



House of Commons
Environmental Audit Committee

Green Jobs

Third Report of Session 2021–22





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*Report, together with formal minutes relating
to the report*

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Environmental Audit Committee

The Environmental Audit Committee is appointed by the House of Commons to consider to what extent the policies and programmes of government departments and non-departmental public bodies contribute to environmental protection and sustainable development; to audit their performance against such targets as may be set for them by Her Majesty's Ministers; and to report thereon to the House.

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Summary

Achieving the Government's net zero and long-term environmental goals depends on a skilled green workforce in the economy to deliver these. The Government is aiming for 2 million green jobs by 2030; the level of Government ambition and the work carried out by the Green Jobs Taskforce provides a good foundation for delivering this green workforce. What is needed now is a detailed plan for how these ambitions will be delivered.

For the Government to be able to monitor and evaluate the impact of its policies against its green jobs ambitions, the delivery plan must include the Government's definition and metric for 'green jobs'. The delivery plan and the Government's definition should reflect the fact that 'green jobs' include those jobs which are needed to deliver the Government's wider long-term environmental objectives, including jobs in enhancing biodiversity and the circular economy, as well as net zero.

Meeting these ambitions will require action from across the Government. The Government's delivery plan must set out the division of action and responsibilities between departments and its co-ordination and oversight arrangements, including its arrangements for collaboration with the devolved administrations and local government. For departments to be able to budget for and prioritise action on green jobs, the delivery plan should include estimated costings of the actions needed by each department. The Government also needs to assess the funding required by local government for the green jobs and skills needed within local authorities to deliver climate and nature actions at a local level.

It is welcome that the Department for Environment, Food and Rural Affairs is collaborating with the Department for Education to produce a skills gap plan, to identify skills gaps which could affect the delivery of the Government's 25 Year Environment Plan objectives. This skills gap plan must be accompanied by an action plan, to address any shortages identified.

Action to stimulate green jobs in the pandemic recovery would accelerate the establishment and growth of green sectors and build skills and workforce towards long term net zero and environmental targets, at the same time as addressing immediate unemployment following the pandemic. Only 1 per cent of Kickstart scheme placements were in green sectors; the Government should ensure that future labour market interventions are aligned, from the design stage, with its net zero and environmental goals.

A National Nature Service would build much needed long-term capacity in the nature sector through an established training pipeline, while simultaneously contributing to the Government's levelling up, green jobs and long-term environmental goals. The Government should work with nature sector employers to pilot this during 2022.

The Government must ensure lessons are learned from its Green Homes Grant voucher scheme, which failed to achieve its green jobs ambitions; with millions of homes requiring retrofitting to meet decarbonisation targets, the Government urgently needs to set out a retrofit skills strategy.

In the long-term, the Government will need to ensure that people in regions where jobs will be affected by the net zero transition can access new, attractive opportunities in green jobs. Without such 'just transition' planning, there is a risk that livelihoods and consequently wider public support for net zero could be lost as the economy changes.

The Government has committed to a just and fair transition to net zero; it should now publish its plan for a just transition. This plan must assess the regional, as well as sectoral, impact of net zero and set out the Government's strategy for maintaining public support. The plan should also set out arrangements for co-ordination and monitoring across the Government, and collaboration with the devolved administrations and local government. The Government's just transition planning must include measures to avoid jobs being offshored in the transition; as part of this, the Government should explore how a UK carbon border adjustment mechanism could comply with international trade obligations.

The green skills pipeline will determine both the number and types of UK green jobs which can be produced. We need to ensure we are training our current and future workforce now for the careers and demands of the future economy, and make climate and environmental literacy a priority across all education and training. Environmental sustainability should be embedded across all National Curriculum and A Level courses, and a module on sustainability included in every apprenticeship and T Level course. The Government's Children and Nature programme should be extended beyond March 2022 and expanded to further widen schoolchildren's access to nature.

Extending the equivalent or lower funding rule exemption to full-time courses in science, technology, engineering and mathematics (STEM) and geography and environmental higher education courses would provide a faster route to retraining in higher level skills crucial to the future green economy.

Skills assessment and planning cannot be a one-off exercise; the Government must put structures in place to ensure ongoing monitoring of green skills demands and provision, including ensuring there is sufficient provision of technical and practical education in green skills today to meet the demands of the future economy.

A lack of diversity and inclusion is already an issue in UK environmental and STEM professions; if diversity and inclusion is not factored in from the start, any action to stimulate green jobs risks exacerbating inequalities and missing the opportunities from increased diversity and inclusion in the green workforce. We welcome the Government's commitment to increasing diversity and inclusion in the green workforce; to be able to monitor whether it is succeeding, the Government needs to set out its aims in a measurable way and have a metric for measuring diversity and inclusion in the green workforce.

The Government's green jobs and just transition delivery plans must also include improvements to careers advice, so people know what green jobs there are and how to access them, and identifying and addressing potential barriers, such as lack of public transport, rural broadband or care provision for dependents, to accessing these jobs.

1 Green jobs ambitions

Introduction

1. We launched our inquiry into *Green jobs and the just transition* on 17th November 2020,¹ following the Government's announcements of its ambitions to 'create 2 million green jobs' by 2030,² the allocation of £3bn 'to support 140,000 green jobs' through the Treasury's *Plan for Jobs*,³ and the £40m Green Recovery Challenge Fund for jobs in nature recovery.⁴ To support these ambitions, the Government convened a Green Jobs Taskforce, chaired by Ministers from the Department for Business, Energy and Industrial Strategy and Department for Education, which worked with representatives from industry, trade unions and the skills sector to 'support the UK to transition to a net zero economy and deliver a green recovery, by developing recommendations for an action plan to support 2 million good quality, green jobs and the skills needed by 2030'.⁵

2. The day after our inquiry was launched, the Prime Minister issued his *Ten Point Plan for a Green Industrial Revolution*, 'to create and support up to 250,000 highly-skilled green jobs in the UK'.⁶ Over the course of this inquiry, the Government has released further net zero, skills and environmental policy papers which have a potential impact on its ambitions for the creation of green jobs, including the *Energy White Paper*,⁷ the Treasury's *Net Zero Review: Interim Report*,⁸ *Skills for Jobs White Paper*,⁹ *Build Back Better* policy paper,¹⁰ a £40m second round of the Green Recovery Challenge Fund,¹¹ *National Bus Strategy for England*,¹² *Industrial Decarbonisation Strategy*,¹³ *North Sea Transition Deal*,¹⁴ *England Trees Action Plan*,¹⁵ *England Peat Action Plan*,¹⁶ *Transport Decarbonisation Plan*¹⁷ and *UK Hydrogen Strategy*,¹⁸ *Heat and Buildings Strategy*,¹⁹ *Net Zero Strategy*²⁰ and the final report of the Treasury's *Net Zero Review*.²¹ In October 2021, the Government announced

1 Environmental Audit Committee, [Can green jobs support Net Zero Britain ambitions while building back better from coronavirus?](#), accessed 11 October 2021

2 HC Deb, 21 January 2020, [col 160](#) [Commons Chamber]; HC Deb, 10 November 2020, [col 714](#) [Commons Chamber].

3 GOV.UK, [A Plan for Jobs speech](#), accessed 11 October 2021

4 GOV.UK, [Government's £40 million Green Recovery Challenge Fund opens for applications](#), accessed 11 October 2021

5 GOV.UK, [UK government launches taskforce to support drive for 2 million green jobs by 2030](#), accessed 11 October 2021; GOV.UK, [Green Jobs Taskforce Terms of Reference \(December 2020\)](#), p. 1

6 GOV.UK, [PM outlines his Ten Point Plan for a Green Industrial Revolution for 250,000 jobs](#), accessed 11 October 2021

7 GOV.UK, [Energy White Paper: Powering out Net Zero Future](#) (December 2020)

8 GOV.UK, [Net Zero Review: Interim Report](#) (December 2020)

9 GOV.UK, [Skills for Jobs: Lifelong Learning for Opportunity and Growth](#) (January 2021)

10 GOV.UK, [Build Back Better: our plan for growth](#) (March 2021)

11 GOV.UK, [£40m second round of the Green Recovery Challenge Fund opens for applications](#), accessed 11 October 2021

12 GOV.UK, [Bus Back Better: national bus strategy for England](#) (March 2021)

13 GOV.UK, [Industrial Decarbonisation Strategy](#) (March 2021)

14 GOV.UK, [North Sea Transition Deal](#) (March 2021)

15 GOV.UK, [The England Trees Action Plan 2021–2024](#) (May 2021)

16 GOV.UK, [The England Peat Action Plan](#) (May 2021)

17 GOV.UK, [Decarbonising Transport: A Better, Greener Britain](#) (July 2021)

18 GOV.UK, [UK Hydrogen Strategy](#) (August 2021)

19 GOV.UK, [Heat and Buildings Strategy](#) (October 2021)

20 GOV.UK, [Net Zero Strategy: Build Back Greener](#) (October 2021)

21 GOV.UK, [Net Zero Review: Analysis exploring the key issues](#) (October 2021)

that 56,000 UK green jobs had been ‘secured and created’ since November 2020.²²

3. Throughout this inquiry we have examined how green jobs could help tackle the anticipated rise in unemployment due to covid-19 in a sustainable way; the jobs, skills and training needed to achieve the UK’s longer-term climate and environmental ambitions; and the planning and work taking place to meet the Government’s green jobs ambitions. In this report we address the jobs and skills issues identified in our recent reports on *Electronic Waste and the Circular Economy*,²³ *Growing back better: putting nature and net zero at the heart of the economic recovery*,²⁴ *Energy Efficiency of Existing Homes*²⁵ and *Biodiversity in the UK: bloom or bust?*²⁶ Our predecessor Committee previously looked at green jobs and skills in 2009.²⁷

4. Our call for evidence received over 65 written submissions. These showcased the breadth of job opportunities in roles with the potential to contribute to positive environmental outcomes across the UK, encompassing the construction of straw-bale buildings,²⁸ manufacture of bioplastics,²⁹ solar panel installation,³⁰ running eBikes schemes,³¹ retrofit of diesel busses to electric and hydrogen,³² greening urban roofs,³³ and chemical recycling,³⁴ among many, many others. We heard from 27 witnesses during our oral evidence sessions, representing the education and skills sector, local government, employers and industry, and four Government departments. We also held a roundtable event with a small number of young people, to hear their perspectives on green jobs; illustrative anonymised quotes from the event are included in the Annex, and we have summarised the discussion where relevant throughout the report.

5. The five report chapters cover the five broad themes arising from the evidence we gathered: how the Government is organised to achieve its green jobs ambitions; jobs and skills for a green covid-19 recovery; jobs and skills in the delivery of the Government’s long-term environmental goals and its ambitions for a just transition to net zero; ensuring a green skills pipeline; and diversity, inclusion and access to green jobs. Contributors told

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- 22 GOV.UK, [Prime Minister’s Ten Point Plan kickstarts green investment boom](#), accessed 15 October 2021. The [Net Zero Strategy](#) published on 19 October 2021 provides further detail of these 56,000 jobs ‘protected and created over the last ten months’ (p. 30), however the accompanying table (pp. 30–34) lists 59,100 jobs. We queried this difference with the Department for Business, Energy and Industrial Strategy (BEIS) via private correspondence; BEIS responded that this was because under ‘natural environment’, only 850 jobs had been ‘secured’ (p. 33); the remaining 2,500 Green Recovery Challenge Fund jobs (p. 33) had not been ‘secured’ so were excluded, and the total of 56,600 had been rounded down to 56,000. The largest component of the Government’s analysis is 45,000 jobs ‘supported’ in ‘greener buildings’ (p. 32); this figure is an ‘estimate based on internal [Government] analysis’ (p. 34). We also queried via private correspondence why the sum of the figures in the Technical Annex table containing jobs estimates (p. 331) did not agree to the totals shown; BEIS responded that the totals were rounded to the nearest 10,000.
- 23 Environmental Audit Committee, First Report of Session 2019–21, [Electronic waste and the Circular Economy](#), HC 220
- 24 Environmental Audit Committee, Third Report of Session 2019–21, [Growing back better: putting nature and net zero at the heart of the economic recovery](#), HC 347
- 25 Environmental Audit Committee, Fourth Report of Session 2019–21, [Energy Efficiency of Existing Homes](#), HC 346
- 26 Environmental Audit Committee, First Report of Session 2021–22, [Biodiversity in the UK: bloom or bust?](#), HC 136
- 27 Environmental Audit Committee, Second Report of Session 2008–09, [Green Jobs and Skills](#), HC 159-I
- 28 Strawbale Building UK ([GRJ0049](#))
- 29 BBIA ([GRJ0047](#))
- 30 Solar Trade Association ([GRJ0035](#))
- 31 Lord John Bird (Founder, Chair and Editor-in-Chief at The Big Issue) ([GRJ0030](#))
- 32 National Express West Midlands ([GRJ0007](#))
- 33 Hubbub Foundation ([GRJ0002](#))
- 34 Chemical Industries Association ([GRJ0041](#))

us that green jobs were essential to the delivery of the Government’s green ambitions,³⁵ and a significant number of contributors stressed the importance of clear policy signalling from the Government, to provide sectors with the confidence to invest in green jobs.³⁶

6. We welcome the Government’s ambitions for green job growth in the UK; now the Government needs to set out how these will be delivered. This report sets out our recommendations for how the Government should take this forward

Measuring green jobs

7. The Government aims to ‘create 2 million green jobs’ in the UK by 2030.³⁷ The Government’s *10 Point Plan for a Green Industrial Revolution* sets out an ambition to support 90,000 green UK jobs within this Parliament and up to 250,000 by 2030 across the ten sectors, or ‘points’, covered in the plan.³⁸ The ambition for 2 million green jobs by 2030 was repeated in the Green Jobs Taskforce Terms of Reference³⁹ and report.⁴⁰ Mike Hemsley, of the Climate Change Committee (CCC), told us the target of 2 million green jobs by 2030 seemed ‘right for meeting the scale of the challenge’ of the UK’s environmental ambitions.⁴¹

8. The Government has not set out a definition of ‘green jobs’, or how it will measure progress towards its ambitions. There is no generally-accepted standard definition of a ‘green job’, nor single way to quantify them. The Office for National Statistics (ONS) estimates the number of UK green jobs in two ways:

- i) UK employment in the Environmental Goods and Services Sector (EGSS), defined as ‘areas of the economy engaged in producing goods and services for environmental protection purposes, as well as those engaged

35 E.ON ([GRJ0019](#)); Aldersgate Group ([GRJ0050](#)); Electricity North West ([GRJ0054](#)); Mr Nigel Yau (Research Assistant at Smith School of Enterprise and the Environment, University of Oxford); Deiana Hristov (Research Assistant at Smith School of Enterprise and the Environment, University of Oxford); Mr Brian O’Callaghan (Lead of Oxford University Economic Recovery Project at Smith School of Enterprise and the Environment, University of Oxford); Dr Stefania Innocenti (Research Associate in Behaviour, Finance and Social Statistics at Smith School of Enterprise and the Environment, University of Oxford); Professor Cameron Hepburn (Director at Smith School of Enterprise and the Environment, University of Oxford) ([GRJ0057](#)); NNB Generation Company (SZC) Ltd; Laing O’Rourke; Doosan Babcock; EDF Energy; EDF Energy; NNB Generation Company (SZC) Ltd; Agilia Infrastructure Partners ([GRJ0061](#)); EESafe ([GRJ0068](#))

36 [Q15](#); [Q18](#); Biomass UK ([GRJ0013](#)); Rolls-Royce plc ([GRJ0018](#)); E.ON ([GRJ0019](#)); IEMA - Institute of Environmental Management and Assessment ([GRJ0025](#)); Institution of Engineering and Technology ([GRJ0031](#)); Solar Trade Association ([GRJ0035](#)); BSW Timber Group ([GRJ0036](#)); New Anglia LEP ([GRJ0037](#)); Engineering Construction Industry Training Board (ECITB) ([GRJ0039](#)); Investment Association ([GRJ0040](#)); Aldersgate Group ([GRJ0050](#)); Environmental Services Association ([GRJ0052](#)); Electricity North West ([GRJ0054](#)); SUEZ recycling and recovery UK Ltd ([GRJ0056](#)); Institute for Public Policy Research ([GRJ0059](#)); NNB Generation Company (SZC) Ltd; Laing O’Rourke; Doosan Babcock; EDF Energy; EDF Energy; NNB Generation Company (SZC) Ltd; Agilia Infrastructure Partners ([GRJ0061](#)); Chartered Institution of Wastes Management; WAMITAB; UK Resources Council, SUEZ recycling and recovery UK Ltd ([GRJ0062](#)); Green Alliance ([GRJ0064](#)); Association of Colleges ([GRJ0067](#))

37 HC Deb, 21 January 2020, [col 160](#) [Commons Chamber]; HC Deb, 10 November 2020, [col 714](#) [Commons Chamber].

38 GOV.UK, [The Ten Point Plan for a Green Industrial Revolution](#) (November 2020), p. 5. These 10 ‘points’ are: Advancing Offshore Wind; Driving the Growth of Low Carbon Hydrogen; Delivering New and Advanced Nuclear Power; Accelerating the Shift to Zero Emission Vehicles; Green Public Transport, Cycling and Walking; Jet Zero and Green Ships; Greener Buildings; Investing in Carbon Capture, Usage and Storage; Protecting Our Natural Environment; and Green Finance and Innovation.

39 GOV.UK, [Green Jobs Taskforce Terms of Reference](#) (December 2020), p. 1

40 GOV.UK, [Green Jobs Taskforce Report to Government, Industry and the Skills Sector](#) (July 2021), p. 6

41 [Q15](#)

in conserving and maintaining natural resources'.⁴² ONS uses 17 relevant activities to estimate EGSS employment in the UK.⁴³ The latest estimate indicates 403,100 people were employed in the UK EGSS in 2018.⁴⁴

- ii) Information collected from businesses through the Low Carbon and Renewable Energy Economy (LCREE) survey, focussing on (a different) 17 sectors deemed low-carbon or related to renewable energy and defined as 'economic activities that deliver goods and services that are likely to help the UK generate lower emissions of greenhouse gases, predominantly carbon dioxide'.⁴⁵ The latest estimate indicates 202,100 people were employed in the UK LCREE in 2019.⁴⁶

9. The International Labour Organisation (ILO) defines green jobs as 'decent jobs that contribute to preserve or restore the environment, be they in traditional sectors such as manufacturing and construction, or in new, emerging green sectors such as renewable energy and energy efficiency'.⁴⁷ We decided at the outset of our inquiry that we would start from, but not be limited by, this definition, to consider the range of green jobs and explore what defines a 'green job'.

10. The ONS identify two further ways green jobs could be measured: the sectoral approach, which involves identifying relevant sectors, e.g. renewable energy, and either assuming all jobs in this sector are 'green' or deciding which jobs within the sector are 'green' and which are not;⁴⁸ and O*NET, a United States database, which sorts jobs in sectors that could make up a 'green economy' into three categories, based on the interaction between skills and the transition to a greener economy.⁴⁹

11. Contributors to the inquiry differed in their definitions of a 'green job'. Luke Murphy, of the Institute of Public Policy Research (IPPR), told us IPPR included 'professions that

42 Office for National Statistics, [The challenges of defining a "green job"](#), accessed 11 October 2021

43 Ibid. The 17 EGSS activities used by the ONS are: energy saving and sustainable energy systems; environmental charities; environmental consultancy and engineering services; environmental construction; environmental education; environmental low emissions vehicles, carbon capture and inspection and control; in-house environmental activities; insulation activities; management of forest ecosystems; managerial activities of government bodies; organic agriculture; production of industrial environmental equipment; production of renewable energy; recycling; waste; wastewater; and water quantity management.

44 Office for National Statistics, [Dataset: Environmental goods and services sector \(EGSS\) estimates](#), accessed 11 October 2021

45 Office for National Statistics, [The challenges of defining a "green job"](#), accessed 11 October 2021. The 17 LCREE sectors used by the ONS are: These sectors are: alternative fuels; bioenergy; carbon capture and storage; energy efficient lighting; energy efficient products; energy monitoring, saving or control systems; fuel cells and energy storage systems; hydropower; low carbon financial and advisory services; low emission vehicles and infrastructure; nuclear power; offshore wind; onshore wind; other renewable electricity; renewable combined heat and power; renewable heat; and solar photovoltaic.

46 Office for National Statistics, [Low carbon and renewable energy economy UK: 2019](#), accessed 11 October 2021

47 International Labour Organization, [What is a green job?](#), accessed 11 October 2021. ILO expanded on this in its [World Employment and Social Outlook 2018 – Greening with jobs](#) report (May 2018), p. 53: 'Green jobs are defined as follows: they reduce the consumption of energy and raw materials, limit greenhouse gas emissions, minimize waste and pollution, protect and restore ecosystems and enable enterprises and communities to adapt to climate change. In addition, green jobs have to be decent.'

48 Office for National Statistics, [The challenges of defining a "green job"](#), accessed 11 October 2021

49 O*NET Resource Center, [Occupational Categories](#), accessed 11 October 2021. These three categories are 'Green Increased Demand': jobs in the existing green economy, which experience increased demand, but the underlying skills and tasks remain unchanged; 'Green Enhanced Skills': jobs in the existing economy where the purpose of the occupation remains unchanged, but the impact of green economy activities and technologies causes changes to the skills and tasks involved; and 'Green New and Emerging': new types of jobs, created as a result of green economy activities and technologies.

are needed to secure a sustainable economy, such as health and care workers'.⁵⁰ Several other contributors considered social care a green job,⁵¹ with the Greener Jobs Alliance noting that 'jobs in the care and emergency sectors will be essential to deal with climate mitigation measures like health impacts, floods, and other extreme weather events'.⁵² The Public and Commercial Services trade union included public sector jobs that support the transition, such as job centre coaches.⁵³ The National Association for Environmental Education argued all jobs should be considered green jobs, given the existing background of environmental laws and regulations, and the 'moral imperative' for all employees to take action to protect the environment.⁵⁴ Several contributors observed that in a transitioning economy, there is a 'greening' of existing jobs alongside growth in green sectors and new green industries.⁵⁵ This makes it harder to decide whether or not, or to what extent, a job is 'green'. ONS raise the issue that even a job in a 'green' sector could be carried out in a way which has an adverse effect on the environment.⁵⁶

12. The participants at our roundtable discussion for young people expressed a similar range of views; some considered green jobs to be focussed on the environment or low carbon transition, while others referred to broader issues of sustainability; one thought that all jobs would be green in the future.

