University of Southampton

Improving visibility and access to green careers in Hampshire and the Solent

Dr Ashrafunnesa Khanom, Dr Sheena Carlisle, Jacqueline Nightingale & Dr Emma Rawlings Smith

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Research team

This report was produced by an interdisciplinary project team:
Dr Ashrafunnesa Khanom (University of Swansea),
Dr Sheena Carlisle (Cardiff University),
Jim Mitchell (New Forest National Park Authority NFNPA),
Jacqueline Nightingale (University of Southampton)
Dr Emma Rawlings Smith (University of Southampton).

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Corresponding author:
Jacqueline Nightingale j.nightingale@soton.ac.uk

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INTRODUCTION

This report presents the findings from the Creating Opportunities Through Innovation Fellowships (COLIF) green skills and green jobs research project, delivered through ESRC's Impact Acceleration Accounts (IAA) and funded by United Kingdom Research and Innovation (UKRI).

The project explores the perspectives and experiences of careers advisors and professionals with an interest in green skills and jobs in Hampshire and the Solent region and was completed between April and August 2025 by a multi-institutional research team in partnership with the New Forest National Park Authority and Greenprint partnership.

The objectives of the research were to: (1) Understand how green skills and green jobs are understood by those working in education, policy, and industry, (2) Identify the challenges and barriers to entry into green careers, particularly for young people and those from underrepresented groups, and (3) Propose a set of recommendations to support career consultants with the knowledge, tools and resources needed to effectively guide people towards green career pathways and low-carbon economy.

The purpose of the report is to outline the policy context and our approach to data collection and analysis, before presenting our findings that identify the knowledge, tools and resources that are needed to effectively guide people towards green career pathways. Findings are framed by four key themes: (1) Strengthening education and industry partnerships for green skills development, (2) Utilising policy levers for equitable green job pathways, (3) Bridging the information gap: strengthening green career guidance, (4) Providing inclusive access to supported training and work experience. Finally, the report presents a set of recommendations and suggested next steps conclude the report.

Why green skills and green jobs matter

In the context of our rapidly warming world (**IPCC, 2023**), green jobs and skills are gaining increasing importance in policy and practice. For the UK to transition to a low-carbon economy and meet its own ambitious net-zero targets by 2050, as outlined in the Net Zero Strategy (**HM Government, 2021**), it will need to provide clear green skills development pathways through education, training, and reskilling programmes for the current and future workforce (including students and the unemployed). The problem of the skills gap is compounded by a low national employment rate, with one in eight or 12.8% of young people (aged 16-24) not in education, employment, or training (NEET) and 21.0% of the working-age population currently economically inactive, a figure which is higher than during the COVID-19 pandemic (**ONSa, 2025**). The government has set out proposals to reform employment, health and skills support in their Get Britain Working White Paper (**HM Government, 2025**), with the long-term ambition of reaching an 80% employment rate.

The skills landscape is complex, with key stakeholders working across scale (i.e. locally, regionally and nationally) in a multitude of sectors, organisations and contexts with different resources, aims and values. It is also rapidly changing due to global trends and shocks, including the climate crisis, digital transformations and geopolitical instability (**OECD, 2024**).

To develop the resilient skills system needed to support the digital and green transitions towards a low-carbon economy, there are significant challenges and barriers to overcome. The most significant are the pace of digital change, a shrinking UK workforce and a widening mismatch between the skills employers' need and the skills available in the UK. This skills gap is costly for business, as it increases the workload of skilled employees and decreases productivity (**SHRM, 2024**).

An agile skills system requires a strategic and comprehensive approach to upskilling/reskilling to create a future-based workforce. Effective communication, coordination, and collaboration are needed across all levels of governance, industry, and education to raise awareness of policy priorities, match skill supply to business demand, and provide practical guidance to training providers, workers, and employers. The Devolution Priority Programme (**GOV.UK, 2025**) aims to transfer more decision-making powers and funding from central government to a local level, enhancing local

> "Green jobs and skills are gaining increasing importance in **policy and practice.**"

Figure 1: Hampshire and the Solent Region

control over transport and local infrastructure, skills and employment, environment and climate change, and more. For the new Mayoral Combined County Authority for Hampshire and the Solent (see Figure 1), a devolved skills strategy, however urgent, will take time to plan and implement (**MoHCLG, 2025**).

Hampshire and the Solent is home to four Local Authorities (Hampshire County Council, Isle of Wight Council, Portsmouth City Council and Southampton City Council), four universities (University of Portsmouth, University of Southampton, University of Winchester and Solent University), two major ports (Portsmouth and Southampton), world class green/blue environments including two national parks (New Forest and South Downs), and a growing economy (**ONSb, 2025**). The region is experiencing skills shortages in several sectors (e.g. engineering, construction, health and social care and manufacturing) due to an ageing workforce, the impact of Brexit visa restrictions, a limited talent pipeline, and the cost of retraining staff (**HCC, 2023**). The Office for National Statistics' rates for young people aged 16-24 not in education and training (NEETs) and unemployment (people aged 16-64) vary across Hampshire and the Solent. Economic inactivity rates are higher on the Isle of Wight (25.1%) and lower in Hampshire (18.2%), whilst regionally, approximately a quarter of the economically inactive are seeking work (**ONSa, 2025**).

Greenprint

Greenprint, a partnership of public, private, and third-sector organisations including local authorities and universities in the Central South, offers a holistic place-based response to the ecological and climate crises. The Greenprint Framework (**2022**) was developed by mapping existing net-zero plans and policies and engaging with communities of practice. Its intention is to work towards collaborative sustainable solutions to social, economic, and environmental challenges. This partnership has developed a shared vision and framework (see Figure 2) prioritising green skills and jobs to tackle local skills gaps and economic inequalities. It identified early on that collaboration between government, industry, and education providers is necessary to provide green skills training.

