustainability Reporting Directive and the EU taxonomy but also supply chain related questions from customers and banks.

To capture the economic opportunities as well as managing risk inherent in the economic transformation, small and medium-sized enterprises need tailored training in accordance to their sector and activity profile to increase awareness and capacities to formulate forward looking steps for transformation of the business model as much as identifying related financing needs and engaging with banks on these.

Singapore

Singapore considers green and sustainable finance to be an area of focus.

The island city-state's location makes it extremely vulnerable to climate change and exposed to many climate risks: sea level rise, water resources, biodiversity and greenery, public health and food security. With their own geography being at risk, Singapore has been a regional leader in ESG practices, with a rapid increase in their issuing of green, social and transition bonds and an emphasis in a new taxonomy for

Singapore-based financial institutions that identifies activities considered green or transitioning towards green.

There are public initiatives focused on supporting organisations in upskilling employees on green and sustainable finance.

In April 2020, the Monetary Authority of Singapore (MAS) and the Institute of Banking and Finance (IBF) launched a programme of training support measures to build capabilities and strengthen employability of the local workforce. This initiative provides a variety of financial sector-specific training courses, some of which include a focus on green and sustainable finance.¹⁴

This programme supports two training initiatives: The IBF Standards Training Scheme (IBF-STS) and the Financial Training Scheme (FTS).^{15,16} The IBF-STS supports programmes accredited under the IBF standards, while the FTS supports financial sector-specific programmes.

The subsidies for the payment of the course under the IBF-STS and the FTS are 70% and 50% of the total of the respective plan, and can reach up to 90% for Singapore citizens aged 40 and above.

A similar project is being developed by the Hong Kong government to encourage eligible local practitioners and prospective practitioners to participate in training related to green and sustainable finance. The Pilot Green and Sustainable Finance Capacity Building Support Scheme is open for application by Hong Kong residents who are practitioners of green and sustainable finance, and supports applicants with a subsidy of up to 80% of the relevant fees.¹⁷

Other initiatives focused on wider upskilling of individuals that can be used to access funding for green and sustainable finance programmes include the SkillsFuture Singapore (SSG) initiative.¹⁸ This initiative aims to encourage individuals to take ownership of their skills development and lifelong learning through credits available to all Singapore citizens towards training programmes which can be used on green and sustainable finance programmes.

A key focus in Singapore is to ensure it is clear what skills are required to achieve the opportunities arising in green and sustainable finance

¹⁴ MAS Extends Training Support Measures to Foster Skills Development in New Growth Areas (2021), <https://www.mas.gov.sg/news/media-releases/2021/mas-extends-training-support-measures-to-foster-skill-s-development-in-new-growth-areas> (accessed February 2023)

¹⁵ IBF Standards Training Scheme, <https://www.ibf.org.sg/programmes/Pages/IBF-STS.aspx> (accessed February 2023)

¹⁶ Financial Training Scheme, <https://www.ibf.org.sg/programmes/Pages/IBF-FTS.aspx> (accessed February 2023)

¹⁷ Pilot Green and Sustainable Finance Capacity Building Support Scheme, <https://www.greentalent.org.hk/Programme> (accessed February 2023)

¹⁸ <https://www.skillsfuture.gov.sg/AboutSkillsFuture> (accessed February 2023)

The IBF Singapore has created the Skills Framework for Financial Services which provides a set of existing and emerging skills required for the financial services professional.¹⁹ The IBF reviews emerging roles in the financial services sector driven by a combination of regulatory and industry demand and provides a breakdown of skills (both thematic and functional) required for these roles. As expected, green and sustainable finance has become a key area of focus for emerging roles and as a result, the IBF collaborated with MAS to create The Sustainable Finance Technical Skills and Competencies (TSCs).²⁰

The TSCs aim to bolster the Skills Framework for Financial Services by providing a specialised set of sustainable finance knowledge and abilities for the financial sector. They cover a wide range of thematic and functional skills that finance professionals will need to be equipped with in order to perform their responsibilities in sustainable finance positions.

Based on discussions with SMEs, the TSCs are considered high level with a view that green and sustainable finance is still maturing and that it is the responsibility of organisations to contextualise and tailor these skills to their individual organisation.

A number of training providers use the TSCs as the basis of their training programmes and receive accreditation from the IBF.