13. Without a clear definition and metric, the Government will struggle to monitor and evaluate the impact of its policies on the number of green jobs. A clear definition and metric from the Government would be valuable to industry, too; EngineeringUK told us it would provide a 'clearer picture' of the future demand for the skills associated with green jobs,⁵⁷ and Enginuity told us 'if official data cannot demonstrate the growth in a given occupation, it becomes more difficult to prove the need for qualifications, apprenticeships and other [...] skills programmes which meet employer priorities'.⁵⁸

14. The Rt Hon Anne-Marie Trevelyan MP, then Minister for Business, Energy and Clean Growth at the Department for Business, Energy and Industrial Strategy, acknowledged to us the difficulties of defining a green job.⁵⁹ She told us the ONS LCREE survey 'gives a broad definition of jobs that help the UK generate lower emissions of greenhouse gases [...] that will give us that breadth as we move forward'.⁶⁰ However, as ONS note, LCREE excludes environmental activities beyond carbon reduction, such as recycling or protecting biodiversity, so is 'often used in conjunction with other measures when a wider estimate of "green jobs" is required'.⁶¹

50 [Q2](#)

51 UK Women's Budget Group ([GRJ0003](#)); Groundwork UK ([GRJ0015](#)); Green New Deal UK ([GRJ0058](#)); Greener Jobs Alliance ([GRJ0060](#))

52 Greener Jobs Alliance ([GRJ0060](#))

53 Public and Commercial Services (PCS) trade union ([GRJ0044](#))

54 UK National Association for Environmental Education ([GRJ0065](#))

55 [Q4](#); [Q52](#); [Q69](#); Enginuity ([GRJ0009](#)); Miss Nicolle Moyo (Student at University of East Anglia) ([GRJ0010](#)); Groundwork UK ([GRJ0015](#)); IEMA - Institute of Environmental Management and Assessment ([GRJ0025](#)); RSPB ([GRJ0028](#)); EAUC - The Alliance for Sustainability Leadership in Education ([GRJ0029](#)); Dr Alison Greig (Director of Education for Sustainability at Anglia Ruskin University); Ms Sarah Strachen (Research Assistant at Anglia Ruskin University) ([GRJ0032](#)); Greener Jobs Alliance ([GRJ0060](#)); Association of Colleges ([GRJ0067](#))

56 Office for National Statistics, [The challenges of defining a "green job"](#), accessed 11 October 2021

57 EngineeringUK ([GRJ0038](#))

58 Enginuity ([GRJ0009](#))

59 [Q172](#)

60 [Q172](#)

61 Office for National Statistics, [The challenges of defining a "green job"](#), accessed 11 October 2021

15. When we asked how the Government would measure its progress towards its green jobs targets, Minister Trevelyan told us the Government would set that out in its Net Zero Strategy,⁶² and this would ‘identify much more holistically some of those measurement requirements so that we have [...] a benchmark from which to work.’⁶³ When choosing a metric, ONS stress the importance of data availability: ‘while a definition is important, without relevant data, measurement using that definition is not possible.’⁶⁴ To be able to assess whether its policies are leading to green jobs in the sectors and regions they are needed, the Government’s metric for counting green jobs must be able to monitor the number of green jobs by type and location. It would be efficient if this metric were also able to monitor progress on diversity and inclusion in the green workforce, incorporating our first recommendation in Chapter 5 below.

16. The Green Jobs Taskforce says a broad approach is needed; one which encompasses delivery of the UK’s environmental goals and the transition to net zero.⁶⁵ The Green Jobs Taskforce defines a green job as:

employment in an activity that directly contributes to—or indirectly supports—the achievement of the UK’s net zero emissions target and other environmental goals, such as nature restoration and mitigation against climate risks.⁶⁶

We agree that the Government’s definition of green jobs should encompass jobs in sectors such as nature and the circular economy which will help to deliver the Government’s wider environmental goals. It was clear from our evidence session with Ministers that the Government also considers jobs outside of delivering net zero alone to be ‘green’, through Ministers’ references to ecologists, jobs in habitat management and the circular economy, and roles in biodiversity and environmental engagement.⁶⁷

17. The Government also asked the Green Jobs Taskforce to consider ‘quality of green jobs’.⁶⁸ The Green Jobs Taskforce found that existing ONS measures of quality across jobs could not be analysed to see which jobs were in the green economy.⁶⁹ The Green Jobs Taskforce noted ‘significant gaps’ in the wider evidence on green job quality, and said the data available ‘provides a mixed picture, with clear variations in job quality across and within sectors’, with the evidence currently suggesting that ‘not all green jobs are good jobs’.⁷⁰ Several contributors to our inquiry raised the importance of job quality in green

62 Department for Business, Energy and Industrial Strategy ([GRJ0063](#)) told us: ‘Our Net Zero Strategy, due to be published later in 2021, will set out the government’s pathway for transitioning to a net zero economy, setting how government will look to maximise new growth and employment opportunities across the UK. The Strategy will build on the Ten Point Plan and the sectoral plans we will bring forward in 2020/21. The Strategy will also consider what skills we need in the economy to deliver this transition drawing on the work of the Green Jobs Taskforce.’

63 [Q187](#)

64 Office for National Statistics, [The challenges of defining a “green job”](#), accessed 11 October 2021

65 GOV.UK, [Green Jobs Taskforce Report to Government, Industry and the Skills Sector](#) (July 2021), p. 15

66 *Ibid.* p. 15–16. The Taskforce takes a sectoral approach in its report, distinguishing between existing sectors, emerging sectors and sectors ‘experiencing significant transformation’. The sectors it focusses on are: Power; Business and industry; Homes and buildings; Transport; Natural resources (including waste management and recycling); Enabling decarbonisation; and Climate adaptation.

67 [Q175](#); [Q177](#)

68 GOV.UK, [Green Jobs Taskforce Terms of Reference](#) (December 2020), p. 1

69 GOV.UK, [Green Jobs Taskforce Report to Government, Industry and the Skills Sector](#) (July 2021), p. 38

70 *Ibid.*

jobs.⁷¹ We welcome the Government’s commitment to ensuring that green jobs are ‘good quality’⁷² and support the Green Jobs Taskforce’s recommendation that the Government set out how it will ensure this.⁷³ We emphasise that, to achieve this, the Government will need a way of measuring job quality which can be used in conjunction with its metric for green jobs.

18. The Government published its Net Zero Strategy on 19 October 2021; disappointingly, this did not contain its definition or metric for green jobs, but noted that ONS “will seek to refine [the Government’s] understanding and measurement of the green economy as the UK transitions to net zero, including looking at such issues as quality of work and diversity within the green economy.”⁷⁴

19. There is no single definition, nor single way to measure green jobs. The Government’s ambitions for accelerating the number of green jobs over the 2020s are welcome, but without a clear definition and metric, the Government will be unable to assess whether its policies are leading to good quality, green jobs in the sectors and regions they are needed.

20. We recommend that, by the end of 2021, the Government set out how it will measure progress towards its green jobs targets; this should include its definition of ‘green jobs’, and how it will measure the number, type and location of these over the 2020s, for the purpose of monitoring and evaluating the impact of its policies.

Co-ordinating delivery

21. Delivery of the Government’s green jobs targets will require action across multiple Government departments, including:

- the Department for Business, Energy and Industrial Strategy (BEIS), which has overarching policy responsibility for net zero alongside clean energy and industrial strategy;
- the Department for Education (DfE), which has policy responsibility for education and skills;
- the Department for Environment, Food and Rural Affairs (Defra), which has policy responsibility for agriculture, fishing and the environment, including forestry and waste and resources, and overarching responsibility for the Government’s 25 Year Environment Plan and climate adaptation;

71 [Q41](#); [Q99](#); [Q102](#); UK Women’s Budget Group ([GRJ0003](#)); National Union of Rail, Maritime & Transport Workers (RMT) ([GRJ0012](#)); Education and Training Foundation ([GRJ0014](#)); Greenpeace UK ([GRJ0027](#)); Public and Commercial Services (PCS) trade union ([GRJ0044](#)); Environmental Services Association ([GRJ0052](#)); Professor Linda Clarke (Professor at Centre for the Study of the Production of the Built Environment (ProBE), Westminster Business School, University of Westminster); Dr Melahat Sahin-Dikmen (Research Fellow at University of Westminster); Prof Christopher Winch (Professor of Educational Philosophy and Policy at Kings College London); Dr Fernando Duran Palma (Senior Lecturer at Westminster Business School, University of Westminster) ([GRJ0053](#)); Green New Deal UK ([GRJ0058](#)); NNB Generation Company (SZC) Ltd; Laing O’Rourke; Doosan Babcock; EDF Energy; EDF Energy; NNB Generation Company (SZC) Ltd; Agilia Infrastructure Partners ([GRJ0061](#))

72 Environmental Audit Committee, [Letter from the Minister of State for Energy, Clean Growth and Climate Change, and the Parliamentary Under Secretary of State for Apprenticeships and Skills, relating to the publication of the Green Jobs Taskforce’s Report](#), 14 July 2021

73 GOV.UK, [Green Jobs Taskforce Report to Government, Industry and the Skills Sector](#) (July 2021), p. 40

74 GOV.UK, [Net Zero Strategy: Build Back Greener](#) (October 2021), p. 239

- the Department for Work and Pensions (DWP), which has policy responsibility for labour market strategy;
- the Department for Transport (DfT), which has policy responsibility for clean transport, including public transport;
- the Department for Levelling Up, Housing and Communities (DLUHC), which has policy responsibility for housing; and
- HM Treasury, which allocates budgets to departments.

As its green jobs ambitions are UK-wide, the Government will need to co-ordinate with the devolved administrations, given that key matters including education and environment policy are devolved, and with local government, who are also affected by the Government's environmental policies. As Rebecca Pow MP, Parliamentary Under Secretary of State at Defra, noted:

[...] every planning department will have to deliver biodiversity net gain. Every local authority will have to produce a local nature recovery strategy.⁷⁵

22. Contributors told us a joined-up approach is needed for cross-Government action towards green jobs targets.⁷⁶ The Institute of Environmental Management and Assessment (IEMA) told us:

The challenge of developing the skills and capabilities in the UK workforce to meet our climate and environmental ambitions is not new; indeed, IEMA gave evidence before the Committee in 2009 on this topic. We believe that a key reason that past initiatives have failed is that no single body has been tasked with responsibility for co-ordinating delivery. Given the long-term nature of the challenge, the need to take a strategic approach across education and skills, business and energy, environment and economic policy, a new Green Jobs and Skills Commission or similar body should be established and mandated to take forward the strategy.⁷⁷

The Green Jobs Taskforce similarly recommended that the Government 'establish a UK-wide body with national representation to ensure momentum and coherence on workforce transition, including progress in delivery', with a remit to 'monitor, drive and report on progress of the transition to a net zero economy that supports good quality green jobs and skills, and to recommend any additional measures required to accelerate delivery.'⁷⁸

23. Given the cross-cutting nature of green jobs, it is important that the Government have effective structures in place for monitoring and co-ordinating action towards its green jobs ambitions. The National Audit Office (NAO) has found that the Government's 'arrangements for joint working between departments on environmental issues are patchy'.⁷⁹ NAO say that the risks of poor co-ordination in cross-governmental working on

75 [Q175](#)

76 [Enginuity \(GRJ0009\)](#); [IEMA - Institute of Environmental Management and Assessment \(GRJ0025\)](#); [EAUC - The Alliance for Sustainability Leadership in Education \(GRJ0029\)](#); [BSW Timber Group \(GRJ0036\)](#); [EngineeringUK \(GRJ0038\)](#); [Engineering Construction Industry Training Board \(ECITB\) \(GRJ0039\)](#); [SUEZ recycling and recovery UK Ltd \(GRJ0056\)](#); [Association of Colleges \(GRJ0067\)](#)

77 [IEMA - Institute of Environmental Management and Assessment \(GRJ0025\)](#)

78 [GOV.UK, Green Jobs Taskforce Report to Government, Industry and the Skills Sector](#) (July 2021), p. 41

79 [National Audit Office, Achieving government's long-term environmental goals](#) HC (2019–21) 1035, p. 11

areas such as net zero or long term environmental goals include: departmental priorities taking precedence over wider aims; the lack of a ‘single point of leadership’ to manage interdependencies, trade-offs or policy clashes; difficulties for a department to direct or hold others to account on their delivery, and a lack of ways for information to be shared across departments.⁸⁰ It is also important for Parliament and other stakeholders to understand different bodies’ respective responsibilities in order to hold these to account effectively.

24. While BEIS and DfE were responsible for the Green Jobs Taskforce, the Government has not set out which department will take the lead on green jobs, or how action will be co-ordinated and monitored. Minister Trevelyan told us:

delivering net zero sits with BEIS, but the reality is that this is a genuinely cross-Government challenge. Every single part of Government have a part to play and have responsibilities that they need to deliver in order to help the nation reach its net zero challenge. The interesting and perhaps fair challenge that there has been patchy work has to change. [...] The point of the Green Jobs Taskforce is to make sure we can give ourselves a very strong base from which to build those next-step practical changes, investments and where we go forwards.⁸¹

She told us she and the Ministers from DfE, Defra and DWP who were present at our evidence session were ‘working together all the time’.⁸² This is welcome; however, we think more formal structures are still needed to ensure effective co-ordination across the Government, including the other departments with responsibilities for delivering on green job ambitions as well as local authorities and the devolved administrations, to ensure policy alignment, monitor progress and identify and resolve any clashes with other departmental priorities. Such cross-Government oversight might be usefully provided by the cabinet committees on climate action,⁸³ as long as this would also encompass green jobs and skills which are less directly related to climate action, such as those in nature or the circular economy.

25. In their Ministerial Foreword to the Green Jobs Taskforce report, Minister Trevelyan, then Minister for Business, Energy and Clean Growth at BEIS, and Gillian Keegan MP, then Parliamentary Under Secretary of State (Minister for Apprenticeships and Skills) at DfE, announced ‘the formation of a cross-cutting delivery group to maintain the momentum generated by the Taskforce and drive coherent action across the green skills agenda.’⁸⁴ The delivery group is to ‘include representatives from industry, the skills sector and other key stakeholders’.⁸⁵ While no further details have yet been provided as to the composition

80 National Audit Office, [Achieving government’s long-term environmental goals](#) HC (2019–21) 1035, pp. 39, 43; National Audit Office, [Achieving net zero](#) HC (2019–21) 958, pp. 32, 34–35

81 [Q179](#)

82 [Q179](#)

83 National Audit Office, [Achieving net zero](#) HC (2019–21) 958, p. 28–29; oral evidence taken by the Committee on 11 March 2021 on Preparation for COP26, HC (2019–21) 222, [Q78](#); GOV.UK, [List of Cabinet Committees](#), accessed 11 October 2021. These are: the Climate Action Strategy Committee chaired by the Prime Minister, responsible for domestic and international climate strategy; and the Climate Action Implementation Committee chaired by the Rt Hon Alok Sharma MP (initially in his previous role as Secretary of State for BEIS, and now in his role as President-designate of COP26), responsible for matters related to COP26 delivery, net zero, and building UK resilience to climate impact.

84 GOV.UK, [Green Jobs Taskforce Report to Government, Industry and the Skills Sector](#) (July 2021), p. 4

85 GOV.UK, [Expert report: every UK job has the potential to be green](#), accessed 11 October 2021

of the delivery group, where it will sit within the Government or the co-ordination or monitoring arrangements which would be put in place, it is welcome that the Government will be tasking a body with delivery of its green jobs goals. To ensure effective delivery of action on green jobs across the Government, the delivery group should, as a priority, set out each department's responsibilities, how the Government will monitor and co-ordinate delivery across Government, and how the Government will collaborate with the devolved administrations and local authorities.

26. 'Green jobs' is a cross-cutting issue, requiring action across Government alongside co-ordination with local authorities and the devolved administrations to deliver the Government's ambitions. Clear lines of responsibility and a mechanism for co-ordination are needed, otherwise green jobs risks being given insufficient priority within departments, constraining the Government's efforts to develop the green jobs and skills needed in the economy.

27. We recommend that the Government, in its response to this report, set out its arrangements for cross-departmental delivery of green jobs and skills ambitions, identifying:

- a) *each department's responsibilities;*
- b) *how it will monitor and co-ordinate delivery across departments; and*
- c) *how it will collaborate with the devolved administrations and local authorities.*

We recommend that these arrangements include tasking the cabinet committees on climate action with overseeing the delivery of green jobs and skills actions across Government, ensuring that this includes oversight of departments' actions on green jobs and skills less directly related to climate action, such as those in nature or the circular economy.

Co-ordinating funding

28. When we asked Kemi Badenoch MP, then Exchequer Secretary to the Treasury, in December 2020 whether the Government would be funding a dedicated training programme to support the creation of 2 million green jobs, she told us:

That does not have its own funding stream. It draws together the £3 billion of green investment from the summer economic update and £12 billion from the 10-point plan. For example, part of the green homes grants scheme has a £6.9 million training programme via the Midlands Energy Hub, and that aims to create 5,000 installer training opportunities. We do not have a separate bucket for jobs, but within everything there is an element that will target jobs.⁸⁶

29. Given action on green jobs will be spread across the Government, it is important for the costs of action on green jobs to be evaluated, so that departments can account for this in their spending plans and budgeting. The National Audit Office (NAO) says that costed plans are 'important as otherwise there are risks that decisions about funding allocations are made in a piecemeal way, rather than on the basis of a strategic view of long-term

86 [Q318](#), Energy efficiency of existing homes, 2 December 2020

priorities'.⁸⁷ NAO say that the Government's accountability structures, where accounting officers are ultimately responsible for spending in their department alone, can result in 'targets and performance incentives that prioritise departmental objectives over collective government aims'.⁸⁸

30. The Green Jobs Taskforce Action Plan does not contain indicative costings for its recommendations. We asked Minister Keegan whether the Government would respond to the Action Plan by working out how finance will be allocated where it is needed. She responded:

A lot of this will go into the spending review, which is usually what happens when you talk about anything to do with investment. Clearly, at some point we will say how we are going to deliver this, but we already have significant investment in skills. The green jobs skills will come underneath that skills investment, because the system itself is what we are investing in and being able to work with employers to deliver any skills shortage, whether it is in digital or in tree planting.⁸⁹

In order to ensure sufficient funds are allocated to the departments responsible through the spending review, departments and the Treasury will need to understand the costs of delivery. It would be efficient if indicative costings were provided at the same time as the information setting out which departments are responsible for which action, as recommended above.

31. This should include an analysis of the funding required by local authorities to obtain the green jobs and skills they need to deliver the Government's nature and climate objectives, including biodiversity net gain, local nature recovery schemes and net zero. The Local Government Association told us that while local authorities had the powers to support the Government's green recovery and decarbonisation ambitions

through their services, planning and enforcement roles, housing, regeneration, economic development activities, education and skills, [...] a lack of skills and capacity within councils as a result of inadequate funding poses a risk to translating the national vision locally.⁹⁰

A recent NAO report we requested into local government and net zero in England found that 'skills shortages for local authorities can be made more severe by the short term, competitive nature of much net zero funding from departments'.⁹¹ Our recent report into biodiversity in the UK recommended that the Government strengthen local authority capacity to deliver biodiversity net gain.⁹²

87 National Audit Office, [Achieving government's long-term environmental goals](#), HC (2019–21) 1035, p. 9

88 National Audit Office, [Achieving net zero](#), HC (2019–21) 958, p. 34

89 [Q185](#)

90 Local Government Association ([GRJ0016](#))

91 National Audit Office, [Local government and net zero in England](#), HC 304, p. 49

92 Environmental Audit Committee, First Report of Session 2021–22, [Biodiversity in the UK: bloom or bust?](#), HC 136, para 197

32. When we asked how the additional burdens on local authorities for biodiversity net gain would be funded, Minister Pow told us:

all burdens on local authorities will be covered. Of course, delivering local nature recovery strategies is something that all local authorities will be required to do, but they can do it with an adopted partner. That might be, for example, their local wildlife trust. Many of them already have these plans under way. It will be these other bodies that already have a great deal of expertise and knowledge that will be required for the local authorities.⁹³

In its response to our report on biodiversity in the UK, the Government said it would work with local authorities to ensure access to ‘the right training, ecological expertise and systems to deliver ecological expertise’.⁹⁴ The Government said it was ‘working with the sector to understand skills and capacity needs’ and has ‘committed to funding new burdens on local authorities arising from the Environment Bill in the usual way.’⁹⁵

33. The NAO report requested into local government and net zero in England similarly recommended that the Government work with local authorities to assess the skills gaps for their net zero work.⁹⁶ The NAO noted that local authorities would require, at the least, ‘the spending power [...] to build the skills to incorporate net zero into their existing functions such as transport planning’, highlighting that ‘notwithstanding government’s financial support to the sector during the pandemic, the financial position of local government remains a cause for concern’.⁹⁷ In an evidence session with local government representatives in September 2021, Carolyn McKenzie, Chair of the Energy and Clean Growth Working Group of the Association of Directors of Environment, Economy, Planning & Transport told us:

there is quite a lot of external resource available to us for expertise. But there is a key point that, if it is embedded within the local authority, we can use that small amount of funding to capacity-build within our staff across the council so that it is more consistent and it remains there, rather than being external and then going away. That embedding enables more funding and more capacity to be built.⁹⁸

34. It is important that analysis by the Government into local authority skills gaps is accompanied by an assessment of the funding requirements for the green jobs and skills needed within local authorities, to ensure local government has the green jobs and skills it needs to deliver the Government’s environmental objectives. This will require co-ordination between local government, central Government departments and the Treasury.

35. Departments need to understand the delivery costs for their green jobs responsibilities to ensure their spending plans include sufficient allocation for this. Any analysis of environmental skills needs in local government needs to be accompanied by an assessment of the funding requirements for the green jobs and skills that are needed within local authorities to deliver local government’s responsibilities towards the Government’s climate and nature objectives.

93 [Q199](#)

94 Environmental Audit Committee, Third Special Report of Session 2021–22, [Biodiversity in the UK: bloom or bust?: Government Response to the Committee’s First Report](#), HC 727, para 5

95 *Ibid.*, para 5

96 National Audit Office, [Local government and net zero in England](#), HC 304, p. 14

97 *Ibid.*, p. 9

98 [Q77](#), Mapping the path to net zero, 8 September 2021

36. We recommend that by the end of 2021 the department or body with overall responsibility for delivery of the Government's green jobs policies should, in collaboration with the different departments engaged in green jobs policy, assign indicative costings to each department's actions within the overall green jobs delivery plan. This should include the Government's assessment of the funding requirements for green jobs and skills needed within local authorities to deliver the Government's climate and nature objectives.