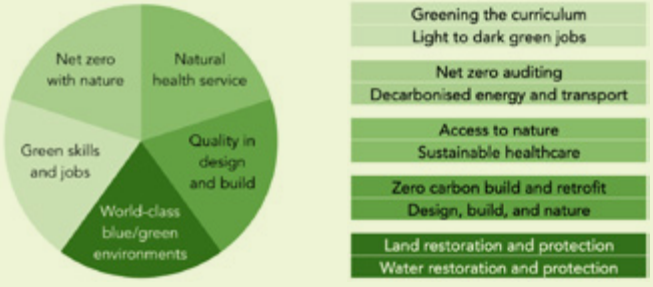


Figure 2: The Greenprint Framework: Strategic priorities and outcomes

LITERATURE REVIEW

Policy and economic context

The following section provides a brief overview of the UK's national and regional green skills policy landscape necessary for a green transition. Three foundational themes emerged:

Knowledge **Communication** **Collaboration**

Knowledge: Understanding the green skills gap and labour market needs

The Green Jobs Taskforce report (**HM Government, 2021**) maps out skill requirements across energy, transport, and construction sectors, and nature-based solutions. It emphasises that the UK must anticipate future workforce needs as the economy transitions to net-zero, noting that 'every job has the potential to become "green" as the world moves to combat Climate Change' (p.6). The Net Zero Strategy (**HM Government, 2021**) stresses the importance of skills information and forecasting, citing a lack of granular data on local and sectoral needs. Labour market intelligence and workforce transition mapping remain ongoing policy gaps.

From a regional perspective, the two Local Skills Improvement Plans (LSIPs) (**HCC, 2023**; **SCC, 2023**), the Solent Skills Action Plan (**Solent LEP, 2022**) and the Hampshire Skills Strategy (in preparation) map employer demands, identify priority sectors where green skills are immediately needed (marine, construction/ retrofit, advanced manufacturing, logistics, energy/ hydrogen, and digital enabling skills), and provide evidence on skills shortages and future requirements. These plans also use local labour market analysis to specify occupations (e.g., retrofit installers, HVAC/heat-pump technicians, wind technicians, and low-carbon manufacturing operatives) where training supply must scale up. The Economic Strategy for Hampshire 2025–27 (**HCC, 2025**) includes the promotion of green skills within the priority of sustainable economic growth, further pinpointing net-zero and clean growth as drivers of future skills demand.

Communication: Raising awareness and building public engagement

Effective communication of green career pathways remains a key policy concern and an opportunity to raise awareness via public engagement with green skills and jobs. The Green Jobs Taskforce Report (**HM Government, 2021**) recommends building pathway approaches into green careers. The Sustainability and Climate Change Strategy for Education (**DfE, 2023**) includes a vision to embed climate literacy and green career awareness throughout the education system, from early years to adult learning. The Labour government's Climate Apprenticeships and Skills England (**DfE, 2024**) executive agency highlight the need to improve how learners, educators, and employers access and understand green job opportunities. However, Skills England (**DfE, 2024**) note that, for learners, the pathways into skilled careers are unclear, while employers struggle with a complex landscape of qualifications and a gap between green skills supply and demand. These barriers are reinforced by weak communication between policymakers, industry, and the education sector.

For Hampshire and the Solent, the LSIP is a key tool and multistakeholder mechanism to help bring further and higher education providers together with employers to explore and agree how courses can be adapted to meet green skills demand and reduce silo working. The Solent LSIP (**HCC, 2023**) explicitly states that providers should respond to recommendations from employers, including the call for better local marketing of green career routes. The Get Solent Working Plan (**SGP, 2025**) helpfully includes new opportunities in low-carbon jobs created by regional projects (i.e. offshore wind, port development, and gigafactory-type supply chains).

Collaboration: Multistakeholder and regional approaches to implementation

With shared understanding of the future of green skills and established channels of active communication and policy certainty across sectors, successful collaboration between industry, education, third sector and government bodies is imperative for upskilling (**POST, 2024**). The Green Jobs Taskforce (**2021**), an alliance of ministers and business leaders, recommends sector-specific skills partnerships, curriculum reform, and regional training investment.

From a political perspective, the Local Government Association (**LGA, 2023**) reported on 'Green Jobs Creating the Workforce to Deliver Net Zero', where local government could enable the green economy via devolved administrations for stronger alignment between local economic development and green transition efforts.

The government intends to work closely with devolved local governments to develop and deliver regional Get Britain Working plans (e.g. Get Solent Working; **SGP, 2025**) that align with national programmes and plans e.g. the Connect to Work programme (**DWP, 2025**) and Get Britain Working White Paper (**HM Government, 2024**). These help to integrate the LSIP with local authority employment services, DWP/jobcentres, colleges, and employers to create referral pathways and coordinate funding and programmes. They position employment support and green skills provision as a co-ordinated activity and bring together organisations from work, health, and skills to support people with health conditions, disabilities and those with complex barriers to find and stay in work.

The Economic Strategy for Hampshire 2025–27 (**HCC, 2025**) illustrates collaboration with industry by connecting skills interventions to capital investment and sector development (ports, advanced manufacturing, and net-zero projects).

Whilst knowledge creation has improved through taskforces and research, gaps remain in communicating work opportunities and coordinating stakeholders effectively. The gradual shift toward regional, collaborative cross-sector and inclusive approaches suggests a promising strategic direction, especially if investments in training are tied to growth and job creation in relevant green sectors.

"Having clear sight of the **skills needs** for the future workforce is necessary to **support skills development** in schools, colleges, universities, and other training providers."

What are green skills?