The Singapore Green Finance Centre (SGFC) is an initiative of Imperial College Business School and Singapore Management, backed by the Monetary Authority of Singapore and leading global financial institutions.²¹ The SGFC focuses on building a new ecosystem for sustainable investment in Asia and is formed by academic scholars, government policymakers and finance executives. They provide courses that have been designed around relevant IBF-STS accredited TSCs.

The Private Banking Industry Group (PBIG) Sustainability Taskforce has developed a training benchmark to upskill private banking relationship managers in the area of sustainability.²² The training is based on IBF-MAS developed TSCs.²³

Other examples of good practices

¹⁹ <https://www.ibf.org.sg/programmes/Pages/Discover-Skills-Needed-for-Your-Job.aspx> (accessed February 2023)

²⁰ Sustainable Finance Technical Skills and Competences, https://www.ibf.org.sg/programmes/Pages/SF_TSC.aspx (accessed February 2023)

²¹ Singapore Green Finance Centre, <https://www.singaporegreenfinance.com> (accessed February 2023)

²² The Association of Banks in Singapore (2022), https://abs.org.sg/docs/library/media-release_abs-issues-guidelines-on-sustainable-private-banking-and-wealth-management-practices_14-october-2022.pdf (accessed February 2023)

²³ Sustainable Finance Technical Skills and Competences, https://www.ibf.org.sg/programmes/Pages/SF_TSC.aspx (accessed March 2023)

United States (New York)

There does not appear to be as many initiatives available in the United States as compared with other regions for green and sustainable finance.

With New York and the United States being a world finance hub, green finance is still a very nascent area of work for financial institutions. While education provided by universities is starting to catch up with other propositions worldwide, government initiatives and private sector initiatives are still to reach the level of the much more regulated Europe and with other good practices in different financial hubs like Singapore.

Other initiatives around Green and Sustainable Finance education

There are a number of private and public higher education institutions that provide training on Sustainable Finance such as the Columbia University Climate Institute that offers postgraduate programs in Sustainability Management²⁴ and NYU Stern School of Business²⁵ that offers a course on Sustainable Finance, Investing and ESG.

The CFA Institute's report on 'Future of Work in Investment Management' analysed the current trends in investment skill development amongst investment professionals and organisations across the Americas, Asia-Pacific and EMEA.²⁶ The report highlights that demand for ESG upskilling is high and that a key challenge is the wide range of topics captured under ESG. Organisations therefore need to consider what groups of employees should be prioritised for training.

Our survey identified that UK organisations focus training efforts on a small group of board members and key management personnel. CFA's report corresponds with our recommendation that UK organisations need to consider whether current individuals targeted for training is appropriate. Further assessment should be undertaken to understand what group of employees would have the greatest impact on economic opportunities arising from green and sustainable finance.

In an earlier report ('Future of Sustainability in Investment Management') CFA considered the skills required for an increased adoption of sustainable investing. The report noted that ESG knowledge and skills need to be embedded in all investment settings and that core knowledge needs to be acquired by individuals in the industry.²⁷ The report suggested that organisations should build well-rounded teams that have the ability to embed deep ESG knowledge (from ESG specialists) with a wider

²⁴ Columbia Climate School, <https://www.sustainability.ei.columbia.edu> (accessed February 2023)

²⁵ NYU, <https://execed.stern.nyu.edu/products/sustainable-finance-and-esg-investing> (accessed March 2023)

²⁶ CFA 'Future of Work in Investment Management' https://www.cfainstitute.org/-/media/documents/survey/FoW_Skills_and_Learning_Online.pdf (accessed March 2023)

²⁷ CFA 'Future of Sustainability in Investment Management' <https://www.cfainstitute.org/-/media/documents/survey/future-of-sustainability.pdf> (accessed March 2023)

understanding of asset management (from individuals with an investment management background).

The Netherlands

Overview

Although some work has been done in the area of green finance, the Sustainable Finance Platform concludes that the financial sector in the Netherlands and the supervisory authorities should expand their knowledge of how sustainability influences investments and how these factors can be acknowledged in a prudent way.^{28,29}

Initiatives

Government and Public Sector Initiatives

The Sustainable Finance Platform is part of the De Nederlandsche Bank (DNB). Its ambition is to promote sustainability in the Netherlands, for example, by removing barriers to sustainable financing and collaborating on sustainability initiatives.