2 Jobs and skills for a green covid-19 recovery

Labour market interventions

37. While recent labour market statistics show falling unemployment and vacancies at a record high, the impact from the end of the Coronavirus Job Retention Scheme on 30 September 2021 is yet to be determined.⁹⁹ The House of Commons Library has found that ‘workers who are from an ethnic minority group, women, young workers, low paid workers and disabled workers have been most negatively economically impacted by the coronavirus outbreak’.¹⁰⁰ The Government says it is ‘committed to a green recovery from the [covid-19] pandemic’¹⁰¹ and ‘determined not only to build back better but to build back greener’.¹⁰² BEIS told us:

There is evidence from the global financial crisis in 2008 that suggests that in the short-term, green investments, such as renewables and energy efficiency, are effective means of delivering jobs and growth in response to instances of economic crisis. They offer higher employment and growth pay-offs compared to traditional stimulus measures, thanks to higher jobs multipliers (as in the case of renewables), which boost spending and increase short-run GDP.¹⁰³

38. Contributors told us green jobs could play a valuable role in the covid-19 economic recovery. Mike Hemsley, of the CCC, said the labour-intensive nature of many green jobs provided a good opportunity in times of unemployment to bring people into the workforce, e.g. through investment in public transport, walking and cycling infrastructure, nature restoration, tree planting, peatland restoration and flood resilience.¹⁰⁴ Libby Peake, of Green Alliance, listed examples of ‘shovel ready’ green jobs in energy installation, electric vehicle charging and infrastructure and nature restoration.¹⁰⁵ Our report *Growing back better: putting nature and net zero at the heart of the economic recovery* found that action to counter the effects of climate change and biodiversity loss could create jobs, spur innovation and build economic resilience to future crises.¹⁰⁶ The Green Jobs Taskforce has similarly called for the Government to ‘extend its green recovery programmes, directing spending towards low carbon activities with rapid job creation potential, in areas at risk of unemployment’.¹⁰⁷

39. Conversely, if economic recovery action is not aligned with climate and nature ambitions, recovery action risks having a negligible or even negative impact on the growth of the green economy and the number of jobs it can support. CCC has warned that

99 Coronavirus: Impact on the labour market, [CBP8898](#), House of Commons Library, September 2021, p. 5, 9–10, 14

100 Ibid., p. 4

101 Environmental Audit Committee, Second Special Report of Session 2021–22, [Growing back better: putting nature and net zero at the heart of the economic recovery: Government and Bank of England Responses to the Committee’s Third Report of Session 2019–21](#), HC327, para 29

102 GOV.UK, [Green Jobs Taskforce Report to Government, Industry and the Skills Sector](#) (July 2021), p. 3

103 Department for Business, Energy and Industrial Strategy ([GRJ0063](#))

104 [Q5](#)

105 [Q6](#)

106 Environmental Audit Committee, Third Report of Session 2019–21, [Growing back better: putting nature and net zero at the heart of the economic recovery](#), HC 347, para 48

107 GOV.UK, [Green Jobs Taskforce Report to Government, Industry and the Skills Sector](#) (July 2021), p. 37

‘short-term choices aimed at tackling unemployment and inequality, if poorly targeted, could lock in higher emissions in the long-term.’¹⁰⁸ RSPB told us ‘a long term zero net greenhouse gas emissions test for government employment schemes would help to ensure that high emissions are not locked-in when tackling unemployment.’¹⁰⁹

40. The Government’s initiatives to get people back into employment include:

- the Kickstart scheme, announced in the July 2020 Plan for Jobs, providing 6-month work placements aimed at 16–24-year-olds on Universal Credit. Under the scheme, the Government covers the National Minimum Wage for 25hrs per week for 6 months, plus £1,500 for setup costs and employability skills development. £2bn of initial funding was provided, intended to fund over 250,000 jobs;¹¹⁰ and
- the Restart programme, announced in the November 2020 Spending Review, which will provide up to 12 months’ tailored support to Universal Credit claimants out of work for at least 12 months. The programme commenced in summer 2021, with £2.9bn funding over 3 years.¹¹¹

41. The Green Jobs Taskforce says that ‘Kickstart provides an important model for reaching both long-term unemployed young people and older workers at risk of unemployment due to decarbonisation, while also bridging the growing green skills shortages that risk slowing the climate transition’.¹¹² However, Groundwork noted that neither Kickstart nor Restart is particularly aligned with the Government’s environmental or green jobs goals:

The government should ensure that any interventions in the labour market are designed to aid the UK’s transition to a green economy. For example, there are no conditions in the current Kickstart scheme to ensure that the skills and experience young people develop are compatible with our climate and environment ambitions. There is a risk that high carbon industries use the scheme and young people end up with skills which will be redundant in a few years’ time. The same is true of the Restart scheme currently being commissioned by the Department for Work and Pensions.¹¹³

Indeed, policy documents available for Kickstart and Restart make no reference to a ‘green’ recovery or the role of the initiatives towards the Government’s climate or nature ambitions.¹¹⁴

42. We asked Mims Davies MP, Parliamentary Under Secretary of State (Minister for Employment) at DWP, to what extent Kickstart and Restart had been designed with the Government’s net zero and environmental goals in mind. The Minister responded:

DWP is uniquely placed to be able to provide support for people into work and into new sectors. In those programmes [...] and throughout the work

108 Committee on Climate Change, [Reducing UK emissions: Progress report to Parliament](#) (June 2020), p.15

109 RSPB ([GRJ0028](#))

110 Coronavirus: Getting people back into work, Briefing Paper [8965](#), House of Commons Library, August 2021, p. 5–9

111 Coronavirus: Getting people back into work, Briefing Paper [8965](#), House of Commons Library, August 2021, p. 13–14; GOV.UK, [How the Restart scheme will work](#), accessed 11 October 2021

112 GOV.UK, [Green Jobs Taskforce Report to Government, Industry and the Skills Sector](#) (July 2021), p. 37

113 Groundwork UK ([GRJ0015](#))

114 GOV.UK, [Kickstart Scheme](#), accessed 11 October 2021; GOV.UK, [Restart scheme](#), accessed 11 October 2021

that we are doing around economic recovery, net zero and the approach that we need as a Government has been front and centre. The work that we have been doing with Government Departments to monitor the evolving economic and labour market situation has been key in terms of finding effective ways to help people back into work in the here and now. I am delighted that 2,000 of over 200,000 new jobs that have come from nowhere, in terms of the Kickstart scheme, are in the green sector.¹¹⁵

The Minister said she had spoken to people unemployed because of the pandemic who told her that ‘they want to work in that [green] sector and they want to be part of that transition to a low-carbon economy.’¹¹⁶ However, the 2,000 Kickstart placements in green sectors represents only 1 per cent of those the Minister said had been created. It appears a valuable opportunity to boost green skills, experience and employment as part of a green recovery has been missed.

43. Just 1 per cent of Kickstart scheme jobs were in green sectors. While we understand the need to support current industries, we consider that an opportunity has been missed for a greener employment recovery scheme, to contribute towards the Government’s ‘building back greener’ aims.

44. *We recommend that the Government’s net zero and environmental goals are considered at the design stage of future labour market interventions, to ensure that such interventions are fully aligned with the green recovery.*

National Nature Service

45. The Environment Secretary has said that ‘restoring nature is going to be crucial as we build back greener from the pandemic’, noting that the UK is ‘sadly one of the most nature depleted countries in the world’.¹¹⁷ In September 2020, the Government launched the Green Recovery Challenge Fund, to ‘kick-start projects to halt the loss of wildlife and tackle climate change, as we build back greener from the coronavirus pandemic.’¹¹⁸ This brought forward £40m of nature funding for environmental charities and partnerships to fund nature projects across England, ‘create up to 3,000 jobs and safeguard up to 2,000 others’.¹¹⁹ In March 2021, this funding was extended by a further £40m.¹²⁰

46. Aldersgate Group say creating jobs in nature restoration helps towards the Government’s wider environmental goals as well as increasing ‘physical resilience to flooding or landslides, delivering savings in other sectors’.¹²¹ The Green Jobs Taskforce includes nature restoration in its list of areas which have ‘high employment multipliers and can be mobilised very quickly’, and says there are ‘opportunities in nature-based job creation which could aid the recovery of those communities across the UK already experiencing high unemployment before the pandemic’, including the potential for

115 [Q177](#)

116 [Q177](#)

117 GOV.UK, [Environment Secretary speech at Delamere Forest on restoring nature and building back greener](#), accessed 11 October 2021

118 GOV.UK, [Government’s £40 million Green Recovery Challenge Fund opens for applications](#), accessed 11 October 2021

119 *Ibid.*

120 GOV.UK, [£40m second round of the Green Recovery Challenge Fund opens for applications](#), accessed 11 October 2021

121 Aldersgate Group ([GRJ0050](#))

over 16,000 jobs in woodland, peatland and urban park improvement in areas ‘severely impacted by employment challenges.’¹²²

47. However, we have heard that capacity is a ‘major issue’ for the UK’s nature sector due to its reliance on charitable sources of income, with fund-raising efforts made more difficult by covid-19.¹²³ Groundwork told us:

When it comes to the creation of new jobs in the nature sector, the need and appetite outstrip the funding available. The Green Recovery Challenge Fund, for example, was oversubscribed with applications to create nature-based jobs. These roles are, often literally, ‘shovel ready’ and even after the available funding was doubled to £80m it was not sufficient to meet the demand for entry level job creation in the sector. A strategic intervention is needed to meet the scale of the challenge.¹²⁴

The Green Jobs Taskforce has said that the ‘restoration of habitats such as peatland, grasslands, saltmarsh and seagrass meadows to provide natural carbon sinks’ will require ‘significant expansion across environmental and conservation professionals, such as countryside rangers, forestry workers and horticultural tradespeople’, adding:

There are currently few existing training opportunities or qualifications in peatland or other restoration. There is a need to increase training schemes to meet the labour demand.¹²⁵

48. To meet this need, Wildlife and Countryside Link (‘Link’) and other nature sector employers have called for a National Nature Service: ‘an employment and training scheme in which tens of thousands of jobseekers, particularly young people and those from underrepresented and disadvantaged groups, would be employed and trained in environmental projects designed to level up access to nature, address social and health inequalities and bend the curve on nature’s decline.’¹²⁶ The National Nature Service would arrange 12-month placements with nature sector organisations to carry out ‘shovel-ready’ nature projects such as tree planting, nature-based flood protection and invasive species control.¹²⁷ Employees would receive the National Living Wage¹²⁸ and develop transferable and wider employability skills, such as project management and CV writing, alongside environmental skills, with the opportunity to gain technical qualifications.¹²⁹ The proposal focusses on England, noting it could extend across the UK should the devolved administrations also introduce such a scheme.¹³⁰

122 GOV.UK, [Green Jobs Taskforce Report to Government, Industry and the Skills Sector](#) (July 2021), p. 28, 36. The figure of over 16,000 environmental enhancement jobs comes from research by WPI Economics, commissioned by Green Alliance and summarised here: Green Alliance, [Jobs for a green recovery: Levelling up through nature](#) (May 2021), p. 1

123 Groundwork UK ([GRJ0015](#))

124 Groundwork UK ([GRJ0015](#))

125 GOV.UK, [Green Jobs Taskforce Report to Government, Industry and the Skills Sector Annex: Sectoral transitions to net zero](#) (July 2021), p. 16

126 Wildlife and Countryside Link, [Call for a National Nature Service](#), accessed 11 October 2021; RSPB ([GRJ0028](#)) and Groundwork UK ([GRJ0015](#)) also called for a National Nature Service in their submissions to this inquiry.

127 National Nature Service, [National Nature Service Overview and Plan](#) (October 2020), p. 4, 8, 18

128 The National Living Wage is set out on: GOV.UK, [National Minimum Wage and National Living Wage rates](#) (accessed 30 July 2021). The National Living Wage would normally only apply to those aged 23 and over and is set at £8.91 per hour for 2021/22.

129 National Nature Service, [National Nature Service Overview and Plan](#) (October 2020), p. 6, 7, 12

130 *Ibid.*, p. 4

49. A letter to the Chancellor of the Exchequer in June 2020 supporting a National Nature Service was signed by more than 60 organisations,¹³¹ and a YouGov poll commissioned by Link in September 2020 found that 83% of the public were supportive of the Government offering jobs paid at the National Living Wage to the unemployed to work on projects improving UK nature and the environment.¹³² The Cambridge Zero Policy Forum has also recommended the creation of a National Nature Service.¹³³

50. In our February 2021 report *Growing back better: putting nature and net zero at the heart of the economic recovery*, we recommended that the Government work with conservation charities to pilot the National Nature Service over summer 2021.¹³⁴ Disappointingly, the Government's response focussed on the Green Recovery Challenge Fund rather than engaging directly with the idea for a National Nature Service.¹³⁵ When we asked Minister Pow whether the Government had considered introducing a National Nature Service, she told us:

We believe we already have many measures in place that are driving things in that direction anyway. For example, we set up the Green Recovery Challenge Fund, which is an £80 million fund, to help with the green recovery. The whole focus of it was to create jobs or protect jobs, all of which would work on projects on the green environmental agenda. [...] We are in the second tranche of the Challenge Fund right now. We hope by the end of it we will have generated about 2,500 jobs, all of which are in projects right across the environment.¹³⁶

51. We welcome the investment in nature provided by the Green Recovery Challenge Fund and that the winning projects include those with opportunities for training and skills provision.¹³⁷ However, we think the Government's response rather misses the opportunities an established national scheme such as a National Nature Service would provide to build capacity in the sector, contribute towards the Government's levelling up ambitions, and spur employment for a green economic recovery through helping people back into work while providing them with transferable skills and training. Link says that 'the furlough scheme and the Green Recovery Challenge Fund has kept environmental NGOs going, but they are in no position to act unilaterally to provide the training required for 16,000 new jobs'.¹³⁸ Link adds that 'no current Government scheme fits the nature

131 Wildlife and Countryside Link, [Letter to the Rt Hon Rishi Sunak MP](#), 18 June 2020

132 Wildlife and Countryside Link, [83% of public say Government should offer nature jobs to those unemployed in COVID-19 crisis and beyond](#), accessed 11 October 2021; YouGov, [YouGov / WCL Survey Results](#) (September 2020). When asked 'To what extent would you support or oppose the UK Government offering paid jobs, at the living wage, working on projects aiming to improve UK nature and the environment to those who are unemployed?', 42% responded 'strongly support', 41% responded 'tend to support', 4% responded 'tend to oppose', 2% responded 'strongly oppose', and 11% responded 'don't know' (YouGov figures given to nearest 1%).

133 Cambridge Zero Policy Forum, [A Blueprint for a Green Future](#) (November 2020), p. 4, 46

134 Environmental Audit Committee, Third Report of Session 2019–21, [Growing back better: putting nature and net zero at the heart of the economic recovery](#), HC 347, para 188

135 Environmental Audit Committee, Second Special Report of Session 2021–22, [Growing back better: putting nature and net zero at the heart of the economic recovery: Government and Bank of England Responses to the Committee's Third Report of Session 2019–21](#), HC 327, para 29

136 [Q203](#)

137 GOV.UK, [Multi-million pound boost for green jobs and nature recovery](#), accessed 11 October 2021

138 Wildlife and Countryside Link, [Levelling up through the National Nature Service: Piloting the next step](#) (May 2021), p. 2. The 16,000 new jobs figure referred to by Link and the 16,000 jobs figure referred to in the Green Jobs Taskforce report above both draw from the same analysis, i.e. research by WPI Economics, commissioned by Green Alliance and summarised here: Green Alliance, [Jobs for a green recovery: Levelling up through nature](#) (May 2021), p. 1; WPI Economics, [Green Renewal – The Economics of Enhancing the Natural Environment](#) (April 2021), p. 2

training need’:

The Kickstart scheme¹³⁹ is work rather than training focussed, with placements lasting only six months. Experience has shown it takes a year to embed fully the transferable skills, employability skills and environmental skills a person needs to access nature work. There is a need for tailored intervention to provide a nature training pipeline, to bring together the expertise of the environmental NGO sector and the financial capacity of Government to unlock a wave of nature recovery jobs in high unemployment areas. The National Nature Service would be that intervention, acting as a catalyst to realising the levelling up agenda through new nature jobs.¹⁴⁰

52. Following our recommendation for a pilot scheme, Link produced a proposal for how a one-year pilot could work in practice. Under the proposal, an initial cohort of 100 would be recruited under the co-ordination of a unit in DWP, using the expertise and structures in place for Kickstart, with input from Defra, DfE and BEIS.¹⁴¹ The pilot would require Government funding of just under £4.5m, after which private finance and charitable funding would support the extension of the programme beyond one year, in recognition of the benefits of the training pipeline provided by the scheme:

In doing so it would follow the precedent of the Teach First scheme, which started with a pilot programme of just 186 young people in 2003. Government funding allowed the scheme to set up and seize the opportunity its proposers glimpsed; of training up a new cohort of young people to provide a shot in the arm for education, particularly in areas of high unemployment and low opportunity. Over the ensuing two decades Teach First has grown ten times in size. Government funding as a proportion of its financing has shrunk over the same time period, as educational organisations and private companies have recognised the value of the training the scheme provides and been prepared to pay to sustain the training pipeline.¹⁴²

53. We observe that as the proposal for a National Nature Service includes a focus on areas of high unemployment and an aim to increase diversity in the sector, such a scheme would also help to accomplish the Government’s levelling up ambitions¹⁴³ and ambitions to increase diversity and inclusion in green jobs.¹⁴⁴

54. We first recommended that the Government pilot a National Nature Service in our report ‘Growing back better: putting nature and net zero at the heart of the economic recovery’. The Government’s response did not engage directly with this proposal. A National Nature Service would build valuable capacity in the nature sector while providing people with wider employment skills, helping to deliver a green recovery. An established national scheme, rather than one-off funding, would help capacity in the longer term and could have wider reach.

139 The Kickstart scheme is discussed above in ‘Labour market interventions’.

140 Wildlife and Countryside Link, [Levelling up through the National Nature Service: Piloting the next step](#) (May 2021), p. 3

141 *Ibid.*, p. 4

142 *Ibid.*, p. 4, 5

143 GOV.UK, [New levelling up and community investments](#), accessed 11 October 2021

144 These are set out in ‘Diversity and inclusion’ in Chapter 5 below.

55. *We reiterate the recommendation from our earlier report that the Government should work with conservation organisations to pilot a National Nature Service during 2022.*

Green Homes Grant voucher scheme

56. The Green Homes Grant (GHG) scheme was announced in July 2020 as a way to boost green jobs and skills for a sector which had been hit hard by the pandemic, whilst delivering on the Government's ambitions to improve the energy efficiency of the UK's housing stock.¹⁴⁵ The GHG provided vouchers worth up to £5,000 for energy-saving improvements and was split into 2 parts: a £1.5 billion voucher scheme and a £500 million Local Authority Delivery scheme.¹⁴⁶ The scheme aimed to support 'over 100,000 jobs in green construction' across the UK.¹⁴⁷ In September 2020, the Government launched the GHG skills training competition, which awarded 18 successful applicants £6.4 million to deliver training to support the GHG scheme.¹⁴⁸

57. Our report *Energy Efficiency in Existing Homes* found that the voucher scheme element was beset with difficulties,¹⁴⁹ and ultimately scrapped, contrary to our recommendation that it should be improved and extended.¹⁵⁰ Our report identified a lack of consultation with industry for delivery of the scheme, compounded by complexity and delays in issuing the vouchers.¹⁵¹ While the voucher scheme was intended to support the creation of 100,000 green jobs, our report found that it might have actually reduced the sector's capacity in the short term.¹⁵² In the Government's response, the Government acknowledged that 'the Voucher scheme was impacted by several delivery challenges' and 'some vouchers have taken longer to process than we would have liked.'¹⁵³ The NAO's report on the GHG voucher scheme, published in September 2021, found that BEIS 'did not sufficiently understand the challenges facing installers before the Scheme was announced, failing to learn from previous schemes'.¹⁵⁴

58. Issues with the scheme were also raised in the evidence we received in this inquiry. Contributors highlighted skills and workforce shortages to deliver the scheme,¹⁵⁵ with the Mineral Wool Insulation Manufacturers Association (MIMA) noting that home retrofits 'are of course labour-intensive and mostly done by SMEs [*small and medium-sized enterprises*]'.¹⁵⁶ Contributors also expressed concern at the short time frame funding was available to deliver the work.¹⁵⁷ E.ON and MIMA called for an end to 'boom and bust'

145 GOV.UK, [A Plan for Jobs speech](#), accessed 11 October 2021

146 GOV.UK, [Greener homes, jobs and cheaper bills on the way as government launches biggest upgrade of nation's buildings in a generation](#), accessed 11 October 2021

147 Ibid.

148 GOV.UK, [Green Homes Grant skills training competition](#), accessed 11 October 2021; GOV.UK, [Green Homes Grant skills training competition: details of successful applicants](#), accessed 11 October 2021

149 Environmental Audit Committee, Fourth Report of Session 2019–21, [Energy Efficiency of Existing Homes](#), HC 346, para 69

150 Environmental Audit Committee, First Special Report of Session 2021–22, [Energy efficiency of existing homes: Government Response to the Committee's Fourth Report of Session 2019–21](#), HC 135, para 12

151 Environmental Audit Committee, Fourth Report of Session 2019–21, [Energy Efficiency of Existing Homes](#), HC 346, para 69

152 Ibid., para 70

153 Environmental Audit Committee, First Special Report of Session 2021–22, [Energy efficiency of existing homes: Government Response to the Committee's Fourth Report of Session 2019–21](#), HC 135, para 10–11

154 National Audit Office, [Green Homes Grant Voucher Scheme](#), HC 302, p. 9

155 Energy Efficiency Association CIC ([GRJ0006](#)); IEMA - Institute of Environmental Management and Assessment ([GRJ0025](#)); Mineral Wool Insulation Manufacturers Association (MIMA) ([GRJ0026](#))

156 Mineral Wool Insulation Manufacturers Association (MIMA) ([GRJ0026](#))

157 Solar Trade Association ([GRJ0035](#)); UK Energy Research Centre ([GRJ0042](#))

cycles in retrofit policy,¹⁵⁸ E.ON adding:

The past decade has seen the introduction and eventual scrapping of schemes such as Zero Carbon Homes, Green Deal and Solar subsidies amongst others, and as a result both the public and private sector will be sceptical of any short-term programmes introduced.¹⁵⁹

This scepticism is unlikely to have been alleviated by the subsequent scrapping of the GHG voucher scheme.