Action to address national and regional green skills shortages is underway (i.e. through the delivery of apprenticeships and Skills Bootcamps) but the scale and speed of impact are not sufficient to meet net-zero by 2050 (**LGA, 2023**) or nature recovery targets, sustainable waste management, protection of natural resources and a more circular economy. Having clear sight of the skills needs for the future workforce is necessary to support skills development in schools, colleges, universities, and other training providers. Kwauk and Casey (**2021**) suggest that the human capital required for green jobs can be divided into three categories: (a) skills for green jobs, the technical abilities required for specialist roles which would support a just transition to a green economy; (b) green life skills that support the development of pro-environmental behaviours; and (c) skills for a green transformation which are the most radical and aim to transform mindsets by 'confronting the underlying structures of inequality and systems of oppression that sustain climate vulnerability' (p. 9) (see Table 1). Skills development pathways vary across the region, according to employment type, education and training provision, skills demand, and workforce characteristics.

Table 1: Green skills framework (adapted from Kwauk & Casey, 2021)

Skills for green jobs	**Green life skills**	**Skills for a green transformation**
Skills aimed at fulfilling the requirements of green jobs and supporting the transition to a low-carbon economy.	Cross-cutting skills that serve both technical/ instrumental and adaptive/ transformative ends.	Adaptive skills aimed at transforming unjust social and economic structures.
Key specific capacities	**Key general capacities**	**Key transformative capacities**
i.e. engineering, science skills, and marketing skills	i.e. collaboration, leadership, and problem solving	i.e. systems thinking, working with complexity, and coalition building
Technical/ Instrumental	⟷	Adaptive/ Transformative

Greenskills.org is an effective open-source taxonomy of green skills needed in the rapidly expanding field of green jobs. The effects of a greening economy on employment and training will see certain jobs eliminated, some occupations changed, and others created in existing or new occupations (**van der Ree, 2019**). Greening of all jobs will happen only as organisations integrate new technologies and operating practices, implement sustainability policies, and become more energy and resource efficient.

Current national and regional skills strategies focus on upskilling people in science, technology, engineering, and maths (STEM) subjects and key sectors such as construction, carbon capture, and water and land management with the view to reducing the UK's carbon footprint and working towards net-zero emissions. While STEM skills are important, there is also a need for more transversal (cross-sectoral) green skills to inspire pro-environmental behaviours that support a sustainable, low-carbon, low-waste economy and biodiversity protection (**Kwauk et al., 2022**). Effective climate action requires the engagement of communities making significant decisions. Restrepo-Mieth et al. (**2023**) propose five pathways to achieve this: visualization, decision-making simulations, participatory budgeting and planning, environmental civic service, and education and curriculum development.

Cabral and Dhar (**2021**) assert the need to reidentify green competencies as a multidimensional concept comprising green knowledge, green skills, green abilities, green attitudes, green behaviours, and green awareness. Attaching the term 'green' to a wide range of working practices including skills, careers, industries, products, and services is generally not based on a strict definition or benchmark but rather is used to imply that stakeholders are pushing towards more environmentally friendly methods and approaches in their field of work (**Rutkowska & Sulich, 2020**). The need to link curriculum learning with careers and highlight the relevance of knowledge and skills developed for a wide range of future career paths is increasingly important aspect of education, especially since schools, colleges, and independent training providers (ITPs) in England are expected to implement the updated Gatsby (**2025**) Benchmarks for Good Career Guidance. Additionally, schools should have a sustainability lead and climate action plan to enable the progression of sustainability initiatives and inspire children and young people to connect with nature via the National Education Nature Park initiative (**DfE, 2023**). With all this progress in mind, the COLIF project was designed to explore whether current career guidance and advice was aligned with these policies, strategies, and plans.

RESEARCH DESIGN

Participants

The initial participants were recruited from within the Greenprint and LA networks. Additional participants were identified through internet searches and LinkedIn posts related to the project, providing access to a diverse range of stakeholders involved in green skills and the green economy with different professional backgrounds. This included LA staff at council and district levels; policy advisors and business support professionals; career consultants in schools and higher education; national park lead and education officers; communications professionals; construction sector representatives; training providers; and third-sector organisations (see Table 2).

Table 2: Interview and workshop participant organisations/job roles

Organisation	Interview Frequency (n)	Workshop Frequency (n)
Local Authority	2	12
Business	2	2
University	-	2
Career consultant (schools, colleges and HE)	8	-
National Park	4	2
Communication and marketing	1	-
Ecologist	2	-
Training provider	1	-
Third-sector organisation	1	-
Total	21	18

Data collection

Research data derived from two sources: (a) a stakeholder workshop with 18 participants, held at a Greenprint Network meeting on 27 June 2025; and (b) semi-structured interviews with 21 participants (see Table 2). Interviews, held from May-July 2025, lasted approximately 35 to 45 minutes. Prior to data collection, university ethical approval was granted.

The stakeholder workshop was structured around three activities where participants discussed green skills definitions and published green skill categories; identified challenges and barriers to green skills development and green career advice; and determined both big-ticket and small wins in the region.

Semi-structured interviews focused on four key areas:

(a) awareness of green skills, (b) sourcing knowledge of green skills/green careers and barriers/ enablers to this process, (c) green skills gaps in the region, and (d) action and solutions required to support green jobs and skills development.

Data analysis

Five logical phases of thematic data analysis included (a) data familiarisation through repeated reading of interview transcripts; (b) data coding generated in NVivo software to organise and interpret patterns across the dataset; (c) theme generation, review, definition, and naming through iterative team discussions; (d) selection of illustrative quotes and good practice from interviewee narratives to contextualise findings; and (e) writing the report. This approach facilitated a nuanced understanding of participants' perspectives, situated within the socio-political landscape of green careers and workforce development.

RESEARCH FINDINGS

Interview findings

The perspectives and experiences of careers advisors and professionals with an interest in green skills and jobs are presented in the following four key themes.

Theme 1: Strengthening education and industry partnerships for green skills development

Interviewees highlighted a perceived lack of visible pathways into green careers, compounded by an absence of local relatable role models. This contributes to limited awareness and engagement among young people regarding sustainability-focused employment opportunities. Careers consultants described their professional remit as one of providing impartial guidance, typically led by student interest rather than actively promoting specific jobs or sectors. Subsequently, green careers were not proactively introduced except during Green Careers week, despite participants identifying growing green career opportunities in sectors such as construction, marketing, and finance. These areas were viewed as valuable yet underutilised routes for embedding green skills, suggesting a disconnect between labour market developments and careers guidance practices.