Other Initiatives around green finance education

A number of universities in the Netherlands provide courses in sustainable finance. Examples of these include:

- The University of Utrecht offers a Master's degree in Sustainable Finance and Investments which provides training in how the principles of sustainability can be brought together in financial analyses and investments.
- The Rotterdam School of Management Erasmus University offers a course on Sustainable Finance aimed at senior and middle management in the financial sector to help them incorporate sustainability into their financial decision-making process.³⁰

Ireland

SMEs interviewed have highlighted Ireland as leading in green & sustainable finance upskilling. Sustainable Finance Skillnet is an Irish learning network focussed on upskilling the workforce of Ireland's financial services sector. The network recognises that development of skills must be a priority to advance Ireland's emerging reputation as a sustainable finance leader and provides training opportunities to upskill staff.

²⁸ De Nederlandsche Bank, Sustainable Finance Platform, <https://www.dnb.nl/en/green-economy/sustainable-finance-platform/> (accessed February 2023)

²⁹ Are there any constraints from the angle of supervision, financial rules and regulations, and government policy?, https://www.dnb.nl/media/0bjfjgwu/sustainable_-_finance.pdf (accessed February 2023)

³⁰ RSM Erasmus University, Sustainable Finance, <https://www.rsm.nl/education/executive-education/short-courses/finance-and-accounting/sustainable-finance/> (accessed February 2023)

Sustainable Finance Skillnet conducted research on Ireland's sustainable finance skills, mapping roles within an organisation to key drivers for skills development, specific skills or qualification required and the courses available to address these skills gaps.³¹

The report outlines the level of awareness required differs based on employee type, and groups the level of awareness into those that require high-level, detailed-level and specific-level awareness of ESG impacts and regulations. Roles falling under high-level awareness categories include C-suite members and those falling into detailed or specific categories are those dealing with ESG impacts on a regular basis or dealing with a specific ESG topic regularly.

³¹ Ireland's Sustainable Finance Skills Gap Report (2021), <https://sfskillnet.sustainablefinance.ie/wp-content/uploads/2022/11/Skills-Gap-Report.pdf> (accessed February 2023)

Appendix 1: Members of Green Finance Education Charter

Association of Chartered Certified Accountants
Association of Corporate Treasurers
Association of International Accountants
Chartered Alternative Investment Association
Chartered Banker Institute
CFA Society of United Kingdom
Chartered Insurance Institute
Chartered Institute of Management Accountants
Chartered Institute of Public Finance and Accountancy
Chartered Institute for Securities and Investment
Institute of Chartered Accountants in England and Wales
Institute of Chartered Accountants of Scotland
Institute and Faculty of Actuaries
The London Institute of Banking & Finance

Appendix 2: Examples of knowledge and skills requirements

Across roles and overtime the knowledge and skills required of finance professionals will vary. Drawn from the ongoing work of GFEC members across the sector, the below provides a guide to the key knowledge and skills required by the sector.³² It is anticipated that this provides a foundation tool to support organisations in establishing a structured approach to identifying and addressing critical knowledge and skills gaps.

ESG Knowledge Requirements for Finance Professionals

- a basic understanding of the science of climate change (and, increasingly, wider environmental issues such as biodiversity)
- awareness of the impacts of climate change on the environment, economy and society
- an understanding of the cross-cutting nature and importance of climate, environmental and social sustainability risks (physical and transition)
- knowledge of the impacts and opportunities of the transition to a sustainable, low-carbon world
- cognizance of the evolving regulatory and standards frameworks
- familiarity with the financial products and services that support the transition
- appreciation of the role of the individual professional in supporting clients and customers and taking active steps to prevent inadvertent or deliberate greenwashing

ESG Skills Requirements for Finance Professionals

- **collaboration** – to work in partnership with a wide range of environmental and other professionals to develop climate and sustainability solutions, verify impacts and targets, identify and disclose climate, environmental, social and governance risks and support their customers and clients
- **communication skills** – to support the collaboration required to work with a wide range of customers, clients, communities, partners and stakeholders
- **creativity** – to design the innovative climate and financial solutions we need
- **synthesis** – to bring together and make sense of the wide range of data, knowledge and information required
- **data analysis and visualisation** – to use the increasing array of sustainability data to effectively support lending, investment and decisions
- **leadership** – to align organisational strategies and cultures with society’s goals as expressed in the UN Sustainable Development Goals and the Paris Climate Agreement; not just leadership in the boardroom but at all levels throughout organisations

³² DP23/1: Finance for positive sustainable change (2023), <https://www.fca.org.uk/publications/discussion-papers/dp23-1-finance-positive-sustainable-change> (accessed February 2023)