59. The Energy Efficiency Association told us that ‘the industry needs to be involved in the design of these schemes’ and that Government agencies ‘need to communicate much more willingly with the businesses delivering the results for them.’¹⁶⁰ They highlighted the financial difficulty businesses experienced as a result of delays in the scheme, drawing our attention to

the negative effects an ill-timed announcement of good news can have on job creation. By announcing a scheme to stimulate demand and create Green Jobs without the financial support to help companies build the infrastructure to meet that demand quickly enough, the scheme itself can put jobs at risk.¹⁶¹

60. The GHG voucher scheme was a promising, recent green jobs initiative which did not achieve its objectives due to poor implementation. It is important that the Government addresses the shortcomings in design and implementation of the scheme in a way which informs future green jobs initiatives across this and other sectors. In our *Energy Efficiency in Existing Homes* report, we recommended that the Government review the preparation, launch, funding and delivery of the GHG programme, and that the recommendations of that review be applied to all cross-Government working on programmes to deliver net zero objectives.¹⁶² In its response, the Government noted that two reviews were underway by external bodies; the NAO report into the GHG voucher scheme, and an evaluation by Ipsos MORI, but did not say whether the Government was also reviewing the scheme.¹⁶³

61. We asked Minister Trevelyan whether the Government was engaged with contractors so that the redesign or future initiatives do not make the same mistakes. She replied:

I know that Lord Callanan, who has direct oversight of this area, works very closely with the sector. As the construction Minister I talk to them on a macro level, if that is the right way to describe it, on a very regular basis. I had a meeting with the Construction Leadership Council last week. It is very busy and is wanting to drive forward, particularly with the CO2nstructZero challenge it has set itself, to help all parts of the sector to work in a greener way and to help its customers to build greener homes and, indeed, to help retrofit, which is, as you say, a huge challenge. I am sure the

158 E.ON ([GRJ0019](#)); Mineral Wool Insulation Manufacturers Association (MIMA) ([GRJ0026](#))

159 E.ON ([GRJ0019](#))

160 Energy Efficiency Association CIC ([GRJ0006](#))

161 Energy Efficiency Association CIC ([GRJ0006](#))

162 Environmental Audit Committee, Fourth Report of Session 2019–21, [Energy Efficiency of Existing Homes](#), HC 346, para 73

163 Environmental Audit Committee, First Special Report of Session 2021–22, [Energy efficiency of existing homes: Government Response to the Committee’s Fourth Report of Session 2019–21](#), HC 135, para 14.

NAO review, working with the Treasury, will help to identify those and give us the right footing on which to keep working on retrofit strategies as we move forward.¹⁶⁴

While the NAO's report identifies lessons for future schemes,¹⁶⁵ the Comptroller and Auditor General reports to the House of Commons,¹⁶⁶ and his reports are not intended to substitute for the Government's own evaluation processes. The NAO reported in September 2021 that BEIS was 'currently undertaking an exercise to understand what lessons can be learned from the design and implementation' of the GHG voucher scheme.¹⁶⁷

62. To address the skills shortage, our *Energy Efficiency in Existing Homes* report recommended a national retrofit strategy to provide the necessary training or retraining, to be developed with education providers, which should address the shortage of certified heat pump installers.¹⁶⁸ Development of a national retrofit strategy was also recommended by the Royal Institute of British Architects in their submission to our Green Jobs inquiry.¹⁶⁹ The Government responded that:

[BEIS] is continuing its work with the Green Jobs Taskforce to produce an Action Plan for Net Zero skills across a range of sectors with the goal of 2 million net zero jobs by 2030. As part of this, for heating, Government is aware that we will need to significantly increase the number of trained installers to deliver our 2028 target of installing 600,000 heat pumps per year. We are working closely with both industry and education providers to ensure that appropriate training is available, both for new entrants to the sector and existing heating installers who do not have heat pump experience. By the end of 2021, we expect industry to have capacity to upskill over 7,000 heating installers per year to install heat pumps.¹⁷⁰

However, this response does not address the issue that a holistic strategy is needed, given the multiplicity of skills required in a home retrofit. The Energy Efficiency Association listed 30 different job roles 'just to deliver the Green Homes Grant', including heating engineers, loft insulation installers and electricians.¹⁷¹ Energy Systems Catapult told us: 'the few existing training schemes on low carbon are fragmented and insufficient to meet the scale of change required.'¹⁷²

63. The Government response points to its work with the Green Jobs Taskforce and its Action Plan; while the Green Jobs Taskforce report sets out the scale of the challenge, it does not include a retrofit skills strategy.¹⁷³ The Government's Heat and Buildings Strategy contains analysis of skills gaps and current shortfalls in training provision and

164 [Q195](#)

165 National Audit Office, [Green Homes Grant Voucher Scheme](#), HC 302, p. 6, 13

166 National Audit Office, [About us](#), accessed 11 October 2021

167 National Audit Office, [Green Homes Grant Voucher Scheme](#), HC 302, p. 38

168 Environmental Audit Committee, Fourth Report of Session 2019–21, [Energy Efficiency of Existing Homes](#), HC 346, para 102

169 Royal Institute of British Architects ([GRJ0021](#))

170 Environmental Audit Committee, First Special Report of Session 2021–22, [Energy efficiency of existing homes: Government Response to the Committee's Fourth Report of Session 2019–21](#), HC 135, para 22

171 Energy Efficiency Association CIC ([GRJ0006](#))

172 Energy Systems Catapult ([GRJ0055](#))

173 GOV.UK, [Green Jobs Taskforce Report to Government, Industry and the Skills Sector](#) (July 2021), p. 20; GOV.UK, [Green Jobs Taskforce Report to Government, Industry and the Skills Sector Annex: Sectoral transitions to net zero](#) (July 2021), p. 7

capacity for retrofit and heat pumps.¹⁷⁴ The Government says that to meet demand, it will ‘incentivise certification’ to British Standards Institution retrofit standards and ‘work with industry to support training and new routes of entry in key skills shortage areas’, and that it is already ‘working closely with industry to ensure appropriate high-quality training is available’ for heat pump installers, and ‘working with the further education sector to increase and improve the availability of training and apprenticeships’.¹⁷⁵ This is a start, but falls short of the level of detail and planning needed to meet the scale of the challenge. A national retrofit strategy, which encompasses skills provision for heat pump installation, could help deliver this holistic action and address these skills and capacity shortages.

64. The voucher element of the Green Homes Grant scheme, the Government’s recent flagship scheme to address covid-19 impact while stimulating jobs in the green sector of home retrofit for energy efficiency, was not a success, and may even have put people out of work; there is a need to rebuild trust with the retrofit sector. Lack of engagement with the industry over the design of the scheme led to it being sub-optimal, resulting in a fragmented and actively disruptive approach to developing skills in a vital sector. The Government has acknowledged that the voucher scheme has not operated as intended in this respect.

65. We recommend that the Government’s own analysis into the Green Homes Grant voucher scheme be completed during 2021 to ensure lessons learned inform future schemes’ designs, and include a plan for industry engagement, to rebuild trust.

66. The scale of the challenge to retrofit homes is significant, as recognised by the Government when launching the Green Homes Grant scheme, claiming it would create 100,000 green jobs. With millions of homes requiring retrofitting to achieve decarbonisation through improved insulation alongside electrification by heat pump installation, or, in due course, potentially hydrogen insertion into the gas grid, the industry requires substantial upskilling and an increase in the trained workforce across the UK.

67. In line with our recommendation for a national retrofit strategy in our Energy Efficiency in Existing Homes report, by the end of 2021 the Government needs to set out a programme to encourage the development of relevant skills across the construction trade, including small and medium-sized enterprises, to stimulate development of skilled trades to increase the capacity markedly.

174 GOV.UK, [Heat and Buildings Strategy](#) (October 2021), p. 41 - 44

175 GOV.UK, [Heat and Buildings Strategy](#) (October 2021), p. 42, 44

Case study: The circular economy in the green recovery

Our report on *Electronic Waste and the Circular Economy* highlighted how circular economy activities, such as repair and recycling, could be a net contributor to jobs and retain value in the UK economy.¹⁷⁶ Waste and Resources Action Programme and Green Alliance have calculated that 517,000 jobs could be created through a ‘transformational’ move to a circular economy, through ‘substantial progress in recycling and remanufacturing, but also major development of the reuse, servitisation [*provision of goods as a service rather than through ownership*] and biorefining sectors’.¹⁷⁷ Libby Peake, of Green Alliance, told us investment in the circular economy could boost supply chain resilience, reduce reliance on raw materials, increase profits in the manufacturing sector, help meet carbon budgets, and reduce biodiversity loss caused by resource extraction and processing.¹⁷⁸

The Chartered Institution of Wastes Management (CIWM) described the resources and waste sector as ‘a key enabler’ of a green recovery, given its role in ‘improving resource availability and security across the UK economy through the supply of the quality secondary raw materials and feedstocks.’¹⁷⁹ The Environmental Services Association (ESA) told us new recycling and waste facilities could provide employment opportunities across the UK.¹⁸⁰ CIWM said that growth in reuse and repair required skills in customer service and retail, and so would absorb people from sectors particularly affected by the pandemic, such as retail and hospitality.¹⁸¹

ESA told us that science, technology, engineering and mathematics (STEM) skills were important as new technology in the sector developed.¹⁸² CIWM told us there was a need to promote the attractiveness of circular economy careers.¹⁸³ Dr Adam Read, of SUEZ Recycling and Recovery, told us:

We have to go much bigger and much faster in making our sector interesting, appropriate and flexible for people that would have historically looked at us and gone, “You’re binmen.” Well, we are not. We are resource custodians, we are climate change advocates and we are passionate, and it is the passion that we need to instil in my son’s generation quickly.¹⁸⁴

176 Environmental Audit Committee, First Report of Session 2019–21, [Electronic waste and the Circular Economy](#), HC 220, paras 6, 7, 95, 118

177 Waste and Resources Action Programme and Green Alliance, [Employment and the circular economy](#) (January 2015), p. 2, 3, 44. Page 5 of the report defines servitisation as: ‘any system which increases the effective use of assets. It can include leasing and moving from providing products to services instead, thereby deferring consumption of new assets.’

178 [Q13](#)

179 Chartered Institution of Wastes Management; WAMITAB; UK Resources Council, SUEZ recycling and recovery UK Ltd ([GRJ0062](#))

180 Environmental Services Association ([GRJ0052](#))

181 Chartered Institution of Wastes Management; WAMITAB; UK Resources Council, SUEZ recycling and recovery UK Ltd ([GRJ0062](#))

182 Environmental Services Association ([GRJ0052](#))

183 Chartered Institution of Wastes Management; WAMITAB; UK Resources Council, SUEZ recycling and recovery UK Ltd ([GRJ0062](#))

184 [Q136](#)

3 Long-term environmental goals and a just transition to net zero

Long-term environmental goals

Skills to deliver the 25 Year Environment Plan

68. The 25 Year Environment Plan ('25 YEP') sets out the Government's goals to improve the environment within a generation.¹⁸⁵ It encompasses multiple aspects of the natural environment, from air quality to access to green spaces, and therefore has significant potential to contribute to the growth of UK environmental jobs and skills in these areas. For instance, the England Trees Action Plan, one of the sectoral plans released under the 25 YEP, says thousands of green jobs will be created through tree-planting.¹⁸⁶ The Resources and Waste Strategy released under the 25 YEP sets out the Government's ambitions towards a circular economy;¹⁸⁷ SUEZ told us 25,000 to 30,000 additional green jobs are needed in the waste and resources sector to achieve these objectives.¹⁸⁸

69. Achievement of the 25 YEP goals is reliant on a skilled green workforce to deliver the actions required. However, contributors have raised concerns about skills shortages affecting key 25 YEP policies such as the Environmental Land Management schemes (ELMS) and biodiversity net gain. In respect of ELMS, Mike Hemsley, of the CCC, told us 'there is definitely a skills gap in training farmers and landowners to do the environmentally beneficial things we want to do with the land'.¹⁸⁹ In our recent report *Biodiversity in the UK: bloom or bust?*, we identified a severe skills shortage in ecologists as barrier to achieving all of the Government's biodiversity policies and highlighted a shortage of ecologists within local authorities to oversee biodiversity net gain.¹⁹⁰ We recommended that Ministers invest in chartered ecology training and skills as part of the Government's investment in green jobs.¹⁹¹ IEMA told us they had 'received reports from a major infrastructure organisation of a lack of capability and capacity to meet [...] ecology and biodiversity requirements, especially in the context of biodiversity net gain' and that it was unclear whether 'a forward-looking skills and jobs evaluation has been undertaken to ensure the capacity and capability is in place' to achieve the Government's circular economy ambitions.¹⁹² RSPB told us:

The UK workforce does not, and is not on track to, have the skills and capacity needed to deliver the green jobs required to meet its net zero target and other environmental ambitions (including in the 25-year environment

185 GOV.UK, [A Green Future: Our 25 Year Plan to Improve the Environment](#) (January 2018). The 10 goals set out in the 25 YEP are: Clean air; Clean and plentiful water; Thriving plants and wildlife; A reduced risk of harm from environmental hazards such as flooding and drought; Using resources from nature more sustainably and efficiently; Enhanced beauty, heritage and engagement with the natural environment; Mitigating and adapting to climate change; Minimising waste; Managing exposure to chemicals; and Enhancing biosecurity.

186 GOV.UK, [The England Trees Action Plan 2021–2024](#) (May 2021), p. 19

187 GOV.UK, [Our waste, our resources: a strategy for England](#) (December 2018), p. 7, 31–34, 60–62

188 SUEZ recycling and recovery UK Ltd ([GRJ0056](#))

189 [Q36](#)

190 Environmental Audit Committee, First Report of Session 2021–22, [Biodiversity in the UK: bloom or bust?](#), HC 136, Summary

191 *Ibid.*, para 81

192 IEMA - Institute of Environmental Management and Assessment ([GRJ0025](#))

plan). There is a risk that without investment in skills training now, there will be a nature skills (ecology, land management, species conservation) gap for new nature jobs that the economy needs for schemes such as ELMS, net-gain, and the Nature Recovery Network, which are needed to deliver the green jobs required to meet our net-zero target and other environmental ambitions (including in the 25-year environment plan).¹⁹³

70. Neither the 25 YEP nor any of the plans and strategies under the 25 YEP released to date, such as the Resources and Waste Strategy,¹⁹⁴ the Clean Air Strategy,¹⁹⁵ the England Trees Action Plan¹⁹⁶ or the Peat Action Plan,¹⁹⁷ include a plan for addressing skills shortages, or generating the jobs needed to deliver the required actions and outcomes. The NAO say to deliver its long-term environmental goals, the Government ‘will need to ensure that organisations across the delivery chain have access to the skills and resources they need to play their part’.¹⁹⁸ In January 2021, the Public Accounts Committee said the Government had more to do to assess skills gaps and recommended that the Government ‘establish what skills gaps exist, across the key delivery partners and sectors, which are likely to inhibit government’s progress in achieving its environmental ambitions’, and ‘develop a realistic plan to close’ such gaps.¹⁹⁹ IEMA called for ‘all new green policies, strategies and laws [to] be accompanied by an explicit consideration of the skills needed for effective implementation and a green skills plan setting out how any skills gaps will be addressed.’²⁰⁰ This would include further sectoral strategies under the 25 YEP, such as the Nature Strategy, expected in autumn 2021.²⁰¹

71. When we asked what the Government was doing to understand and address skills shortages for delivery of the 25 YEP, Minister Pow told us ‘there is a huge amount of thinking going on in Defra’ and Defra was ‘working very hard, at pace, on a plan for what the skills gap actually is’.²⁰² She told us:

One of the things that farmers are crying out for is to have advisers on the ground to help them steer their way through all the choices they will have for the new projects that they can get into in order to access the replacement for the basic payment, to access the [ELMS] funding. We are very conscious of that. There is a lot of work already started on it but also a great more to do, and we think our skills gap plan will help us to identify what exactly we need to focus on.²⁰³

Defra’s Skills Gap Plan has the potential to be a valuable tool. To be effective, the Skills Gap Plan should identify both the skills and jobs needed to deliver the 25 YEP, assess the number of people employed currently in these jobs and in the pipeline, and include a plan of action to address any shortfalls identified. The Skills Gap Plan should be aligned

193 RSPB ([GRJ0028](#))

194 GOV.UK, [Our waste, our resources: a strategy for England](#) (December 2018)

195 GOV.UK, [Clean Air Strategy 2019](#) (January 2019)

196 GOV.UK, [The England Trees Action Plan 2021–2024](#) (May 2021)

197 GOV.UK, [The England Peat Action Plan](#) (May 2021)

198 National Audit Office, [Achieving government’s long-term environmental goals](#), HC (2019–21) 958, p. 45

199 Public Accounts Committee, [Fortieth Report of Session 2019–21, Achieving government’s long-term environmental goals](#), HC 927, Summary, para 4

200 IEMA - Institute of Environmental Management and Assessment ([GRJ0025](#))

201 National Audit Office, [Achieving net zero](#) HC (2019–21) 1035, p. 44–45

202 [Q175](#)

203 [Q176](#)

with the sectoral strategies and plans already released under the 25 YEP and forthcoming plans, such as the Nature Strategy.

72. We have heard concerns that skills shortages will affect delivery of the Government’s long-term environmental goals, as set out in the 25 Year Environment Plan. It is welcome that Defra are currently working on a Skills Gap Plan to identify where there are skills shortages and collaborating with other departments on this.

73. We recommend that Defra’s Skills Gap Plan cover all areas of the 25 Year Environment Plan and be accompanied by an Action Plan to address skills shortages, developed in co-ordination with the Department for Education and stakeholders. The Skills Gap Plan and Action Plan ought to be published by March 2022 at the latest and aligned with Defra’s existing and forthcoming sectoral plans and strategies, such as the Waste and Resources, Clean Air, Trees, Peat and Nature strategies.

Just transition to net zero

Regional planning and support

74. The transition to net zero will have an impact across the economy,²⁰⁴ as it will ‘require decarbonisation of all sectors.’²⁰⁵ The Government tasked the Green Jobs Taskforce with identifying ‘options to support a just transition for people working in high carbon industries and enable them to mobilise their skills in support of net zero’, with ‘Just transition & retraining for high carbon workers’ listed as one of the Green Jobs Taskforce’s four priority workstreams.²⁰⁶

75. The International Labour Organization (ILO) describes a just transition as a transition towards an environmentally sustainable economy that is well managed and contributes to the goals of decent work for all, social inclusion and the eradication of poverty.²⁰⁷ Samantha Smith, of the Just Transition Centre, told us that a just transition can be summarised roughly as ‘what the social partners—employers and unions, plus usually Governments—can negotiate to get this very rapid, ideally pretty smooth, process of bringing down emissions without putting a lot of people out of work or creating social unrest.’²⁰⁸ BEIS told us:

Ensuring that our transition is a just and fair one for workers and households is a priority for this government. The government will make sure that our growing green economy is inclusive, benefitting people across the UK, supporting workers as industries transform and ensuring costs as well as the benefits are shared fairly, protecting consumers, workers and businesses.²⁰⁹

This aligns with the Government’s levelling up ambitions, as set out in its *Build Back Better* policy paper.²¹⁰

204 IEMA - Institute of Environmental Management and Assessment ([GRJ0025](#))

205 Department for Business, Energy and Industrial Strategy ([GRJ0063](#))

206 GOV.UK, [Green Jobs Taskforce Terms of Reference](#) (December 2020), p. 1–2

207 ILO, [Guidelines for a just transition towards environmentally sustainable economies and societies for all](#) (2015), p.4

208 [Q99](#)

209 Department for Business, Energy and Industrial Strategy ([GRJ0063](#))

210 GOV.UK, [Build Back Better: our plan for growth](#), accessed 11 October 2021

76. We have heard that a just transition is important to ensure the wider public retain support for the net zero transition.²¹¹ Contributors told us public engagement will be important to a just transition.²¹² Luke Murphy, of the IPPR, said:

[...] it is about the development of a positive vision, so making sure that we are focused on the journey towards something positive rather than just away from something negative. The way in which you describe carbon-intensive jobs and communities that have a long history in that is quite important in that regard.²¹³

Contributors told us that engagement with education and training providers, employers and trade unions was also important.²¹⁴ As noted in Chapter 1 for green jobs more widely, delivering a just transition to net zero will require collaboration across Government departments, including BEIS (net zero, energy and industrial strategy), DfE (skills), DWP (benefit, pension and employment support) and the Treasury, alongside co-ordination with local authorities and the devolved administrations.