> *'I believe construction is a great pathway into 'green skills'. More could be made of this pathway and if there were support / subsidies available for construction firms to take up apprentice roles'* (*Ecologist*).

> *'I think careers advisors can help people see that there are multiple pathways* [*into green careers*] *and help people to sort of define ... what used to be called transferable skills. ... There's definitely a lot of people that could apply for the jobs that we've advertised here'* (*National Park Advisor*).

> *'Our role is to be impartial and giving impartial advice and guidance and information ...that is absolutely pupil led'* (*Career Consultant*).

Participants conceptualised green careers broadly, encompassing sustainability, climate resilience, and environmental stewardship roles – not only technical competencies aligned with the net-zero transition, but also transferable skills such as adaptability, problem-solving, and values-driven decision-making. Respondents identified persistent gaps in technical, scientific, and non-technical expertise across the workforce. This was interpreted as indicative of a fragmented skills ecosystem, where the absence of coherent career pathways and targeted training initiatives may hinder the development of a workforce equipped for the green transition. Developing clearer, more accessible frameworks for green skills could help overcome this barrier.

> *'The World Economic Forum saying the top skills that employers are looking for now and, in the future, ... resilience, problem solving, adaptability'* (*Career Consultant*).

Interviewees pointed to the inflexibility of school timetables as a barrier to industry engagement which limited opportunities for professionals to interact directly with students, thereby reducing exposure to green careers and weakening efforts to foster interest in sustainability-focused roles. Without more flexible scheduling and institutional support, schools may struggle to incorporate external expertise, limiting students' awareness of diverse career pathways.

Example 1: Solent LSIP – Driving green careers through apprenticeships

Apprenticeships are seen as the cornerstone of the Solent LSIP, led by the Hampshire Chamber of Commerce, to support the region's transition to a low-carbon economy. Employer-led programmes in priority sectors such as clean energy, sustainable construction, and maritime technologies provide training delivered through flexible, modular formats. Access to these opportunities is broadened through initiatives like the proposed Apprenticeship Clearing Hub, designed to streamline entry routes for learners and small businesses. Strategic partnerships with the Solent Freeport and South Coast Institute of Technology, alongside targeted engagement activities with young people, and underrepresented groups are expected to contribute to the development of a skilled and inclusive workforce equipped to meet the demands of a green and resilient economy.

Theme 2: Utilising policy levers for equitable green job pathways

Interviewees identified a persistent disconnect between national policy and local practice, noting that top-down approaches often fail to reflect lived realities and community priorities. As one ecologist observed, directives from Whitehall can feel 'meaningless to the man on the ground', despite the enthusiasm and potential at the local level. Participants described how economic and social barriers continue to restrict access to green jobs, particularly for young people and older adults. To unlock these groups' potential in the transition to a green economy, respondents advocated the removal of structural barriers such as short-term funding cycles and the co-creation of inclusive green career pathways tailored to those most in need. Without such action, local economies risk instability as small businesses struggle with an ageing workforce and limited access to skilled talent. Some colleges in the region have developed targeted outreach including promotion of level one courses, due to concerns over youth outmigration from areas like the Isle of Wight, highlighting the urgency of locally responsive solutions.

Example 2: Equitable green job pathways on the Isle of Wight

The Isle of Wight Regeneration Strategy (2019–2030), known as Inspiration Island, leverages local policy to create equitable green job pathways. Focusing on upskilling residents through vocational training (in eco-tourism, renewable energy, and sustainable construction and investing in nature-based economic development, i.e. community-owned solar farms), the strategy promotes inclusive infrastructure, affordable housing and digital connectivity to support sustainable employment. Community engagement is embedded to ensure that local voices can shape regeneration priorities and brand the island as a green innovation hub.

Theme 3: Bridging the information gap: strengthening green careers guidance

A prominent theme emerging from the interviews was information dissemination regarding local skills gaps reaching career consultants and young people. Several participants described a disconnect between broader economic needs and awareness. Outdated labour market information, unclear messaging, and a lack of accessible resources also hinder consultants' ability to confidently promote emerging opportunities in green careers. As one participant remarked,

> *'Careers advisors are like your sales team — without the pitch or product, it's hard to sell'* (*National Park Advisor*).

This analogy underscores the resource limitations faced by career consultants, who are expected to inspire and inform without adequate tools or sectoral visibility. However, there were pockets of good practice across the UK, cited by a Local Authority Representative, where tools such as **Jobs and Careers Factsheets** would be a useful resource to promote green jobs and careers.

Political narratives around a 'just transition to net-zero' were viewed as too abstract, failing to connect with individuals facing economic-barriers. Limited awareness of green career opportunities among young people, parents, and educators was a recurring concern. Respondents called for clearer, actionable communication and the integration of sustainability across all roles. One local authority representative stated that: 'Developing green careers should be part of everyone's role'.

Roles in mainstream sectors such as consultancy at PricewaterhouseCoopers (PwC) were rarely recognised as sustainability-aligned, despite their relevance. As one adviser noted,

> *'Not many people are interested in green careers ... maybe because they don't know about them'* (*Career Consultant*).

This lack of visibility was interpreted as a significant barrier to engagement, deterring people from pursuing green pathways even when such roles align with their values and interests.

These findings underscore the need to broaden the concept of green careers beyond traditionally defined environmental sectors. Such reframing is critical to cultivating inclusive and aspirational career trajectories, particularly for young people who may not perceive conventional pathways as accessible. To address these challenges, participants stressed the need to broaden the definition of green careers and embed climate and environmental actions across all sectors. Strategic leadership at national and local level and partnerships between education and industry were seen as vital, with larger organisations playing a key role in supporting smaller enterprises (i.e. carbon reporting). These insights call for coordinated, cross-sector efforts to build a skilled, inclusive workforce for a low-carbon economy.

> *'15% of small businesses have measured their carbon footprint. … You know that the knowledge and skills are pretty low in terms of what small businesses feel they have [in their workforce]' (Business Supporter).*

Example 3: The Cowplain School and Specialist Employment and Recruitment Training (SERT) partnership

A partnership between The Cowplain School and SERT, a local training provider, is bridging the gap between education and green career pathways in Hampshire. Together, they delivered a six-month electrical skills programme for Year-10 students, combining classroom learning with hands-on experience in a pop-up workshop and site-visits to local developments. This initiative showcased how collaboration between schools, industry, and training providers can make green careers more visible and accessible. It demonstrated the value of in-person engagement and practical learning, helping students connect their education to real-world sustainability roles and encouraging progression – without the need for formal qualifications.

Theme 4: Expanding access to green careers through paid training and practical experience

Unpaid volunteering was frequently highlighted as a common entry point into green careers, but it presents barriers for people from disadvantaged/underrepresented backgrounds including limited financial resources, lack of transport, and low confidence compounded by the residual effects of the COVID-19 lockdowns, even though a commitment to two weeks' of work experience for young people has already been made in the Skills Whitepaper (**2024**). Interviewees cited having just a single careers advice session or virtual work experiences as insufficient substitutes for hands-on exposure to green jobs and the development of transversal skills. Given that many employers expect young people to have developed skills through prior work experience, it can be difficult for those without connections to gain a foothold in a sector. As one ecologist noted, *'It needs to be easier for people to get experience … more apprenticeships, more voluntary roles'.*

Interviewees called for a cultural shift within businesses to actively nurture new talent by rethinking traditional recruitment practices. A Chamber of Commerce representative emphasised the importance of inspiring businesses through meaningful dialogue to encourage employers to support young people entering green careers. However, they acknowledged that funding constraints limit

the capacity for this kind of initiative. These challenges were not just confined to the private sector. Several interviewees perceived a lack of involvement from local authorities offering work experience or collaborating with careers services, further restricting young people's exposure to green career pathways.

> *'I've literally had an email today, a desperate callout asking, "Can anyone give work experience?"" (Marketing and Communications).*

Interviewees recommended that policy and funding prioritise equitable access to green spaces as learning environments for all young people that is inclusive of underserved communities (e.g. low-income households, ethnic minorities, women, and older people) and people with special educational needs and/ or disabilities. This includes investing in accessible outdoor education programmes focused on conservation and biodiversity, and adaptive infrastructure and partnerships between schools, local authorities, third-sector organisations and national parks. Embedding inclusive, experiential learning was seen as a powerful way to inspire a more diverse generation into meaningful environmental roles.

Example 4: NFNPA work experience programme

The NFNPA offers a structured work experience programme that gives young people and adults with special needs hands-on exposure to green careers. Through week-long placements, students from local schools and colleges and adults supported by third-sector organisations engage in activities such as shadowing staff, participating in conservation projects, and supporting education and outreach efforts. Tailored to individual interests, these placements offer practical insight into roles within the environmental sector and help students build confidence and awareness of green career pathways. This initiative demonstrates how public sector organisations can play a vital role in creating accessible, meaningful work experience opportunities that support inclusive entry into the green workforce.

Workshop findings

Participants took part in three workshop activities, providing rich insights on green skills development and identifying challenges and enablers of good green career advice across sectors and regions.

Activity 1: Defining and identifying green skills

The first activity asked participants to define and identify green skills to support a net-zero transition by 2050. The definitions developed by individuals and groups were remarkably similar. Common elements included the idea that we need to work together to support the green transition; that green skills include technical and non-technical (transformative) categories; and that there is an urgent need to develop green skills to support a low-carbon economy and green recovery of the natural environment. Participants recognised that some workers need technical skills and that all workers need transformative skills to support a low-carbon economy and a move towards net-zero. This underpins the idea that climate change is understood as a wicked problem – one that is complex and needs collaborative action across sectors to be solved. Participants identified in-demand technical skills such as retrofitting and ecosystem management, although they were less focused on environmental science, engineering, or manufacturing. Most discussions focused on key transformative skills (i.e. communication, systems thinking, flexibility, and problem solving) to help employees cope with the increasing uncertainty associated with climate change.

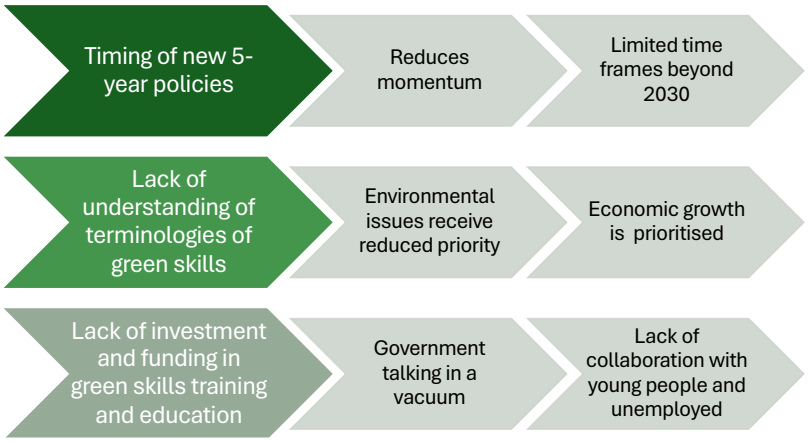
Image: New Forest National Park Authority

"While discussing challenges, participants made links to society's **lack of urgency** towards climate change and how a systems thinking approach requires **strong leadership and effective strategy** to work across different sectors."

Activity 2: Barriers and challenges

The second activity identified barriers and challenges preventing green skills development, see Figure 3.