77. While net zero is a UK-wide policy, we have heard that the impact of the transition will not fall evenly across the UK.²¹⁵ Contributors told us there was a need to consider the impact on individual regions, as well as sectors.²¹⁶ Luke Murphy, of the IPPR, said:

In Aberdeen, for instance, oil and gas workers make up over 10% of the local economy. Therefore, it is not just sectors we need to think about; it is about where they are placed and the impact it is going to have on these places, albeit recognising [...] that some of these job losses can be offset by potential new opportunities.²¹⁷

Mike Hemsley, of the CCC, said while the Government was not expected to actively manage the whole transition, it should ‘at least do a risk assessment and form some kind of plan of where interventions are likely to be necessary.’²¹⁸ Groundwork say that the Government should identify where jobs may be lost and work with affected businesses and individuals to ensure they can access replacement jobs in low-carbon industries, such as home energy retrofit.²¹⁹ Samantha Smith, of the Just Transition Centre, said the Government’s role included providing social protections while ‘jobs are changing and disappearing’, citing Spain, which provided a bridge to a pension for older mining

211 [Q17](#); [Q99](#)

212 [Q18](#); [Q34](#); [Q69](#); [Q99](#); [Q102](#); Transition Economics ([GRJ0022](#)), Platform ([GRJ0051](#))

213 [Q34](#)

214 [Q34](#); [Q42](#); [Q69](#); [Q110](#); [Q157](#); National Union of Rail, Maritime & Transport Workers (RMT) ([GRJ0012](#)); Transition Economics ([GRJ0022](#)), Public and Commercial Services (PCS) trade union ([GRJ0044](#)); Platform ([GRJ0051](#)); Green New Deal UK ([GRJ0058](#)); Greener Jobs Alliance ([GRJ0060](#)); Association of Colleges ([GRJ0067](#))

215 [Q39](#); UK Women’s Budget Group ([GRJ0003](#)); Biomass UK ([GRJ0013](#)); RSPB ([GRJ0028](#)); Royal Society of Chemistry ([GRJ0034](#)); BSW Timber Group ([GRJ0036](#)); Electricity North West ([GRJ0054](#))

216 [Q34](#); [Q92](#); UK Women’s Budget Group ([GRJ0003](#)); Professor Dave Reay (Chair in Carbon Management & Education at School of Geosciences, University of Edinburgh); Katrine Petersen (Campaign Manager - Narratives at Grantham Institute - Climate Change and Environment at Imperial College London) ([GRJ0023](#)), IEMA - Institute of Environmental Management and Assessment ([GRJ0025](#)); Solar Trade Association ([GRJ0035](#)); Electricity North West ([GRJ0054](#)); SUEZ recycling and recovery UK Ltd ([GRJ0056](#)); Greener Jobs Alliance ([GRJ0060](#)); NNB Generation Company (SZC) Ltd; Laing O’Rourke; Doosan Babcock; EDF Energy; EDF Energy; NNB Generation Company (SZC) Ltd; Agilia Infrastructure Partners ([GRJ0061](#)); Chartered Institution of Wastes Management; WAMITAB; UK Resources Council, SUEZ Recycling and Recovery UK Ltd ([GRJ0062](#))

217 [Q16](#)

218 [Q34](#)

219 Groundwork UK ([GRJ0015](#))

workers.²²⁰ Martin Baxter, of IEMA, told us skills provision also required co-ordination at both a local and national level, to understand ‘first, where places are vulnerable and, secondly, what skills and capabilities they have that can be redeployed in the jobs market’.²²¹ The Green Jobs Taskforce similarly recognised the need for regional, as well as sectoral, action, recommending that ‘where local economies depend on a source of high carbon employment, government should work with local government, employers and workers to diversify local economies, recognising the safety net that is already in place to support workers.’²²²

78. The Government needs to understand where, regionally, the impacts of net zero will fall, in order to ensure its policies are supporting all regions and enabling replacement green jobs to flourish. Amy Jenkins, Deputy Director for Clean Growth, Green Finance and Sustainable Behaviours for Net Zero at BEIS, told us that, building on the sectoral work of the Green Jobs Taskforce report, the Government’s next focus would be on locations:

Clearly, the next step, to the conversation around new jobs created, is working out where those jobs created are likely to be and where they might offset some of the jobs that may no longer exist on account of our net zero transition and where there might be areas where we need to focus on other opportunities. That can be done at both a regional level and a sectoral level. [...] In essence, the planning at a sectoral level has started. We are also using the taskforce to understand what the state of play is when it comes to regional planning [...] so we are starting to understand how we deliver net zero at a local level, to understand what will be the deployment at a local level and what that means in terms of jobs.²²³

On skills, Minister Keegan told us that local skills improvement plans would feed into the work of the new Skills and Productivity Board.²²⁴ The Skills and Productivity Board, and skills monitoring and assessment more widely, is discussed further in Chapter 4.

79. On support for communities beyond green job creation, such as pensions and employability support, we asked Minister Davies what work DWP had done to identify where support is most needed by those most affected by the transition to the net zero economy. She told us:

We have weekly labour market analysis, such as around furlough, and next week we have our updated jobs numbers, so we are constantly looking at this. As DWP, we have to plan for all scenarios in terms of what could be happening to the economy. [...] We know that some sectors are going to come to a close and things are going to be difficult. We need to help people know and understand that transition. This is where we are working with Gillian [Keegan] and working with education about it not being a job for life; it is a life of jobs. [...] There is the headline labour market strategy, and then there is the face-to-face support that you get at DWP. That is why we have things like our rapid response service. That is where, if we know there are large job losses coming down the line in a sector, in an area or in

220 [Q91](#); [Q99](#); [Q101](#)

221 [Q40](#)

222 GOV.UK, [Green Jobs Taskforce Report to Government, Industry and the Skills Sector](#) (July 2021), p. 72

223 [Q207](#)

224 [Q174](#)

a particular company, we get in early to support people, because we know once you have a job it is much easier to transition into another one.²²⁵

80. The Net Zero Strategy sets out the Government's ambitions to 'assess how local areas are working to support workers and communities with the net zero transition across England'; establish a Local Net Zero Forum to 'support the establishment of clearer delivery roles for local government and provide a single engagement route into HM Government in a coordinated and coherent way'; expand the BEIS Local Programme to help places attract investment and support green jobs, and 'motivate [and] build public acceptability for major changes'.²²⁶ These ambitions are welcome; what is needed now is a detailed, actionable plan to deliver these ambitions across the UK.

81. **We welcome the Government's commitment to ensuring regions are not left behind in the transition. To ensure this is delivered, it is vital that the Government carry out some planning for a just transition and how the Government intends to support it. This must include plans for public engagement to maintain public support for net zero, provision for wider support such as pensions and employability support, and ensuring local skills provision and (re-)training opportunities.**

82. **As action to deliver a just transition will require collaboration across Government and co-ordination with local government and the devolved administrations, the plan also needs to set out departmental responsibilities, and monitoring and co-ordinating arrangements. This plan might be included alongside the document setting out departmental responsibilities and funding, recommended in Chapter 1. The Government's plan for a just transition should also consider replacement jobs in green sectors less directly related to net zero, such as nature and the circular economy.**

83. **Some regions will be particularly affected by the transition. While the Government cannot actively manage the whole transition, it is important to assess where impacts will fall to ensure there are policies for support and replacement green jobs in place, in line with the Government's levelling up ambitions.**

84. ***We recommend that a just transition plan:***

- a) ***be published by the end of 2021;***
- b) ***assess regional as well as sectoral impact, to ensure regional skills transitioning plus employment and pensions support is in place; and***
- c) ***include a strategy for maintaining public support for net zero.***

As cross-departmental action is required, this plan should set out the departments or bodies co-ordinating just transition action and each department's responsibilities, alongside plans for monitoring progress and co-ordinating with local authorities and the devolved administrations. The just transition plan should also include plans for stimulating replacement jobs in green sectors less directly related to net zero, such as nature and the circular economy.

225 [Q189](#)

226 GOV.UK, [Net Zero Strategy: Build Back Greener](#) (October 2021), p. 239, 264, 269, 280

Off-shoring risks

85. CCC say ‘the design of policies to reduce UK manufacturing emissions must ensure that it does not damage UK manufacturers’ competitiveness and drive manufacturing overseas’, a problem known as ‘carbon leakage’.²²⁷ The UK currently addresses carbon leakage by requiring large manufacturers to pay for emissions allowances from an Emissions Trading Scheme (ETS), with free allowances available to manufacturers at risk of carbon leakage.²²⁸ CCC say this alone is unlikely to incentivise long-term decarbonisation in the UK, and recommends work commence on developing either a carbon border adjustment mechanism (CBAM) or minimum imports standards.²²⁹ A CBAM, also called a ‘border carbon tariff’ or ‘carbon border tax’, is a tax at the border on imported products based on their embedded emissions, or carbon footprint.²³⁰ CBAM would end the need for free allowances and could prompt other manufacturing countries to decarbonise.²³¹

86. No jurisdiction currently applies a CBAM. The European Commission has proposed the introduction of an EU-wide CBAM from 2023 as part of its European Green Deal: its proposal was released in July 2021.²³² A UK CBAM would need to comply with World Trade Organisation (WTO) rules, which aim to prevent discrimination between domestic and imported products, and between WTO member imports.²³³ There are technical and practical challenges around determining industry and product coverage and calculating the amount of carbon emitted in the production process of imports.²³⁴ CCC say fair and effective CBAM proposals need to consider the economic challenges all countries face in the covid-19 recovery, particularly developing countries.²³⁵ In our *Growing back better: putting nature and net zero at the heart of the economic recovery* report, we recommended the Government investigate the merits of CBAM, to accompany work on a carbon tax, as one way of addressing carbon leakage, recognising this would also require measures to ensure that such policies do not adversely impact developing countries.²³⁶

87. Green Alliance told us that a UK CBAM would ‘increase the impetus for all trading partners to lower carbon emissions and prevent carbon leakage’.²³⁷ Libby Peake, of the Green Alliance, told us that ‘the UK should absolutely be developing border carbon adjustment’, with the caveats that this should be considered as part of a package of measures to combat job and carbon leakage, and that there were ‘considerable practical and legal challenges’ to be overcome.²³⁸ EDF told us that:

Approaches such as Carbon Border Adjustment Mechanisms (CBAM) are gaining greater prominence within the EU; while there will be serious practical challenges in converting these concepts into practical mechanisms, they have the potential to protect domestic industries from unfair carbon

227 Climate Change Committee, [The Sixth Carbon Budget: Manufacturing and construction](#) (December 2020), p. 43

228 Climate Change Committee, [Policies for the Sixth Carbon Budget](#) (December 2020), p. 101

229 *Ibid.*, p. 102, 104

230 Climate Change Committee, [The Sixth Carbon Budget](#), December 2020, p. 34

231 *Ibid.*, p. 293

232 European Union, [European Green Deal: Commission proposes transformation of EU economy and society to meet climate ambitions](#), accessed 11 October 2021

233 Institute for Public Policy Research, [Towards a progressive US-UK trade partnership](#) (June 2021) p. 12

234 *Ibid.*, p. 13

235 Climate Change Committee, [The Sixth Carbon Budget](#) (December 2020), p. 347

236 Environmental Audit Committee, Third Report of Session 2019–21, [Growing back better: putting nature and net zero at the heart of the economic recovery](#), HC 347, para 229

237 Green Alliance ([GRJ0064](#))

238 [Q19](#)

competition while giving international competitors incentives to introduce comparable carbon pricing. These approaches are worthy of further exploration in a UK context.²³⁹

E.ON also suggested that CBAM be considered as a lever to help energy intensive industries to decarbonise, while not being ‘disadvantaged compared to imports which are produced from higher carbon energy systems.’²⁴⁰ Peter Walters, of the Chemical Industries Association, told us that to be effective, a carbon border adjustment measure ‘must provide sufficient carbon leakage protection and be accompanied by a framework of supporting policy to help business invest in the net zero transition, without also restricting trade for UK manufacturers.’²⁴¹

88. The Government’s Industrial Decarbonisation Strategy suggests that carbon leakage could be addressed ‘through a range of policy approaches including climate diplomacy and treating imports in ways that seek to compensate for the competitiveness impacts of any asymmetries between trading partners’ climate policies’ and that ‘in the immediate future, government’s preferred method for mitigating the risk of carbon leakage will continue to be free allocation of UK ETS emissions allowances, which will be decreasing throughout the 2020s’.²⁴² Amy Jenkins, of BEIS, told us:

First and foremost, the Government are very much looking at climate diplomacy—we obviously have the G7 and we will be working towards COP26 at the end of this year—to make sure others are acting in step with us and are upping their ambition. At the same time, we are very much looking through that net zero review from Treasury at what other measures there might be to help mitigate any risk of carbon leakage.²⁴³

89. The Treasury’s Interim Net Zero review did not mention CBAM specifically, but noted that carbon leakage risks could increase without domestic and international mitigation, with ‘treatment of imports’ included in its list of potential options for mitigation.²⁴⁴ The final report of the Treasury’s Net Zero Review discussed CBAM among possible policy options to manage the risk of future carbon leakage, noting that ‘any proposal to introduce a CBAM’ would need to consider WTO legality, methodological issues, consumer and business impacts and market effects, and concluding that ‘further work is required’ to understand the risks of carbon leakage, the relative merits of different policy responses and the implications of other jurisdictions’ actions to address carbon leakage concerns.²⁴⁵ The Government’s response to our recommendation on CBAM in our *Growing back better: putting nature and net zero at the heart of the economic recovery* report acknowledged the importance of addressing the risk of carbon leakage.²⁴⁶ In relation to CBAM, the Government told us:

239 EDF ([GRJ0048](#))

240 E.ON ([GRJ0019](#))

241 [Q154](#)

242 GOV.UK, [Industrial Decarbonisation Strategy](#) (March 2021), p. 23, 35

243 [Q214](#)

244 GOV.UK, [Net Zero Review: Interim Report](#) (December 2020), p. 62, 67

245 GOV.UK, [Net Zero Review: Analysis exploring the key issues](#) (October 2021), p. 22, 37–39, 42

246 Environmental Audit Committee, Second Special Report of Session 2021–22, [Growing back better: putting nature and net zero at the heart of the economic recovery: Government and Bank of England Responses to the Committee’s Third Report of Session 2019–21](#), HC 327, para 38

[...] any trade policy measure must comply with the UK's Free Trade Agreement (FTA) obligations and World Trade Organisation rules and it is not yet clear how a Carbon Border Adjustment Mechanism (CBAM) could be implemented in compliance with this and how effective it would be.²⁴⁷

We consider the risk of carbon leakage to the Government's green ambitions an important issue which deserves greater awareness; in September 2021 we launched a new inquiry, *Carbon Border Adjustment Mechanism*, to examine the role a CBAM could play in meeting the UK's environmental objectives and the issues to be addressed in designing such a scheme.²⁴⁸

90. There is a risk that the net zero transition could lead to UK job and skills losses if carbon-emitting industries simply move overseas. A carbon border adjustment mechanism (CBAM), recommended in our report 'Growing back better: putting nature and net zero at the heart of the economic recovery', should be considered as part of measures to address this.

91. The Government needs to set out in its just transition plan how it will address this risk. During 2021, the Government should conduct analysis into how a UK CBAM could comply with international trade obligations.

Case study: The oil and gas industry in transition

Oil and Gas UK (OGUK) estimates that in 2030, the oil and gas sector will support over 190,000 jobs, compared to approximately 270,000 in 2019.²⁴⁹ CCC say that the UK's oil and gas sector is 'likely to be heavily affected' by 2050 due to falling international demand for oil and gas, with oil and gas production from the UK Continental Shelf 'already projected to reduce over coming decades'.²⁵⁰

Contributors told us that there were opportunities for those in the oil and gas sector to transfer into roles in offshore wind,²⁵¹ carbon capture usage and storage (CCUS),²⁵² hydrogen,²⁵³ and decommissioning.²⁵⁴ Platform told us workers had faced barriers in accessing new jobs and re-training in offshore wind, including job vacancies requiring offshore wind experience and expensive retraining courses.²⁵⁵

Andrew Mennear, of BP, told us the underlying skills for CCUS and hydrogen would be science, technology, engineering and mathematics (STEM) skills.²⁵⁶ He told us:

[...] a lot of the new energy infrastructure will be built in the heavily industrialised areas—many of the areas of the country that are identified as being the targets for levelling up. It will create a lot of opportunities in terms of social mobility as well as locally.²⁵⁷

247 Ibid.

248 Environmental Audit Committee, [EAC launches new inquiry weighing up carbon border tax measures](#), accessed 5 October 2021

249 OGUK ([GRJ0033](#))

250 Climate Change Committee, [The Sixth Carbon Budget: The UK's path to Net Zero](#) (December 2020), p. 285

251 Department for Business, Energy and Industrial Strategy ([GRJ0063](#))

252 Engineering Construction Industry Training Board (ECITB) ([GRJ0039](#))

253 OGUK ([GRJ0033](#))

254 National Union of Rail, Maritime & Transport Workers (RMT) ([GRJ0012](#))

255 Platform ([GRJ0051](#))

256 [Q158](#)

257 [Q161](#)

4 Education and skills pipeline

National Curriculum, A Levels and access to nature

92. Contributors told us that the transition to a green economy means that everyone will need an awareness of climate change and environmental sustainability.²⁵⁸ The National Association for Environmental Education indicated that to facilitate this, all school leavers should have ‘an essential understanding of key environmental issues’:

We say this because a knowledge and understanding of the essence of, and background to, all this cannot be the responsibility of every employer, just as essential numeracy and literacy are not. As with literacy and numeracy, it ought to be the responsibility of schools to work with students to develop appropriate attitudes, knowledge, understanding and skills related to living and working as though nature mattered. Indeed, these are sometimes described as environmental literacy.²⁵⁹

In our recent report on biodiversity in the UK, we highlighted the link between education and access to nature and appreciation of its value: our recommendations included the establishment of a Natural History GCSE, increasing opportunities for outdoor learning and involving schoolchildren in the Government’s afforestation project.²⁶⁰

93. Despite the importance of environmental education, we have heard that those with recent experience of the education system do not feel they have the environmental knowledge they need. Meg Baker, of Students Organising for Sustainability UK (SOS-UK), told us just 4 per cent of the 3,000 school students SOS-UK had surveyed felt they knew a lot about climate change, with 68 per cent wanting to learn more about the environment and climate change.²⁶¹ At our roundtable event with young people, we heard that sustainability is not embedded across the curriculum and that insufficient attention is given to the scale and risks posed by climate change; we also heard anecdotal evidence that despite schools holding events such as climate change awareness weeks, these were not taken seriously by students and were seen as ‘tick-box’ initiatives or a means of boosting CVs rather than a genuine opportunity for learning.

94. Meg Baker, of SOS-UK, pointed out that environmental education is currently limited to a few subjects in schools.²⁶² The Dasgupta Review also raised the issue of environmental education being marginalised relative to the wider curriculum.²⁶³ Aldersgate Group told us that embedding sustainability into all subjects will help to ensure that students going on to work across wider sectors, such as agriculture, engineering, hospitality or media are ‘equipped with the knowledge to further decarbonisation.’²⁶⁴ Professor Josie Fraser, of the Institution of Engineering and Technology (IET), said ‘if we want to move to a completely different economy in the future, we need to overhaul the curriculum and we need to think

258 IEMA - Institute of Environmental Management and Assessment ([GRJ0025](#)); Aldersgate Group ([GRJ0050](#))

259 UK National Association for Environmental Education; UK National Association for Environmental Education; UK National Association for Environmental Education ([GRJ0065](#))

260 Environmental Audit Committee, First Report of Session 2021–22, [Biodiversity in the UK: bloom or bust?](#), HC 136, para 341, 342

261 [Q71](#)

262 [Q71](#)

263 GOV.UK, [The Economics of Biodiversity: The Dasgupta Review](#) (February 2021) p. 498

264 Aldersgate Group ([GRJ0050](#))

about it from a young age.²⁶⁵ Martin Baxter, of IEMA, told us:

It has to be done not just as a standalone, it is about how to integrate this into the way you teach physics, the way you teach other subject areas, and the way you enthuse people about this. [...] This is about weaving into the education system right from primary school and beyond to demonstrate that we can make change and that they are part of the solution and, in fact, they are going to be critical to that, and that they can get jobs and careers.²⁶⁶

Charlotte Bonner, of the Education and Training Foundation (ETF), said that it was important that a holistic approach be taken to avoid the risk that environmental education in schools is seen as niche, specialist, only a priority for some, or in the worst case, ‘a tick box’.²⁶⁷ Aldersgate Group told us embedding sustainability across all subjects could also encourage a broader range of people into science, technology, engineering and mathematics (STEM) higher education courses and careers.²⁶⁸

95. When we asked whether the Government had plans to adapt the curriculum to include sustainability and climate change at primary and secondary level, Minister Keegan told us:

We already have environment education in schools and it is part of primary science, key stages 1 and 2. It is also part of secondary science, key stages 3 and 4, where pupils are taught about the production of carbon dioxide by human activity, climate change and the impact of increased levels of carbon and so on. There are specific modules in geography as well. There is also [...] the Oak National Academy, which has a load of lessons and resources to support teachers. It is done by teachers for teachers and it also has a number of additional resources to support this. Therefore, I think we have already done that to some degree.²⁶⁹

The Green Jobs Taskforce has recommended that the Government ‘promote the effective teaching of climate change and the knowledge and skills’ in STEM and other key subjects, and ‘promote exemplary curriculum resources (for example through the Oak National Academy) and support schools to mainstream climate education into formal qualifications in existing subjects, such as business and design & technology’.²⁷⁰

96. Limiting education on sustainability and climate change to certain subjects in the national curriculum and A Level courses risks missing a valuable opportunity to show how sustainability relates to all subjects and to embed climate and sustainability literacy across the future workforce. It is welcome that resources to bring sustainability into other subjects are available, but as Professor Josie Fraser, of IET, pointed out, ‘the challenge for teachers with a very packed national curriculum to follow is that, even though there may be resources there that could help them, how do they find the time to build that in?’²⁷¹

265 [Q62](#)

266 [Q61](#)

267 [Q72](#)

268 Aldersgate Group ([GRJ0050](#))

269 [Q217](#)

270 GOV.UK, [Green Jobs Taskforce Report to Government, Industry and the Skills Sector](#) (July 2021), p. 55

271 [Q62](#)

97. We have considered whether it would be more effective, and send a greater signal about the cross-cutting importance of sustainability, to embed environmental sustainability across the national curriculum and A level courses. We heard that in order to enable this, teachers will need to be supported to incorporate sustainability and climate change into their courses.²⁷² Meg Baker, of SOS-UK, told us that in a survey SOS-UK carried out in 2019, ‘75% of teachers said they feel they have not received adequate training to educate students about climate change and 69% of teachers think there should be more teaching about climate change in UK schools.’²⁷³ Martin Baxter, of IEMA, said it was important this issue was prioritised:

This is about everybody recognising that we have to build a future by educating young people, and teachers have to be part of that; therefore, we have to equip them with the time and resource to do it, and build that into their professional development and learning.²⁷⁴

98. We asked Minister Keegan whether teachers were equipped to deliver courses in sustainability and climate change. She told us:

There is teacher education. There are resources that go into that. If I look at my own area of FE colleges, for example, there is a level 5 teaching apprenticeship, or you can do it as a full-time course as well, which has to have sustainability as a part of it. In terms of educating and training the teachers, it is something that is continually evolving. There is investment in teacher training. To be honest, [...] if you go around any school it is full of it. [...] every school I go into there are eco warriors, eco champions, an eco council, and it is all over the school. Therefore, I think the resources and knowledge the teachers have is very good. There will be teachers who do not feel well equipped, and we need to make sure the investment responds to that as well.²⁷⁵

99. As noted above, our recent report on biodiversity in the UK recommended increasing opportunities for outdoor learning and involving schoolchildren in the Government’s afforestation project.²⁷⁶ The Government’s response recognised ‘the significant benefits that learning outside the classroom can have for children’s mental health and wellbeing, as well as their educational and social development’ and highlighted the work of its Children and Nature programme, which

aims to support children from disadvantaged backgrounds to have better access to natural environments. It consists of three delivery projects and a separate independent evaluation project, to demonstrate and improve understanding of the effectiveness of interventions in nature, particularly for schools with the highest proportions of disadvantaged pupils in England. DfE, Natural England, and Defra have worked together to develop the

272 [Q61](#); [Q77](#); Professor Dave Reay (Chair in Carbon Management & Education at School of Geosciences, University of Edinburgh); Katrine Petersen (Campaign Manager - Narratives at Grantham Institute - Climate Change and Environment at Imperial College London) ([GRJ0023](#)); IEMA - Institute of Environmental Management and Assessment ([GRJ0025](#)), EAUC - The Alliance for Sustainability Leadership in Education ([GRJ0029](#))

273 [Q71](#)

274 [Q63](#)

275 [Q218](#)

276 Environmental Audit Committee, First Report of Session 2021–22, [Biodiversity in the UK: bloom or bust?](#), HC 136, para 341, 342

programme and now oversee its delivery. [...] The programme was funded until March 2021 by DfE. Defra and DfE have now committed jointly to funding a reduced version of the programme until March 2022.²⁷⁷

100. In our report, we noted that children from disadvantaged backgrounds and ethnic minorities have particularly low access to green spaces, and that education could provide a crucial lever to address this.²⁷⁸ Increasing schoolchildren's access to nature is also important to the green skills pipeline through attracting future entrants to careers in nature; Venetia Knight, of Groundwork told us a lack of engagement from diverse groups with nature was one of the barriers to workforce diversity in the nature sector.²⁷⁹ Rather than ending the Children and Nature programme in March 2022, it would be more valuable to the future green skills pipeline, the Government's ambitions to increase diversity and inclusion in the green workforce,²⁸⁰ and the Government's 25 YEP goal of 'helping children and young people from all backgrounds to engage with nature and improve the environment'²⁸¹ to expand the Children and Nature programme, informed by the findings of the evaluation project, to build on the successes of the programme and further widen access to nature in education.

101. In school, education on climate change and environmental sustainability is limited to a few subjects. It is important that it is included across all courses to give all students a basic grounding in environmental issues and to show how their subjects can be useful in tackling environmental challenges, whatever sector they go on to work in. This will ensure the future UK workforce is climate and sustainability literate. A greater awareness of environment and sustainability across the population could lead to increased diversity of people entering green sectors, contributing to the Government's ambitions for a more diverse and inclusive green workforce.

102. We recommend that environmental sustainability be included across all primary and secondary courses delivered through the National Curriculum and across A Level courses. Teachers should be supported to deliver this, with teacher training and continuous professional development. We recommend that the Department for Education consult all relevant stakeholders during the 2021/22 academic year on the delivery of this recommendation.

103. Our previous report on biodiversity in the UK identified that education could provide a crucial lever to address inequalities in access to nature. The Government's Children and Nature Programme went some way in increasing access opportunities for schoolchildren, however the programme is due to end in March 2022. We consider this misses an opportunity to build on the successes of the programme through expanding the programme, to further widen access to nature in education and contribute to building a future green skills pipeline by attracting more young people into green careers.

277 Environmental Audit Committee, Third Special Report of Session 2021–22, [Biodiversity in the UK: bloom or bust?: Government Response to the Committee's First Report](#), HC 727, para 31

278 Environmental Audit Committee, First Report of Session 2021–22, [Biodiversity in the UK: bloom or bust?](#), HC 136, para 341

279 [Q136](#)

280 These are set out in 'Diversity and inclusion' in Chapter 5 below.

281 GOV.UK, [A Green Future: Our 25 Year Plan to Improve the Environment](#) (January 2018), p. 80

104. *By the end of January 2022, the Government should engage with delivery partners and schools in order to extend the Children and Nature programme beyond March 2022 and expand the number of delivery projects within the programme, using the evaluation project findings to inform the design and implementation of this expansion.*

Apprenticeships and T Levels

105. Apprenticeships are paid jobs which incorporate on and off the job training.²⁸² Apprenticeships can be studied at different qualification levels, from level 2 (5 GCSE passes) to level 7 (master's degree), and take between one and four years to complete.²⁸³ In 2019/20, 719,000 people participated in an apprenticeship in England.²⁸⁴ Apprenticeships and T Levels are based on occupational standards, which are designed by employers and approved by the Institute for Apprenticeships and Technical Education, a non-departmental public body sponsored by DfE, which also works with employers to review and update apprenticeships.²⁸⁵

106. T Levels are new 2-year courses, launched in September 2020.²⁸⁶ T Levels are equivalent to 3 A levels and offer an alternative to A levels or apprenticeships for students after GCSE.²⁸⁷ Around 80% of a T Level course takes place in the classroom, with the remaining 20% at an industry placement, in contrast to apprenticeships, where typically 80% of the apprenticeship is on-the-job training and 20% is classroom-based.²⁸⁸ A T Level industry placement may or may not be paid.²⁸⁹

107. We have heard that apprenticeships are a valuable way to bring skills directly into the workplace. Professor Josie Fraser, of IET, told us apprenticeships provided employers with a 'bite-size' route to 'easy upskilling and retraining for existing employees', as there was 'no lag time' between the skills being gained and applied in the workplace.²⁹⁰ Jane Cooper, of Ørsted, told us apprentices are 'critical' to address employer skills gaps.²⁹¹ Andrew Mennear, of BP, told us apprenticeships 'will be extremely important' in the net zero transition, with BP's planned CCUS and hydrogen projects both involving apprenticeships.²⁹² Minister Keegan told us the masters-level ecologist apprenticeship standard could help address ecology skills shortages in local authorities.²⁹³ Several contributors told us apprenticeships could be an avenue to increase diversity and inclusion in the green workforce,²⁹⁴ although contributors also highlighted that certain groups, including women and ethnic minorities,

282 Apprenticeships and skills policy in England, Briefing Paper [CBP 03052](#), House of Commons Library, September 2020. All UK employers with a pay bill of over £3m per year pay an apprenticeship levy, set at 0.5% of the value of the employer's pay bill, minus an apprenticeship levy allowance of £15,000 per financial year. The levy is paid via HMRC into an apprenticeship service account, and funds in this account can be used to cover apprenticeship training and assessment costs. Employers who do not pay the levy pay for 10% of apprenticeship training and assessment costs, with the remaining 90% funded by the Government.

283 Ibid., p. 10

284 Apprenticeship Statistics, Briefing Paper [06113](#), House of Commons Library, March 2021, p. 3

285 GOV.UK, [Guidance: Introduction of T Levels](#), accessed 5 August 2021; Institute for Apprenticeships and Technical Education, *Annual Report and Accounts for year ended 31 March 2021*, [HC 319](#), p. 7–8

286 GOV.UK, [Guidance: Introduction of T Levels](#), accessed 11 October 2020

287 Ibid.

288 GOV.UK, [Guidance: Industry placements](#), accessed 11 October 2020

289 Ibid.

290 [Q59](#); [Q64](#)

291 [Q134](#)

292 [Qq161–162](#)

293 [Q196](#)

294 [Q65](#); [Q161](#); Enginuity ([GRJ0009](#)); IEMA - Institute of Environmental Management and Assessment ([GRJ0025](#))

are underrepresented currently in apprenticeships.²⁹⁵

108. At our roundtable event with young people, we heard that fierce competition for apprenticeships made it hard to secure a place. We also heard that apprenticeships could help increase diversity and inclusion in green sectors as they provided funded courses and were open to those without a degree, and that apprenticeships could introduce new ideas into an organisation.

109. The Education and Training Foundation says content relating to environmental sustainability is ‘limited’ in occupational and apprenticeship standards.²⁹⁶ Martin Baxter, of IEMA, told us ‘very few apprenticeships are climate enabled in terms of our net-zero future, yet we really need to weave greening through the whole of the apprenticeship framework so that everybody is able to do their job in a greener way.’²⁹⁷ He added:

I think there is a real opportunity to look across the whole of the apprenticeships and, if not all, the vast majority should have elements in those jobs about how you do that job in a net zero environment in a sustainable way. [...] That should be a straightforward obligation for all apprenticeships.²⁹⁸

Several contributors similarly called for sustainability to be embedded across apprenticeships and T Levels.²⁹⁹ Venetia Knight, of Groundwork, called for sustainability to be included in all vocational qualifications:

If you think about a vocational course that starts off with health and safety, we think that sustainability needs to be the second part of the module that everybody does, and then it feeds through into the qualification, because it is not just about green jobs; it is all sectors that have to change.³⁰⁰

110. We asked Minister Keegan whether the Government had considered adapting apprenticeships to include a module on sustainability in all courses. She told us:

The Institute for Apprenticeships and Technical Education has a green advisory panel and a green apprenticeship advisory council, which is a whole load of businesses advising the panel that has been set up. What they are doing is looking at the maps of every single apprenticeship and looking at how it maps on to sustainability, how sustainability is part of it and how that needs to evolve. This panel and the council—which, as I say, has a number of employers—are right now going through and considering the existing apprenticeship standards and what that will look like in the future.³⁰¹

295 [Q66](#); [Q68](#); Greener Jobs Alliance ([GRJ0060](#))

296 Education and Training Foundation ([GRJ0014](#))

297 [Q57](#)

298 [Q65](#)

299 [Q79](#); Enginuity ([GRJ0009](#)); Education and Training Foundation ([GRJ0014](#)); IEMA - Institute of Environmental Management and Assessment ([GRJ0025](#)); New Anglia LEP ([GRJ0037](#)); Aldersgate Group ([GRJ0050](#)); SUEZ recycling and recovery UK Ltd ([GRJ0056](#)); Association of Colleges ([GRJ0067](#))

300 [Q132](#)

301 [Q219](#)

It is encouraging that the Green Apprenticeships Advisory Panel has been set up to consider how current and new apprenticeships can meet the needs of the green economy, working closely with the Green Jobs Taskforce.³⁰² The Green Jobs Taskforce has recommended that the Government build on this work to ‘map, review and enhance other training pathways’, including T Levels, ‘to ensure they support a diverse, inclusive and net zero-aligned workforce across the UK’.³⁰³ In its Net Zero Strategy, the Government confirmed that the work of the Green Apprenticeships Advisory Panel would also support T Levels.³⁰⁴

111. The current lack of inclusion of environmental sustainability across apprenticeships and T Levels represents a missed opportunity for addressing employer green skills gaps by injecting green knowledge and skills directly into the workplace, which could be addressed by incorporating a module on environmental sustainability across all apprenticeships and T Level courses.

112. Apprenticeships are a fast way to bring new skills into a workplace, but climate and environmental sustainability issues are not embedded across them. If they were, this would allow apprentices to apply this knowledge directly to their jobs, addressing employer green skills gaps. This should be extended to the new T Level courses too.

113. We recommend that a module on environmental sustainability be included in every apprenticeship and T Level course. The Government should consult with stakeholders during the 2021/22 academic year on how to implement this.

Equivalent or lower funding restrictions

114. In England, funding for higher education (HE) fees or living costs is subject to Equivalent or Lower Qualification (ELQ) funding restrictions, whereby students who already hold a HE qualification are generally not eligible to receive either tuition fee loans or maintenance support for a second qualification at an equivalent or lower level.³⁰⁵ ELQ funding restrictions have been identified as a barrier for adults seeking to reskill.³⁰⁶

115. Professor Josie Fraser, of IET, told us this was relevant to those looking to retrain in the transition to a greener economy:

There are barriers currently for people who want to retrain and access funding, such as the equivalent and lower qualification rule that basically means in England that if you already have a degree in one subject, you are not eligible for student loan funding to change direction and retrain because, in effect, you have already used your entitlement, apart from in some key subjects. We need to think hard about that and how we increase flexibility so people who are impacted have routes and scaffolding packed around them so that they are able to retrain for the newly focused economy and the greener jobs we need.³⁰⁷

302 Institute for Apprenticeships and Technical Education, [Green Apprenticeships Advisory Panel](#), accessed 6 August 2021

303 GOV.UK, [Green Jobs Taskforce Report to Government, Industry and the Skills Sector](#) (July 2021), p. 9

304 GOV.UK, [Net Zero Strategy: Build Back Greener](#) (October 2021), p. 246

305 Education Committee, Third Special Report of Session 2019–21, [A plan for an adult skills and lifelong learning revolution: Government Response to the Committee’s Third Report](#), HC1310, para 104, 105

306 Education Committee, Third Report of Session 2019–21, [A plan for an adult skills and lifelong learning revolution](#), HC 278, para 107

307 [Q40](#)

116. Key among the skills needs for a future, greener economy will be science, technology, engineering and mathematics (STEM) skills. Richard Kendall, of the Humber Local Enterprise Partnership, told us while it was difficult to predict employers' future skills demands exactly, the foundations would be 'STEM subjects primarily'.³⁰⁸ Imperial College London told us achieving the Prime Minister's 10 Point Plan for a Green Industrial Revolution relies on 'ensuring a reliable pipeline of highly-skilled STEM talent into the UK workforce'.³⁰⁹ The Green Jobs Taskforce say STEM skills 'will underpin jobs that are key to taking forward the green recovery and delivering net zero'³¹⁰ and that the 'overall shortage of STEM graduates' was a barrier to 'building a sustainable high-quality [further education] workforce able to deliver training for green jobs'.³¹¹ BEIS told us it was 'investing £406 million in maths, digital and technical education' to address the 'anticipated shortage' of STEM skills.³¹²

117. For the 2020/21 academic year, part-time honours degrees in certain STEM subjects (including mathematics, science, engineering, technology and computing) and geographical and environmental studies, are listed as exceptions from the ELQ restrictions.³¹³ However, ELQ restrictions still apply to full-time courses in these subjects.³¹⁴

118. We asked Minister Keegan whether the Government had considered lifting the ELQ restriction for full-time courses, given the scale of the net zero transition. The Minister did not respond directly to the part of the question focussed on ELQ restrictions, instead saying that skills bootcamps, 12-to-16-week intensive courses for adults, were open to all who applied, with no eligibility restrictions.³¹⁵ Short-term courses such as bootcamps are a valuable addition to adult training options. However, it is clear that a 16-week course would not provide an equivalent level of skills or retraining to a STEM or environmental higher education course for someone wishing to gain higher-level skills needed by employers during the transition. For instance, the current list of skills bootcamps does not include courses in chemistry, mathematics or ecology.³¹⁶

308 [Q108](#)

309 Imperial College London ([GRJ0045](#))

310 GOV.UK, [Green Jobs Taskforce Report to Government, Industry and the Skills Sector](#) (July 2021), p. 26

311 *Ibid.*, p. 54

312 Department for Business, Energy and Industrial Strategy ([GRJ0063](#))

313 Student Loans Company Higher Education Partnership, [Equivalent or lower qualification \(ELQ\) exceptions](#), accessed 11 October 2021

314 *Ibid.*

315 [Q212](#)

316 GOV.UK, [Guidance: List of Skills Bootcamps](#), accessed 11 October 2021

119. The House of Commons Education Committee recommended in December 2020 that the Government remove ELQ restrictions for HE courses which ‘meet the skills needs of the UK economy’.³¹⁷ In its response, the Government noted the ‘number of long-standing exceptions to the ELQ rules’ including for medicine, dentistry and nursing,³¹⁸ and said it would seek views ‘in early 2021’ on whether ELQ restrictions should be amended, as part of the Lifelong Loan Entitlement consultation.³¹⁹ This consultation was delayed; in July 2021, the Government said the consultation would take place ‘this year’.³²⁰

120. The Government already recognises the value of exemptions from ELQ restrictions for sectors of the economy where it wishes to encourage people to retrain. Extending the existing exemption for STEM and geographical and environmental subjects to cover full-time courses is a straightforward way to enable faster retraining in the higher-level skills needed in the green economy and net zero transition.

121. Extending the equivalent or lower funding rule exemption to full-time science, technology, engineering and mathematics (STEM) and geographical and environmental courses would allow quicker retraining in higher level skills needed in the future green economy.

122. We recommend that the Government extend the equivalent or lower funding rule exemption to full-time STEM and geographical and environmental courses from 2022/23.

Ongoing skills monitoring

123. The Committee has heard that skills are essential to a green recovery; in fact, they underpin it. The Oxford University Economic Recovery Project told us:

The Government must invest in green skills retraining programs with the greatest urgency given the unprecedented size of rapid green investment following from the pandemic. If skills are insufficient to meet investment needs, labour capacity shortages could restrict the speed and magnitude of economic impact. Economic impact is slowed if contractors must delay projects on account of labour shortages.³²¹

317 Education Committee, Third Report of Session 2019–21, [A plan for an adult skills and lifelong learning revolution](#), HC 278, para 108

318 Education Committee, Third Special Report of Session 2019–21, [A plan for an adult skills and lifelong learning revolution: Government Response to the Committee’s Third Report](#), HC1310, para 105

319 Ibid., para 108. The proposal for a Lifelong Loan Entitlement, set out in the Government’s [Skills for Jobs: Lifelong Learning for Opportunity and Growth White Paper](#) (January 2021), would enable an individual to access up to four years’ worth of student loan funding for advanced technical and degree-level courses over their lifetime. It is unclear how this would interact with ELQ restrictions; the White Paper (p. 41) says this will form part of the Lifelong Loan Entitlement consultation.

320 Department for Education, [The National Skills Fund: Government consultation](#) (July 2021), p. 29

321 Mr Nigel Yau (Research Assistant at Smith School of Enterprise and the Environment, University of Oxford); Deiana Hristov (Research Assistant at Smith School of Enterprise and the Environment, University of Oxford); Mr Brian O’Callaghan (Lead of Oxford University Economic Recovery Project at Smith School of Enterprise and the Environment, University of Oxford); Dr Stefania Innocenti (Research Associate in Behaviour, Finance and Social Statistics at Smith School of Enterprise and the Environment, University of Oxford); Professor Cameron Hepburn (Director at Smith School of Enterprise and the Environment, University of Oxford) ([GRJ0057](#))

The Institute for Public Policy Research told us that skills will also underpin the net zero transition:

A supportive skills system is vital to provide the appropriate training to facilitate this transition. Without appropriate training, a vicious cycle ensues: if workers do not receive appropriate training, skills gaps in the low-carbon energy sector will widen. This will lead to slower growth in the industry as a whole, which in turn will limit the number of opportunities for workers to transition from high to low-carbon employment.³²²

124. There is a need to monitor skills needs and shortages so that action can be taken to address these, and to ensure there is a pipeline of skills to meet future demands. Contributors have stressed this should be ongoing, rather than a one-off. Martin Baxter, of IEMA, told us:

I am very clear that this is dynamic and, therefore, just expecting that we can do this once and it will be fine and it can sit around for the next five or 10 years is not going to cut it. We need to be constantly reviewing and understanding where the skills gaps are and what the timescale is to generate those skills.³²³

Sue Ferns, of the Trades Union Congress, agreed that this was a ‘dynamic system’ which ‘needs to be actively managed’:

We do not yet know all the skills that we need. We know they will change over time, and I think it needs to be proactively monitored and driven across a range of sectors.³²⁴

125. We asked Minister Keegan what arrangements the Government would have in place for the ongoing monitoring of skills needs in relation to the net zero transition. She responded that work to match skills with skills needs had two strands:

One is the employers being really involved in the qualifications, the design of the apprenticeship standards and all the technical education so what people study is what they want. The second is in terms of matching up local needs, the provision and the awareness of the availability of the options and where the key skills are. That is part of something called the skills accelerator programme, which we are going to be piloting. Local employers work with local business representative organisations and with local colleges and training providers, to have a local skills improvement plan that is there and can evolve, and it is to make sure that the provision, the careers and everything that backs up from that is based on that local plan.³²⁵

126. We also asked how the Government would monitor whether its skills policies were working. Minister Keegan told us:

What we will be looking at measuring is how many people are taking these courses that we have put on, how many adults are going back and reskilling,

322 Institute for Public Policy Research ([GRJ0059](#))

323 [Q55](#)

324 [Q56](#)

325 [Q210](#)

how many are engaging in boot camps and how many people are getting a job as a result of the boot camps. They are the outcomes. One of the big strands of the reforms is funding and accountability. We are trying to simplify and make funding easier but make accountability much greater as well, so making sure we measure. That is particularly now we have the longitudinal data, which effectively says where people end up, what jobs they end up in. We are working through what it looks like, and we will be consulting on it as well. That is part of making sure we can clearly measure.³²⁶

127. The Minister also referred to the role of local skills improvement plans and the Skills and Productivity Board, two initiatives set out in the Government's *Skills for Jobs White Paper*.³²⁷ Local skills improvement plans are plans created by employers and training providers to better match local skills demand with supply.³²⁸ They are being piloted in 2021³²⁹ and the Government expects them to cover a three-year period initially and be 'reviewed and updated regularly'; no further detail is provided in the White Paper on how often 'regularly' is.³³⁰ The Skills and Productivity Board is a new independent board of labour market and skills economists to 'undertake expert analysis of national skills needs to inform government policy'.³³¹ The November 2020 letter from the Education Secretary to the Skills and Productivity Board Chair set out the Skills and Productivity Board remit for 'the next 12 months';³³² it is unclear whether the Skills and Productivity Board will continue beyond then. The Government say local skills improvement plans 'will be informed by, and in turn inform, national skills priorities as highlighted by the new Skills and Productivity Board'.³³³

128. We welcome the establishment of the Skills and Productivity Board to take a national view of skills needs and shortages alongside consideration of how skills can 'promote productivity growth in areas of the country that are poorer performing economically', supported by local skills improvement plans.³³⁴ We note that neither the *Skills for Jobs White Paper* nor remit for the Skills and Productivity Board is particularly focussed on net zero or Government's green ambitions, although we expect these will nonetheless feature significantly in the Skills and Productivity Board's work.³³⁵ We also think that this assessment needs to be ongoing rather than one-off. In such, we agree with the Green Jobs Taskforce, who say 'the design and delivery of government's strategy for net zero should include an ongoing assessment of the supply of and demand for skills, which should be kept under continued review',³³⁶ although we would extend this to the Government's

326 [Q211](#)

327 GOV.UK, [Skills for Jobs: Lifelong Learning for Opportunity and Growth](#) (January 2021)

328 *Ibid.*, p. 8

329 GOV.UK, [Skills Accelerator: Local Skills Improvement Plan trailblazers and Strategic Development Fund pilots](#), accessed 11 October 2021

330 GOV.UK, [Skills for Jobs: Lifelong Learning for Opportunity and Growth](#) (January 2021), p. 15

331 *Ibid.*, p. 19; GOV.UK, [Skills and Productivity Board](#), accessed 11 October 2021

332 GOV.UK, [Letter from Gavin Williamson to Stephen van Rooyen, chair of the Skills and Productivity Board](#), 11 November 2020

333 GOV.UK, [Skills for Jobs: Lifelong Learning for Opportunity and Growth](#) (January 2021), p. 19

334 GOV.UK, [Letter from Gavin Williamson to Stephen van Rooyen, chair of the Skills and Productivity Board](#), 11 November 2020

335 GOV.UK, [Skills for Jobs: Lifelong Learning for Opportunity and Growth](#) (January 2021); GOV.UK, [Letter from Gavin Williamson to Stephen van Rooyen, chair of the Skills and Productivity Board](#), 11 November 2020

336 GOV.UK, [Green Jobs Taskforce Report to Government, Industry and the Skills Sector](#) (July 2021), p. 33

wider long-term environmental goals. We recommend that to implement this, a body should be tasked with regular periodic reviews. For example, this could be every three years, following the initial period for local skills improvement plans.