Figure 3: Barriers to green skills development

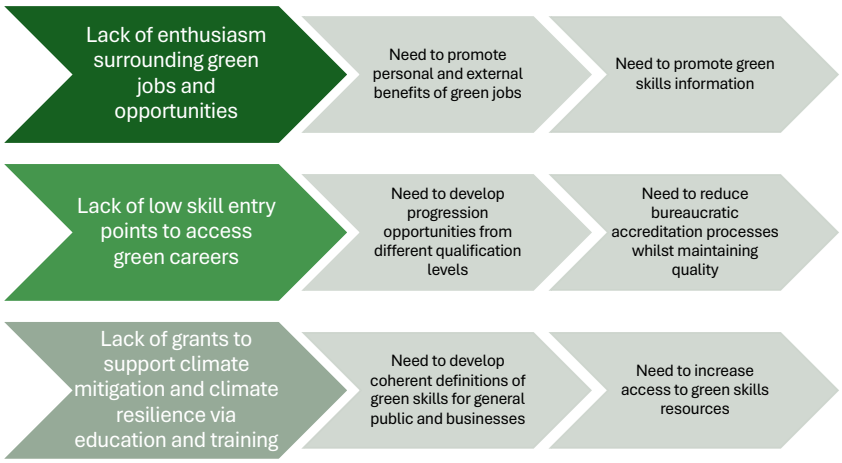


Participants connected these barriers to restrictive social, economic, and political factors which they identified as creating further obstacles to green skills development, including:

- Disconnection between policy name and policy imperatives
- Poor messaging surrounding green skills
- Lack of career advice material and resources
- Lack of green courses at a range of entry levels
- Lack of trained career advisors in schools and the general public
- Lack of budgets for career guidance
- Lack of definition of green skills
- Lack of agricultural colleges and places to study environmental skills
- Lack of trained teachers and trainers in green skills

Additionally, broader challenges were identified, see Figure 4.

Figure 4. Challenges to green skills development

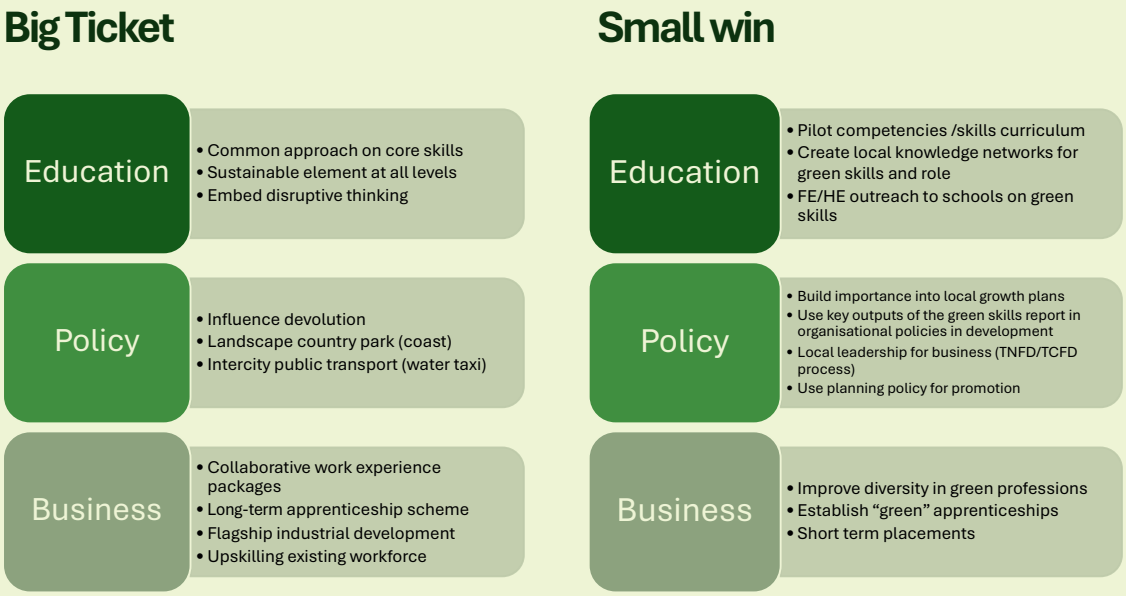


While discussing challenges, participants made links to society's lack of urgency towards climate change and how a systems thinking approach requires strong leadership and effective strategy to work across different sectors. Social mobility via mentoring was cited as one way to improve perceptions of pay and reward in green jobs. Links were made about a lack of co-design for green skills development between communities, industry, education, and government to improve career advice and reduce misconceptions of what a green job entails.

Activity 3: Big ticket / Small win

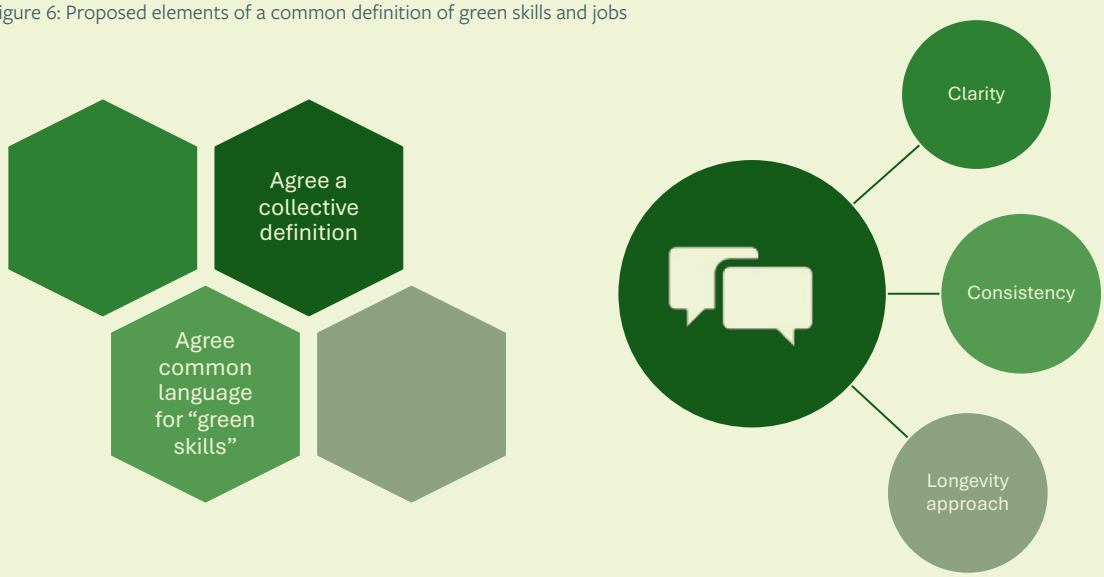
The workshop's final activity asked participants to identify aspirational or achievable actions for green skills and jobs in the region. They were prompted to distinguish these ideas as 'big ticket' items (visions for the next 5-10 years) or 'small wins' (implemented in less than 5 years). Noting that cross-sectoral collaboration is critical to successful and sustainable endeavours in green skills and jobs, we categorised the ideas presented by the sector most likely to lead any such endeavour, see Figure 5.