129. In particular, it would be valuable if the work of the Skills and Productivity Board included a review of the availability of practical and technical education in green skills, including skills in biodiversity and nature. Contributors have highlighted the role further education can play in delivering the skills needed for a green economy across the UK; the Association of Colleges described colleges as ‘a fundamental piece of the education and skills system as centres of lifelong learning, and as anchor institutions within their communities’,³³⁷ and the Education and Training Foundation told us the wide reach of the further education sector could ‘boost diversity across net zero sectors’,³³⁸ adding:

The [further education] sector has a critical role to play in improving the appeal, accessibility and relevance of careers in climate change, and sustainability, within the communities it serves.³³⁹

130. However, in an evidence session on land-based education held in March 2021, the House of Commons Environment, Food and Rural Affairs Committee heard that there was a ‘very limited’ number of forestry skills providers in further education,³⁴⁰ and that the number of specialist agricultural colleges had reduced from 50 in 1980 to 11 in 2021, with 22 general further education colleges also currently providing specialist land-based education.³⁴¹ When we asked Minister Pow how the increased demand for those educated in green skills such as sustainable farming was being matched with the provision of technical green skills training, the Minister replied:

You raise a very important point [...] I went to a university that studied all these subjects that we need now, and that links up with Imperial College, and it was closed. We need all these things now and all of our team in Defra are working already—the farming Minister and myself—on what we need. In fairness, we already have a committee set up that Lord Curry presides over, which is very much looking at the specific providers that we need, linking into a number of colleges and universities, Harper Adams, the Royal Agricultural University, even City & Guilds, and working with a number of institutions already. We need to work even more closely with them to make sure we absolutely align with the skills that we need.³⁴²

It is welcome that the Government is considering the availability of provision of education in practical and technical skills needed to deliver the Government’s objectives; this analysis should form part of the Government’s ongoing skills monitoring work. We expect the Government’s wider skills monitoring to draw on this analysis, as well as the outputs of Defra’s Skills Gap Plan.³⁴³

131. Without closely monitoring current and future skills needs and shortages across the net zero transition, there is a risk that today’s courses and training are not addressing

337 Association of Colleges ([GRJ0067](#))

338 Education and Training Foundation ([GRJ0014](#))

339 Education and Training Foundation ([GRJ0014](#))

340 Oral evidence taken before the Environment, Food and Rural Affairs Committee on 23 March 2021, [Q3](#)

341 *Ibid.*, [Q13](#)

342 [Q176](#)

343 Defra’s Skills Gap Plan is discussed above in Chapter 3.

the demands of the future. This monitoring needs to be ongoing, to respond to changes in the economy over the course of the transition. We are particularly concerned that, without such monitoring and planning, the future demand for technical and practical green skills might exceed the available training provision in further education.

132. We recommend that by the end of 2021, the Skills and Productivity Board, or similar body, is tasked with ongoing monitoring of skills needs, with regular periodic reviews, to ensure forward-looking and responsive skills planning which encompasses the needs of the economy in reaching the Government's net zero and long-term environmental ambitions.

Case study: Skills pipeline for battery electric vehicles

There are currently 170,000 people directly employed in the UK automotive industry,³⁴⁴ manufacturing 1.6 million vehicles of all types.³⁴⁵ Of these, 81% are exported, 55% to the EU.³⁴⁶ New conventional cars and vans (internal combustion engines running on petrol or diesel) must not be sold in the UK after 2030; plug-in hybrid electric vehicle cars and vans must not be sold new in the UK after 2035. Therefore, after 2035, the only new cars and vans sold in the UK must be 'zero emission at the tailpipe'.³⁴⁷

Approximately 80,000 people will need to be trained: 30,000 in battery manufacturing, 50,000 in the supply chain.³⁴⁸ We have heard that the main challenge facing employers across Europe is a shortage of people trained to technician level.³⁴⁹ We were also told that the teaching of STEM subjects, from primary education through to higher and further education, is critical.³⁵⁰ Professor David Greenwood, University of Warwick, told us diversity and inclusion will be 'one of the biggest answers' to skills shortages:

We see that we are only addressing a proportion of the population at the moment in bringing people forward. The better we can get at diversity and inclusion, from primary school upwards, the more chance we will have of having the right number of qualified people to staff our organisations.³⁵¹

We have heard that the rules of origin agreed in the UK-EU Trade and Co-operation Agreement mean that, from 1 January 2027, 55% of all vehicles must originate from the UK or EU in order to be sold tariff-free in the EU.³⁵² Therefore, a UK gigafactory wishing to export to the EU must have its supply chain in place and its production line up and running by 1 January 2027. It will be important for the Government to work to this earlier date in its skills and sector planning; we have written to the Secretary of State for Business, Energy and Industrial Strategy to emphasise this.³⁵³

344 Faraday Institution, [UK electric vehicle and battery production potential to 2040](#) (March 2020), p. 1

345 *Ibid.*, p. 2

346 Society of Motor Manufacturers and Traders ([BEV0017](#))

347 GOV.UK, [Government takes historic step towards net-zero with end of sale of new petrol and diesel cars by 2030](#), accessed 11 October 2021

348 [Q12](#), Technological innovations and climate change: supply chain for battery electric vehicles, 16 June 2021

349 [Q11](#), Technological innovations and climate change: supply chain for battery electric vehicles, 16 June 2021

350 [Q12](#), Technological innovations and climate change: supply chain for battery electric vehicles, 16 June 2021

351 *Ibid.*

352 Aldersgate Group ([BEV0002](#)); European Union, [EU-UK Trade and Co-operation Agreement Rules of Origin Q&A](#) (March 2021), p. 51; [Q6](#), Technological innovations and climate change: supply chain for battery electric vehicles, 16 June 2021

353 Environmental Audit Committee, [Letter from the Chair to the Secretary of State, BEIS, concerning the UK supply chain for battery electric vehicles](#), 16 July 2021. The Secretary of State responded in September 2021: Environmental Audit Committee, [Letter from the Secretary of State at the Department for Business, Energy & Industrial Strategy, concerning the supply chain for battery electric vehicles](#), 9 September 2021

5 Diversity, inclusion and access to green jobs

Diversity and inclusion

133. Diversity and inclusion was a strong theme in the evidence received, with contributors calling for action to increase workforce diversity and inclusion in the green workforce.³⁵⁴ 2017 analysis undertaken by Policy Exchange showed ‘environment professionals’ to be the second least diverse out of 202 occupations, ahead only of ‘farmers’.³⁵⁵ Research conducted by IEMA, SOS-UK and the Equalities Trust found only 3.1% of environment professionals identify as ethnic minorities.³⁵⁶ We have also heard about a lack of diversity in STEM, important to the future green economy. Professor Josie Fraser, of IET, told us:

Only 9% of engineers are women; that is a huge problem. We do not design solutions for big planetary problems when we are engaging only half of the people on the planet to solve the challenges.³⁵⁷

Contributors told us that retention, as well as recruitment, was important to ensuring a diverse and inclusive workforce.³⁵⁸

134. EngineeringUK say addressing the diversity gap in engineering would not only address skills gaps, but also ‘create opportunities for all young people in the green economy, regardless of their gender, ethnicity, disability status or socioeconomic background’:

Getting this right is in many ways a ‘win-win’ situation. Not doing so will mean that large parts of young people in the UK will be denied the opportunity to participate in, shape and drive the green recovery of this country and the country will be denied the diverse and insightful workforce that enables it to thrive.³⁵⁹

IEMA warned that if green sectors failed to change and adapt, ‘there is a danger that it will become irrelevant, and unworthy of support from the communities it seeks to work in partnership with on the transition to a net-zero and sustainable future’.³⁶⁰ Venetia Knight, of Groundwork, told us:

We have all been talking about these issues and the fact that sustainability is about all careers and all jobs, and we need to take people with us on that journey. We need to be training everybody and we need to reach into communities. Again, if we do not have people working in our sector from diverse communities, that reach is not going to happen, so we will just fail to hit our targets if we do not have an inclusive workforce. It is about creating

354 [Q57](#); UK Women’s Budget Group ([GRJ0003](#)); Miss Nicolle Moyo (Student at University of East Anglia) ([GRJ0010](#)); Sustrans ([GRJ0011](#)); Education and Training Foundation ([GRJ0014](#)); IEMA - Institute of Environmental Management and Assessment ([GRJ0025](#)); EngineeringUK ([GRJ0038](#)) National Grid ([GRJ0043](#)); Institute for Public Policy Research ([GRJ0059](#))

355 Policy Exchange, [The two sides of diversity](#) (March 2017), p. 23

356 IEMA - Institute of Environmental Management and Assessment ([GRJ0025](#))

357 [Q59](#)

358 [Q66](#); [Q136](#); [Q165](#)

359 EngineeringUK ([GRJ0038](#))

360 IEMA - Institute of Environmental Management and Assessment ([GRJ0025](#))

solutions, but being able to use the diversity of skills and thought to solve the problems in creating environmental solutions.³⁶¹

135. At our roundtable event with young people, we heard that the lack of ethnic diversity in environmental sectors was discouraging to those wanting to work in those professions, and that their perspectives were necessary to help find solutions to climate problems. We heard that opening up access via apprenticeships and better outreach with entrepreneurial groups could enable people from diverse backgrounds to share their ideas and solutions. We also heard the perception of green jobs as less financially secure could be a barrier.

136. The Government recognised the issue of diversity and inclusion in green jobs from the outset, tasking the Green Jobs Taskforce with looking at how diversity could be increased ‘across green sectors’.³⁶² BEIS told us the Government ‘will make sure that our growing green economy is inclusive, benefitting people across the UK’.³⁶³ This is welcome given the scale of the problem; without action to address the lack of diversity and inclusion from the outset, an increase in green jobs could exacerbate existing inequalities while missing out on the opportunities arising from involving a wide range of people and skillsets in addressing the climate and nature challenge.

137. Alongside recommendations for industry bodies, employers and the education sector, the Green Jobs Taskforce recommended that the Government ‘ensure that all bidders for net zero related funding demonstrate best practice in relation to their equality and diversity ambitions and practices, and support transparent reporting of data on workforce diversity’, ‘explore if the collection of [diversity] data should be enforced, and the data published regularly’ and that ‘appropriate and stretching equality and diversity targets and initiatives to achieve them’ be included in sector deals.³⁶⁴

138. The Government’s ambitions to increase diversity and inclusion are welcome; what is missing is an articulation of the Government’s targets for increasing diversity and inclusion, and a way for the Government to know if it is achieving those ambitions. We asked Minister Keegan how the Government would monitor its progress against its aim to increase diversity in the low-carbon workforce. She responded:

It is a huge and continuing challenge. We have targets on it. The DfE has targets for inclusion, for black and ethnic minorities, for women and also for those with special educational needs. It is continuing to make sure those opportunities are widely available.³⁶⁵

We note that DfE has responsibility for skills and education, rather than green jobs as whole. To be able to monitor its progress towards its aims, the Government needs to set out its ambitions in a measurable way and then measure its progress against these. This will involve addressing the issue raised by the Green Jobs Taskforce that there is not currently a way to measure diversity and inclusion in green jobs.³⁶⁶ It would be valuable, therefore, if the Government’s targets and metric for diversity and inclusion were aligned with its metric for green jobs, as recommended in Chapter 1.

361 [Q137](#)

362 GOV.UK, [Green Jobs Taskforce Terms of Reference](#) (December 2020), p. 1

363 Department for Business, Energy and Industrial Strategy ([GRJ0063](#))

364 GOV.UK, [Green Jobs Taskforce Report to Government, Industry and the Skills Sector](#) (July 2021), p. 35, 52

365 [Q205](#)

366 GOV.UK, [Green Jobs Taskforce Report to Government, Industry and the Skills Sector](#) (July 2021), p. 42

139. To be able to monitor whether its ambitions to increase diversity and inclusion in the green workforce are being achieved, the Government needs to articulate these ambitions in a measurable way and have a metric for measuring diversity and inclusion in the green workforce.

140. *By the end of 2021, the Government should set out its ambitions for improving diversity and inclusion in the green workforce and set out how it will measure diversity and inclusion in green jobs, for the purpose of monitoring and evaluating progress towards its aims.*

Enabling infrastructure

141. We have heard that it is important that the Government also consider the wider infrastructure which enables people to access green jobs. Groundwork told us:

To enable people to take up green jobs, there must be accompanying investment in the parts of the economy that facilitate work. For example, to make work possible people must be able to access care for children and adult dependents and low carbon transport.³⁶⁷

Dr Joanie Willett, of the University of Exeter, told us people in rural areas without a car are reliant on other forms of transport, with the availability and affordability of public transport having a significant effect on their ability to take up jobs in local labour markets, despite the skills they might have.³⁶⁸ Venetia Knight, of Groundwork, said digital connectivity was an issue for rural communities.³⁶⁹

142. The Government has said it must ensure that green jobs ‘can be accessed by people of all backgrounds and in all parts of the country’.³⁷⁰ The Government’s *Build Back Better* policy also makes reference to fair access to jobs, wages and skills.³⁷¹ However, while the Green Jobs Taskforce contains recommendations for access to training opportunities and discusses the need to remove the barriers stopping women and other underrepresented groups from accessing green jobs,³⁷² there are no recommendations relating to this wider, supporting infrastructure for access to green jobs.

143. When we asked Amy Jenkins, of BEIS, whether the Green Jobs Taskforce had considered enabling infrastructure such as internet access, public transport and care, she told us ‘the infrastructure that enables people to reach those jobs has probably come in more at a peripheral level to the Taskforce’s conversations.’³⁷³ She added that:

We are really conscious that often people tend to look for work in a locality. That is part of the journey the taskforce has started, to understand the areas of evidence we have around that.³⁷⁴

367 Groundwork UK ([GRJ0015](#))

368 Dr Joanie Willett (Senior Lecturer in Politics at University of Exeter) ([GRJ0004](#))

369 [Q126](#)

370 GOV.UK, [Green Jobs Taskforce Report to Government, Industry and the Skills Sector](#) (July 2021), p. 3

371 GOV.UK, [Build Back Better: our plan for growth](#) (March 2021), p. 69

372 GOV.UK, [Green Jobs Taskforce Report to Government, Industry and the Skills Sector](#) (July 2021), p. 28, 42, 45, 62, 63, 65

373 [Q206](#)

374 [Q206](#)

144. Something that has not been considered in the Green Jobs Taskforce report recommendations is the wider enabling infrastructure which allows people to physically access green job opportunities, such as public transport, care and rural broadband connectivity. This will involve co-ordination across the Government. This wider infrastructure needs to be factored into the Government's green jobs and just transition delivery plans from the outset; if people are unable to physically access green job opportunities, this could undermine not just the Government's ambitions for the number of people seeking and successfully entering green jobs, but also its ambitions for a just transition and diversity and inclusion in the green workforce.

145. *The Government's green jobs and just transition delivery plans should include analysis of the enabling infrastructure needed for people to access new green jobs, and allocate actions to the departments with responsibilities over this infrastructure.*

Careers strategy

146. Contributors stressed the important role careers information will play in making people aware of green job opportunities and the skills and training they need to access these.³⁷⁵ Richard Kendall, of the Humber Local Enterprise Partnership, explained:

The bit that often gets missed is being active in identifying what the opportunities are. This is careers advice. It is all very well jobs being there and the training being there but, if people do not know about the opportunity, they are not going to enter it.³⁷⁶

Contributors told us this information was important to those seeking a green job at the start of their careers as well as those looking to retrain or re-enter employment, including as a result of the net zero transition or pandemic impact.³⁷⁷ Furthermore, we heard that improving awareness of green job opportunities and how to access them could attract a wider pool of applicants, increasing diversity and inclusion in the green workforce,³⁷⁸ and could enhance perceptions of the attractiveness of green jobs.³⁷⁹ Contributors told us this also applied to careers using STEM skills.³⁸⁰

147. However, contributors told us that more is needed from current careers advice provision to ensure the public can find out what sorts of 'green job' are out there, and how to go about getting one.³⁸¹ Venetia Knight, of Groundwork, said:

Sometimes people do not understand the green economy, and I do not think that there is very good careers advice generally about the kind of jobs and opportunities that are there. If you talk to careers advisers, they do not really

375 [Q137](#); Dr Joanie Willett (Senior Lecturer in Politics at University of Exeter) ([GRJ0004](#)); Enginuity ([GRJ0009](#)); Education and Training Foundation ([GRJ0014](#)); Local Government Association ([GRJ0016](#)); Lord John Bird (Founder, Chair and Editor-in-Chief at The Big Issue) ([GRJ0030](#)); BSW Timber Group ([GRJ0036](#)); EngineeringUK ([GRJ0038](#))

376 [Q105](#)

377 [Q50](#); Dr Joanie Willett (Senior Lecturer in Politics at University of Exeter) ([GRJ0004](#)); Local Government Association ([GRJ0016](#)); EngineeringUK ([GRJ0038](#))

378 [Q58](#); [Q136](#)

379 [Q58](#); [Q124](#)

380 [Q158](#); EngineeringUK ([GRJ0038](#))

381 Dr Joanie Willett (Senior Lecturer in Politics at University of Exeter) ([GRJ0004](#)); Education and Training Foundation ([GRJ0014](#)); Groundwork UK ([GRJ0015](#)); Local Government Association ([GRJ0016](#)); Environmental Services Association ([GRJ0052](#)); SUEZ Recycling and Recovery UK Ltd ([GRJ0056](#))

get it, so there is a lot of work for us to do as organisations—and especially organisations like Groundwork that are about connecting communities and business—on getting the message out there about what work is like, what career paths people can go down and what the opportunities are.³⁸²

Dr Joanie Willett, of the University of Exeter, identified ‘a big communication gap between people that have opportunities, and the people that need opportunities’,³⁸³ and Groundwork UK say there is a ‘need to upskill work coaches and other professionals providing support to job seekers, or careers advice in education settings, to ensure that they understand the opportunities available in the green economy.’³⁸⁴

148. At our roundtable discussion with young people, we heard anecdotal evidence about the difficulties of finding and accessing green job opportunities and an absence of information on green jobs at school. We heard that green jobs were seen as less prestigious and less financially rewarding than other careers, although there was satisfaction in making a positive difference to the environment for future generations. One participant told us older colleagues were dismissive of green careers and had tried to discourage the participant from pursuing one.

149. The Green Jobs Taskforce says ‘good green careers advice is crucial across all levels of education’:³⁸⁵

This is to ensure advice on what green jobs are available to individuals, as well as the training and education pathways into them, is clear, accessible and resonates across different audiences. This is equally applicable to those in work or out of work, and for those considering changing jobs.³⁸⁶

The Green Jobs Taskforce has called for the Government to provide green skills and careers advice through a ‘Green Careers Launchpad’ to coincide with the UK’s COP26 Presidency, accompanied by a green careers marketing campaign, and to promote green skills and employment opportunities through Jobcentre Plus.³⁸⁷

150. The Government recognises the importance of ‘impartial, lifelong careers advice and guidance available to people when they need it, regardless of age, circumstance, or background’ within its Skills for Jobs White Paper, describing careers information as ‘fundamental to the success’ of the reforms.³⁸⁸ The Government’s online National Careers Service provides details of more than 60 careers on its ‘Environment and Land’ page, many of which could be considered green jobs.³⁸⁹ Minister Keegan told us ‘there has been a lot of work recently on careers and careers education’.³⁹⁰ The Minister recognised the role careers advice could play in increasing diversity and inclusion in green jobs,³⁹¹ and told us that the Government had invested in careers hubs in schools, where students could engage directly with local employers.³⁹² Minister Davies told us that Jobcentre Plus

382 [Q127](#)

383 Dr Joanie Willett (Senior Lecturer in Politics at University of Exeter) ([GRJ0004](#))

384 Groundwork UK ([GRJ0015](#))

385 GOV.UK, [Green Jobs Taskforce Report to Government, Industry and the Skills Sector](#) (July 2021), p. 57

386 *Ibid.*, p. 57

387 *Ibid.*, p. 58

388 GOV.UK, [Skills for Jobs: Lifelong Learning for Opportunity and Growth](#) (January 2021), p. 44

389 GOV.UK, National Careers Service, [Environment and Land](#), accessed 11 October 2021

390 [Q173](#)

391 [Q205](#)

392 [Q197](#)

and new youth hubs for under-25s could ‘give people the confidence and the skills for a changing labour market’.³⁹³ Minister Keegan told us it was the Government’s job to make it easier for people to see clear routes to green jobs.³⁹⁴

151. However, what is missing currently is a plan for exactly that; how careers advice will be used to achieve the Government’s green jobs ambitions and to address the knowledge gap of green jobs in the public. Minister Keegan acknowledged to us that careers advice on green jobs ‘probably needs beefing up’, adding:

We are very much at the beginning of that journey so people can link [education about the environment] to jobs, choices and subjects.³⁹⁵

The Government’s current Careers Strategy (2017) does not make any specific reference to careers in green sectors,³⁹⁶ and predates the 25 YEP (2018)³⁹⁷ and the passing of Net Zero legislation (2019),³⁹⁸ two policies expected to drive significant changes across the economy and accelerate the growth of UK green jobs. When we asked how the Careers Strategy was being adapted to align with the Government’s net zero goals, Minister Keegan responded that the Careers Strategy provided the ‘building blocks’, such as careers hubs in schools.³⁹⁹

152. While the careers advice infrastructure provided by careers hubs, Jobcentre Plus and youth hubs could provide a valuable avenue for green careers advice, the all-encompassing impact of the Government’s flagship environmental policies, net zero and the 25 YEP, alongside its ambitions for stimulating growth in green jobs over the 2020s, requires strategic consideration of how careers advice will be leveraged to connect those seeking a green job with the opportunities that are being created. Without this, there is a risk that careers advice provision fails to align with the Government’s green job ambitions.