Figure 5: Actions for green skills and jobs in the region that are aspirational or achievable



An overarching response to this activity focused on the issue of green skills definitions and categories, and several participants indicated that a key small win is to reach and implement a common understanding of green skills and jobs.

Figure 6: Proposed elements of a common definition of green skills and jobs



RECOMMENDATIONS

Data analysis of the interview and workshop data resulted in a comprehensive set of recommendations (see Table 3) to increase the integration of green skills in education, industry, and public and third-sector organisations.

Table 3: Recommendations and solutions to increase green skills

Theme 1: Strengthening education and industry partnerships for green skills

Solutions identified by interviewees:

1. Create a centralised platform online, e.g. the Solent's proposed clearing hub, to simplify access to green apprenticeships and match learners with local opportunities. This platform could serve as a resource for careers advisers, providing up-to-date information on training pathways, employer needs, and sector-specific guidance to better support people exploring green career options.

2. Offer hybrid, bite-size, and stackable learning options to accommodate diverse learner needs and employer schedules – in particular targeted training that enables businesses to meet the reporting requirements outlined in the UK Government's Carbon Reduction Plan (CRP).

Solutions identified by workshop participants:

3. Agree and use a common language and understanding of green skills both technical and transversal, for clarity and consistency.

4. Broaden awareness campaigns in schools and colleges. Use digital platforms to showcase local green job pathways and success stories. This can be embedded into the curriculum and career education programmes, starting in primary schools.

5. Partner with environmental organisations (e.g. New Forest) and schools to co-design nature-based learning experiences that are accessible, inclusive, and tailored to diverse needs.

6. Develop Youth Skills Boards (which include green skills development) and regional green skills partnerships that include Youth Green Partnership.

7. Develop Green Skills Hubs to support training and education.

8. Encourage open days at factories/offices/labs, etc., for a wide section of society to enter organisations and witness available green jobs, skills gaps, and job shortages.

Theme 2: Utilising policy levers for equitable green job pathways

Solutions identified by interviewees:

9. Embed sustainability in the curriculum, aligned with the updated Gatsby Benchmarks, to engage learners, families, and communities in building the knowledge and values needed for a green economy.

10. Invest in local skills development through vocational training, apprenticeships, and lifelong learning opportunities that align with emerging green sectors.

11. Provide targeted funding for small businesses, schools, and local government to expand access to training, mentorship, work placements, and employment opportunities.

Solutions identified by workshop participants:

12. Advocate that green skills and green jobs become a central focus of the devolved administration for the region.

13. Embed the importance of green skills and green jobs development in local growth plans and organisational policies.

14. Provide greater clarity on categories of technical, non technical and transversal green skills and quality standards for training and education provision.

15. Promote quality frameworks and standards for green skills accreditation and green professional qualifications and certifications.

16. Develop specific longer-term sustainability projects for the region that create green jobs and utilise green skills for local benefit (e.g. a new coastal park, new marine public transport links).

Theme 3: Bridging the information gap: strengthening green careers guidance

Solutions identified by interviewees:

17. Establish clear communication pathways to ensure that careers advisors and young people receive timely, relevant information about local skills gaps and green opportunities.

18. Provide targeted training for careers professionals, equipping them with the knowledge and confidence to promote green career pathways effectively.

19. Strengthen partnerships between schools, industry, and training providers to create a more joined-up approach to careers education.

20. Organise in-person events and outreach activities to share local labour market information and showcase real-world life course trajectories for green careers.

Solutions identified by workshop participants:

21. Create an online one-stop-shop region-specific green careers toolkit that promotes green skills and green jobs and showcases local opportunities, employers, and training routes.

22. Develop a better understanding of psychographics and demographics for green skills and jobs.

23. Improve communication and outreach to facilitate regular engagement between industry, educators, and careers consultants to keep career guidance aligned with evolving societal and labour market needs.

24. Create motivational themes and communicate the career-long value of green skills.

Theme 4: Expanding access to green careers

Solutions identified by interviewees:

25. Offer paid training, internships, and supported work experience to remove financial, inter-personal, and personal barriers for disadvantaged groups.

26. Design initiatives tailored to the unique needs and contexts of local communities fostering trust and relevance.

27. Expand the availability of apprenticeships and entry-level roles to help people gain practical experience without prior qualifications.

28. Improve collaboration between career consultants, local government, businesses, and environmental organisations to create meaningful green work experience opportunities.

29. Prioritise investment in green career initiatives in areas with limited access to green spaces or educational resources, to ensure equity in opportunities.

Solutions identified by workshop participants:

30. Increase urban population engagement with natural environments via outdoor and environmental education programmes to inspire interest in green careers and connect students with real-world environmental challenges.

31. Monitor and evaluate impact (e.g. social [& environmental] return on investment) of initiatives that encourage young people's engagement with green spaces, volunteering, and work placements, to inform continuous improvement and policy advocacy.

32. Create collaborative work experience opportunities via short, medium, and long placement opportunities with industry and education providers to increase industry insights.

CONCLUDING THOUGHTS AND NEXT STEPS

The research has provided evidence of what career advisors, education and training providers, and local authorities think about the relationship between key skills shortages, green skills, green careers, green jobs, and training. This has revealed significant knowledge gaps and a disconnect between policy and practice. Interview and workshop participants identified a comprehensive list of challenges and barriers which hinder the development and integration of green skills in industries, education, and local communities. Greater clarity is required on what green career guidance looks like, and the advice and awareness needed to reflect the breadth of environmental-based job opportunities across all sectors. This encompasses not just scientific, technical, non-technical green skills, but also transversal transformative skills.

Our findings are elaborated in four key themes that address the problems we and participants identified. The recommendations provided in this report detail actions and pathways with these themes that exemplify the importance of knowledge, communication and collaboration. We also looked at recommended actions classified as either big ticket (long term and wide-reaching investment – do later) or small win (relatively easy investment to implement in the short term – do now) actions and identified the sector responsible for leading on those recommendations. Drawn together here are a selection of key recommendations based on suggested prioritisation.

Theme 1 Strengthening education and industry partnerships for green skills development

Big ticket (do later)	Small win (do now)
• Agree and use a common language and understanding of green skills both technical and transversal • Create a centralised platform online • Offer hybrid, bite-size, and stackable learning options • Broaden awareness campaigns in schools and colleges • Develop Green Skills Hubs	• Pilot competencies and skills curriculum • Develop Youth Skills Boards • Partner with environmental organisations • Encourage outreach and open days between education and factories, offices and labs. • Invest in local skills development through vocational training

Theme 2 Utilising policy levers for equitable green job pathways

Big ticket (do later)	Small win (do now)
• Provide greater clarity on categories of technical and transversal green skills and quality standards for training and education provision • Promote quality frameworks and standards for green skills • Develop specific longer-term sustainability skills projects • Embed sustainability in the curriculum	• Provide targeted funding for small businesses, schools, and local government to expand access to training, mentorship, work placements, and employment opportunities • Embed the importance of green skills and green jobs development in local growth plans • Advocate green skills through the devolution process

Theme 3 Bridging the information gap: strengthening green careers guidance

Big ticket (do later)

- Create an online one-stop-shop region-specific green careers toolkit
- Develop a better understanding of psychographics and demographics for green skills and jobs
- Create motivational themes and communicate the career-long value of green skills
- Provide targeted training for careers professionals

Small win (do now)

- Establish clear communication pathways
- Improve communication and outreach
- Strengthen partnerships
- Organise in-person events

Theme 4 Expanding access to green careers

Big ticket (do later)

- Expand the availability of apprenticeships and entry-level roles
- Offer paid training, internships, and supported work experience
- Design initiatives tailored to the unique needs and contexts of local communities
- Monitor and evaluate impact (e.g. social and environmental return on investment)

Small win (do now)

- Create collaborative work experience opportunities
- Prioritise investment in green career initiatives
- Increase urban population engagement with natural environments

Further work is urgently required to implement the solutions and recommendations using a collaborative approach to support green skills development in the Hampshire and Solent region. More specific work is required to develop resources and promotional materials for career consultants and schools, colleges and universities to effectively guide people towards green skills and greener careers. The Greenprint framework and partnership is ideally placed to provide a way of facilitating further progress on understanding what is needed to develop training and education for green skills and jobs in the region. Strengthening such partnerships with allocated time across participating organisations and additional funding for collaborative projects, as illustrated by this research, is fundamental to addressing the critical impacts we face due to the climate crisis. Collaborative governance is critical to success that has a framework of structures and processes that facilitate collective decision-making, coordinated joint action and resource allocation to implement green skills across the region.

GLOSSARY

Carbon literacy - an enabling 'soft' green skill that develops an understanding of carbon impacts and is relevant across all job roles, not just technical ones.

Communities of practice – groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly.

English devolution – plans to move power out of Westminster and back to local communities, i.e. a Mayoral Combined County Authority for Hampshire and the Solent.

Gatsby Benchmarks for Good Career Guidance – a framework of eight criteria defining good careers guidance for young people in England, developed by the Gatsby Foundation.

Green apprenticeships – apprenticeships aligned with net-zero objectives, guided by the Institute for Apprenticeships and Technical Education's Green Apprenticeships Advisory Panel.

Green job – employment that directly contributes to or supports net-zero emissions target and environmental goals.

Green skills – knowledge, abilities, values, and attitudes required to live in, develop, and support a society that protects the natural environment and reduces negative environmental impacts caused by humans.

Greenprint – a joint initiative (led by New Forest National Park Authority, University of Southampton, University of Portsmouth, and Southern Policy Centre, working with Partnership for South Hampshire) to enhance collaboration across sectors to achieve a green recovery.

Levelling up – recognition of geographic variation in access to green training and emphasis on reducing disparities via local strategies.

Local Enterprise Partnership (LEP) - non-statutory bodies responsible for local economic development in England.

Local Skills Improvement Plans (LSIPs) – employer-led regional skills strategies that must consider net-zero, climate adaptation, and environmental goals.

Mayoral Combined County Authority (MCCA) – a form of local government in England where multiple councils collaborate to deliver services and make decisions at a regional level, led by a directly elected mayor.

National Education Nature Park – an initiative promoting nature-based learning to prepare learners for careers such as ecologists, data scientists, and biologists.

National Occupational Standards (NOS) – benchmarks detailing the performance, knowledge, and skills required for roles including environmental conservation roles that align with green skills frameworks.

Skills Bootcamps – government-funded short-term training in areas like heat pumps, retrofit, and green transport, developing skills demanded by industry.

STEM provision for green careers – science, technology, engineering, and mathematics education designed to lead learners into green career pathways.

Strategic Development Fund (SDF) – funding for providers to expand green skills training by investing in courses, staff, and infrastructure.

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