153. Careers advice will play an important role in making people aware of green job opportunities and the skills and training they will need to access these, so it is important that the Government’s Careers Strategy is updated to align with the Government’s wider environmental, net zero and green jobs ambitions. Given the different population groups who will be interested in finding out about green jobs, from different societal and occupational backgrounds and at different stages in their careers, it is important that the Government identify these different populations as part of this strategy update, and plan how to reach these groups. There are valuable opportunities here for the Government’s Careers Strategy to act as a catalyst for the Government’s other green jobs ambitions, such as ensuring diversity and inclusion and a just transition.

154. There is a gap in the public’s awareness of green job opportunities and how to access them. It is welcome that the Government acknowledges the importance of green careers advice, however the Government’s latest Careers Strategy (2017) pre-dates both its net zero (2019) and 25 Year Environment Plan (2018) ambitions, and needs to be updated so that careers advice can play its role in delivering these.

393 [Q190](#)

394 [Q220](#)

395 [Q217](#)

396 GOV.UK, [Careers strategy: making the most of everyone’s skills and talents](#) (December 2017)

397 GOV.UK, [A Green Future: Our 25 Year Plan to Improve the Environment](#) (January 2018)

398 GOV.UK, [UK becomes first major economy to pass net zero emissions law](#), accessed 11 October 2021

399 [Q220](#)

155. *By the end of 2021, the Government should set out how it will adapt its Careers Strategy to align with its net zero and environmental goals, including how it will reach different groups of the population to increase awareness of green job opportunities and how to access them, such as through its careers and youth hubs and Jobcentre Plus.*

Case study: Gaining employability skills through nature jobs

RSPB estimates that current commitments alone could generate 127,485 nature jobs across the UK.⁴⁰⁰ Contributors told us that nature jobs can provide employment and training in rural and coastal areas, helping towards the Government’s levelling up ambitions, and address inequalities in access to nature, including through projects in urban green spaces.⁴⁰¹

Groundwork told us green jobs in nature provided opportunities for ‘new entrants to the labour market with few skills or experience’ to gain practical skills and qualifications, citing Groundwork’s Green Teams programme, where young people experiencing unemployment work towards a Level 1 qualification in horticulture or land management while improving their local environment.⁴⁰²

Venetia Knight, of Groundwork, explained how nature jobs could provide wider transferable skills:

If you are working outside, things do not go to plan. You have to be quite flexible. You have to problem solve and work out how to deal with it. There are also plenty of team work opportunities—communication between different people is absolutely critical for effectiveness—and opportunities to develop leadership skills. There is also a critical thing about working outside in all weathers, you have to be quite hardy and resilient and just get on with it. Those are all good things that employers value, so they are great skills that you can continue with within the natural environment sector, but they are very relevant to other employers across the board.⁴⁰³

400 RSPB ([GRJ0028](#))

401 Groundwork UK ([GRJ0015](#)), RSPB ([GRJ0028](#)), BSW Timber Group ([GRJ0036](#))

402 Groundwork UK ([GRJ0015](#))

403 [Q135](#)

Annex: Roundtable event

We held a roundtable event with a small number of young people in May 2021. While not designed to be representative of the views of any larger population, the event enabled us to speak directly with a small number of students and apprentices, to hear anecdotal evidence and their perspectives on green jobs. Anonymised quotes from participants at the event have been included below, for illustrative purposes.

On what the term ‘green jobs’ means to the participants:

A green job to me means doing something for the environment.

A green job for me is working in an industry that makes a difference, that makes a good change to the surroundings.

For me, ‘green jobs’ means low carbon transition, but that’s because I’m focused on the renewable energy industry.

For me, a green job is anything that is related to the wellbeing of the environment; that ranges from contributing to reducing the impact of climate change, to lower carbon emissions, to the reduction of toxic chemicals used in our everyday life.

If it’s in the reusing or recycling economy, I feel that’s a green job.

When you look at work done on green spaces, it has a positive effect on people’s wellbeing, and you have doctors playing their role in the sustainability of the world, so [a green job is one in which] you provide a situation where the future generations can benefit from the resources just as much as we are doing now.

Moving forward there will be no separation between green jobs and jobs, because if you want something green, it will be embedded in every facet. So, there are financial organisations that are funding projects but doing it sustainably. When you’re looking in the future, there will be jobs, but they’ll have the green aspect embedded.

On the attractiveness of green jobs in comparison with other sectors:

From my experience, when you look at the pay compared to other jobs, in finance for example, I’m at a disadvantage. Even though I’m doing something to sustain the world’s growth, I’m not getting much in return in terms of money, so that’s a pay-off you have to deal with.

I feel like there’s not as much respect towards green jobs at the moment and right now we can’t pick and choose. Any job is a job, and going forward we want these jobs to have more prestige, [be] more aspirational, because it makes a big difference compared to other jobs.

For me green jobs are prestigious and [it] makes me feel content doing something for the environment and future generations. I feel like I’m leaving an earth that is sustainable and liveable for the next generation, for my babies and grandchildren and that’s a good feeling for me. In terms of financial return, it’s not as good as other corporate jobs, but it gives you immense satisfaction, which matters at the end of the day.

Financially it's not as well respected. Being young, you've got a house to save for, you want to go out with friends; it's expensive. And that financial respect bit is in our older colleagues too. They aren't as bothered about the environment; they've had their jobs for years and they don't respect [you] as much when you talk about the environment. People say, "oh, that's not a good career, you want to get into engineering, fixing cars, something like that."

On how easy it is to find out about green job opportunities:

Finding one as an apprentice is hard because apprenticeships are hard to get. The one I got, there were 300 applicants for ten jobs. So, to aim for a green job makes it even harder to find something.

I always knew I wanted to get into aviation. But on how easy it was to find a green job, I found it impossible. I feel like apprenticeships are one of the best things that's happened to me, because you pick up a fresh mind that's full of ideas and put that seed in your company and that's what green jobs need.

For me, as part of my course we get resources linking to sites advertising green jobs. The problem is, I read an [Institute of Environmental Management & Assessment] report that said about 3.1% of people in environmental industries are from an ethnic minority or black, so when you look at things like that, it's not encouraging as an ethnic minority; you're not getting into the jobs.

On how well education had prepared participants for finding and securing a green job:

Coming from an academic background, you're given a broad spectrum, so as a fresher going into the jobs market you don't have a role in mind and are encouraged to apply for a wide range of jobs and it can be mind boggling. From an academic background, it's daunting trying to get that first role.

There wasn't much for us at school about green jobs or the future of jobs and that was six years ago for me, which isn't long.

I've always been interested in the environment, but when it came to my friends at school, no one was interested, even [for] those [who] did biology, it was something to tick off and have on your CV. And a lot of my friends still aren't; if I start talking about it, they're not interested at all. And in the classroom, we had climate change awareness week, but everyone just saw it as a way to get off something else, and no one listened. I think [we need to] make people in schools aware of how devastating it will be and it will affect them.

I've studied across lots of different countries, and you don't get sustainability embedded across the curriculum. Even now at university it feels like it's taken as a different subject. If we think of green jobs as something encompassing jobs beyond the direct impact on the environment, it's not assimilated across the curriculum at any stage and you need to have that interest to pursue it as a subject on its own.

When I was in school, I wrote about climate change, but we didn't realise the magnitude of climate change. The curriculum doesn't focus on the immensity of climate change and its harm.

I think it should be added to the curriculum: not just climate change, but jobs behind it and examples of people that have made a difference. My sister is in primary school and she had a green day at her school; the next day, my mum wanted to drive her but she wouldn't let her and told her, "you're not allowed, it's bad for the climate." So, starting young will make a huge difference and make it the norm.

On how easy it was for a young people to get a green job:

I'm not very optimistic about it because that 3.1% statistic isn't encouraging. We are also disproportionately affected by climate change, because minorities tend to live in places with bad pollution and bad transport, so you need people like us with a personal perspective to help solve these issues.

It's not a smooth journey for a young professional to get a green job. I tried to apply in the UK for all the internships, but haven't got one so far.

I'm in a workplace already, but I want to help my company become more green and more sustainable and show how they can do that better.

On how to increase diversity and inclusion in green sectors:

One of the most important things is apprenticeships. They're available to everybody and you don't need to have a degree behind you to apply for one, so you aren't limited.

If there are small scale projects, people from different backgrounds but without experience can assist with these. Big companies should have these small projects so we can join and share our ideas. That would be a great opportunity for international students.

If you're trying to bring it to the broader public, you want to start from the grass roots. If you want to include minorities, they might benefit from apprenticeships because they don't have the finances for universities. In discussions with my black friends, they are entrepreneurs who have seen gaps in the market and come up with ideas and solutions themselves. One of these is BPIC or Black People in Construction network, a network helping to make construction more inclusive and maybe Government can look to those sorts of entrepreneurial efforts and encourage them with finances and encourage companies to work with them. You allow people to come in and share their solutions rather than stifling them.

If you're coming from an ethnic minority, you're not looking at the environment as one of the first places to work because you have your family behind you and you're thinking "how can I make money?".

It comes back to school for me. If green jobs got pushed from a younger age and we knew that a green job is a very viable option for the future, that would [have helped to] push me down that green job avenue from a younger age.

Conclusions and recommendations

Green jobs ambitions

1. There is no single definition, nor single way to measure green jobs. The Government's ambitions for accelerating the number of green jobs over the 2020s are welcome, but without a clear definition and metric, the Government will be unable to assess whether its policies are leading to good quality, green jobs in the sectors and regions they are needed. (Paragraph 19)
2. *We recommend that, by the end of 2021, the Government set out how it will measure progress towards its green jobs targets; this should include its definition of 'green jobs', and how it will measure the number, type and location of these over the 2020s, for the purpose of monitoring and evaluating the impact of its policies.* (Paragraph 20)
3. 'Green jobs' is a cross-cutting issue, requiring action across Government alongside co-ordination with local authorities and the devolved administrations to deliver the Government's ambitions. Clear lines of responsibility and a mechanism for co-ordination are needed, otherwise green jobs risks being given insufficient priority within departments, constraining the Government's efforts to develop the green jobs and skills needed in the economy. (Paragraph 26)
4. *We recommend that the Government, in its response to this report, set out its arrangements for cross-departmental delivery of green jobs and skills ambitions, identifying:*
 - a) *each department's responsibilities;*
 - b) *how it will monitor and co-ordinate delivery across departments; and*
 - c) *how it will collaborate with the devolved administrations and local authorities.*

We recommend that these arrangements include tasking the cabinet committees on climate action with overseeing the delivery of green jobs and skills actions across Government, ensuring that this includes oversight of departments' actions on green jobs and skills less directly related to climate action, such as those in nature or the circular economy. (Paragraph 27)

5. Departments need to understand the delivery costs for their green jobs responsibilities to ensure their spending plans include sufficient allocation for this. Any analysis of environmental skills needs in local government needs to be accompanied by an assessment of the funding requirements for the green jobs and skills that are needed within local authorities to deliver local government's responsibilities towards the Government's climate and nature objectives. (Paragraph 35)
6. *We recommend that by the end of 2021 the department or body with overall responsibility for delivery of the Government's green jobs policies should, in collaboration with the different departments engaged in green jobs policy, assign indicative costings to each department's actions within the overall green jobs delivery plan. This should include the Government's assessment of the funding requirements for green jobs and skills needed within local authorities to deliver the Government's climate and nature objectives.* (Paragraph 36)

Jobs and skills needed for a green covid-19 recovery

7. Just 1 per cent of Kickstart scheme jobs were in green sectors. While we understand the need to support current industries, we consider that an opportunity has been missed for a greener employment recovery scheme, to contribute towards the Government's 'building back greener' aims. (Paragraph 43)
8. *We recommend that the Government's net zero and environmental goals are considered at the design stage of future labour market interventions, to ensure that such interventions are fully aligned with the green recovery.* (Paragraph 44)
9. We first recommended that the Government pilot a National Nature Service in our report 'Growing back better: putting nature and net zero at the heart of the economic recovery'. The Government's response did not engage directly with this proposal. A National Nature Service would build valuable capacity in the nature sector while providing people with wider employment skills, helping to deliver a green recovery. An established national scheme, rather than one-off funding, would help capacity in the longer term and could have wider reach. (Paragraph 54)
10. *We reiterate the recommendation from our earlier report that the Government should work with conservation organisations to pilot a National Nature Service during 2022.* (Paragraph 55)
11. The voucher element of the Green Homes Grant scheme, the Government's recent flagship scheme to address covid-19 impact while stimulating jobs in the green sector of home retrofit for energy efficiency, was not a success, and may even have put people out of work; there is a need to rebuild trust with the retrofit sector. Lack of engagement with the industry over the design of the scheme led to it being sub-optimal, resulting in a fragmented and actively disruptive approach to developing skills in a vital sector. The Government has acknowledged that the voucher scheme has not operated as intended in this respect. (Paragraph 64)
12. *We recommend that the Government's own analysis into the Green Homes Grant voucher scheme be completed during 2021 to ensure lessons learned inform future schemes' designs, and include a plan for industry engagement, to rebuild trust.* (Paragraph 65)
13. The scale of the challenge to retrofit homes is significant, as recognised by the Government when launching the Green Homes Grant scheme, claiming it would create 100,000 green jobs. With millions of homes requiring retrofitting to achieve decarbonisation through improved insulation alongside electrification by heat pump installation, or, in due course, potentially hydrogen insertion into the gas grid, the industry requires substantial upskilling and an increase in the trained workforce across the UK. (Paragraph 66)
14. *In line with our recommendation for a national retrofit strategy in our Energy Efficiency in Existing Homes report, by the end of 2021 the Government needs to set out a programme to encourage the development of relevant skills across the construction trade, including small and medium-sized enterprises, to stimulate development of skilled trades to increase the capacity markedly.* (Paragraph 67)

Long-term environmental goals and a just transition to net zero

15. We have heard concerns that skills shortages will affect delivery of the Government's long-term environmental goals, as set out in the 25 Year Environment Plan. It is welcome that Defra are currently working on a Skills Gap Plan to identify where there are skills shortages and collaborating with other departments on this. (Paragraph 72)
16. *We recommend that Defra's Skills Gap Plan cover all areas of the 25 Year Environment Plan and be accompanied by an Action Plan to address skills shortages, developed in co-ordination with the Department for Education and stakeholders. The Skills Gap Plan and Action Plan ought to be published by March 2022 at the latest and aligned with Defra's existing and forthcoming sectoral plans and strategies, such as the Waste and Resources, Clean Air, Trees, Peat and Nature strategies.* (Paragraph 73)
17. We welcome the Government's commitment to ensuring regions are not left behind in the transition. To ensure this is delivered, it is vital that the Government carry out some planning for a just transition and how the Government intends to support it. This must include plans for public engagement to maintain public support for net zero, provision for wider support such as pensions and employability support, and ensuring local skills provision and (re-)training opportunities. (Paragraph 81)
18. As action to deliver a just transition will require collaboration across Government and co-ordination with local government and the devolved administrations, the plan also needs to set out departmental responsibilities, and monitoring and co-ordinating arrangements. This plan might be included alongside the document setting out departmental responsibilities and funding, recommended in Chapter 1. The Government's plan for a just transition should also consider replacement jobs in green sectors less directly related to net zero, such as nature and the circular economy. (Paragraph 82)
19. Some regions will be particularly affected by the transition. While the Government cannot actively manage the whole transition, it is important to assess where impacts will fall to ensure there are policies for support and replacement green jobs in place, in line with the Government's levelling up ambitions. (Paragraph 83)
20. *We recommend that a just transition plan:*
 - a) *be published by the end of 2021;*
 - b) *assess regional as well as sectoral impact, to ensure regional skills transitioning plus employment and pensions support is in place; and*
 - c) *include a strategy for maintaining public support for net zero.*

As cross-departmental action is required, this plan should set out the departments or bodies co-ordinating just transition action and each department's responsibilities, alongside plans for monitoring progress and co-ordinating with local authorities and the devolved administrations. The just transition plan should also include plans for stimulating replacement jobs in green sectors less directly related to net zero, such as nature and the circular economy. (Paragraph 84)

21. There is a risk that the net zero transition could lead to UK job and skills losses if carbon-emitting industries simply move overseas. A carbon border adjustment mechanism (CBAM), recommended in our report *‘Growing back better: putting nature and net zero at the heart of the economic recovery’*, should be considered as part of measures to address this. (Paragraph 90)
22. *The Government needs to set out in its just transition plan how it will address this risk. During 2021, the Government should conduct analysis into how a UK CBAM could comply with international trade obligations.* (Paragraph 91)

Education and skills pipeline

23. In school, education on climate change and environmental sustainability is limited to a few subjects. It is important that it is included across all courses to give all students a basic grounding in environmental issues and to show how their subjects can be useful in tackling environmental challenges, whatever sector they go on to work in. This will ensure the future UK workforce is climate and sustainability literate. A greater awareness of environment and sustainability across the population could lead to increased diversity of people entering green sectors, contributing to the Government’s ambitions for a more diverse and inclusive green workforce. (Paragraph 101)
24. *We recommend that environmental sustainability be included across all primary and secondary courses delivered through the National Curriculum and across A Level courses. Teachers should be supported to deliver this, with teacher training and continuous professional development. We recommend that the Department for Education consult all relevant stakeholders during the 2021/22 academic year on the delivery of this recommendation.* (Paragraph 102)
25. Our previous report on biodiversity in the UK identified that education could provide a crucial lever to address inequalities in access to nature. The Government’s Children and Nature Programme went some way in increasing access opportunities for schoolchildren, however the programme is due to end in March 2022. We consider this misses an opportunity to build on the successes of the programme through expanding the programme, to further widen access to nature in education and contribute to building a future green skills pipeline by attracting more young people into green careers. (Paragraph 103)
26. *By the end of January 2022, the Government should engage with delivery partners and schools in order to extend the Children and Nature programme beyond March 2022 and expand the number of delivery projects within the programme, using the evaluation project findings to inform the design and implementation of this expansion.* (Paragraph 104)
27. Apprenticeships are a fast way to bring new skills into a workplace, but climate and environmental sustainability issues are not embedded across them. If they were, this would allow apprentices to apply this knowledge directly to their jobs, addressing employer green skills gaps. This should be extended to the new T Level courses too. (Paragraph 112)

28. *We recommend that a module on environmental sustainability be included in every apprenticeship and T Level course. The Government should consult with stakeholders during the 2021/22 academic year on how to implement this.* (Paragraph 113)
29. Extending the equivalent or lower funding rule exemption to full-time science, technology, engineering and mathematics (STEM) and geographical and environmental courses would allow quicker retraining in higher level skills needed in the future green economy. (Paragraph 121)
30. *We recommend that the Government extend the equivalent or lower funding rule exemption to full-time STEM and geographical and environmental courses from 2022/23.* (Paragraph 122)
31. Without closely monitoring current and future skills needs and shortages across the net zero transition, there is a risk that today's courses and training are not addressing the demands of the future. This monitoring needs to be ongoing, to respond to changes in the economy over the course of the transition. We are particularly concerned that, without such monitoring and planning, the future demand for technical and practical green skills might exceed the available training provision in further education. (Paragraph 131)
32. *We recommend that by the end of 2021, the Skills and Productivity Board, or similar body, is tasked with ongoing monitoring of skills needs, with regular periodic reviews, to ensure forward-looking and responsive skills planning which encompasses the needs of the economy in reaching the Government's net zero and long-term environmental ambitions.* (Paragraph 132)

Diversity, inclusion and access to green jobs

33. To be able to monitor whether its ambitions to increase diversity and inclusion in the green workforce are being achieved, the Government needs to articulate these ambitions in a measurable way and have a metric for measuring diversity and inclusion in the green workforce. (Paragraph 139)
34. *By the end of 2021, the Government should set out its ambitions for improving diversity and inclusion in the green workforce and set out how it will measure diversity and inclusion in green jobs, for the purpose of monitoring and evaluating progress towards its aims.* (Paragraph 140)
35. Something that has not been considered in the Green Jobs Taskforce report recommendations is the wider enabling infrastructure which allows people to physically access green job opportunities, such as public transport, care and rural broadband connectivity. This will involve co-ordination across the Government. This wider infrastructure needs to be factored into the Government's green jobs and just transition delivery plans from the outset; if people are unable to physically access green job opportunities, this could undermine not just the Government's ambitions for the number of people seeking and successfully entering green jobs, but also its ambitions for a just transition and diversity and inclusion in the green workforce. (Paragraph 144)

36. *The Government's green jobs and just transition delivery plans should include analysis of the enabling infrastructure needed for people to access new green jobs, and allocate actions to the departments with responsibilities over this infrastructure.* (Paragraph 145)
37. There is a gap in the public's awareness of green job opportunities and how to access them. It is welcome that the Government acknowledges the importance of green careers advice, however the Government's latest Careers Strategy (2017) pre-dates both its net zero (2019) and 25 Year Environment Plan (2018) ambitions, and needs to be updated so that careers advice can play its role in delivering these. (Paragraph 154)
38. *By the end of 2021, the Government should set out how it will adapt its Careers Strategy to align with its net zero and environmental goals, including how it will reach different groups of the population to increase awareness of green job opportunities and how to access them, such as through its careers and youth hubs and Jobcentre Plus.* (Paragraph 155)

Formal minutes

Thursday 21 October 2021

Members present

Philip Dunne, in the Chair

Mr Robert Goodwill

Helen Hayes

Caroline Lucas

Cherilyn Mackrory

Green jobs and the just transition

The Committee deliberated.

Draft Report (*Green jobs*), proposed by the Chair, brought up and read.

Paragraphs 1 to 155 read and agreed to.

Annex and Summary agreed to.

Resolved, That the Report be the Third Report of the Committee to the House.

Ordered, That the Chair make the Report to the House.

Ordered, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No. 134.

Adjournment

Adjourned till Wednesday 27 October at 2.00 pm.

Witnesses

The following witnesses gave evidence. Transcripts can be viewed on the [inquiry publications page](#) of the Committee's website.

Wednesday 03 February 2021

Libby Peake, Head of Resource Policy, Green Alliance; **Luke Murphy**, Associate Director for Energy, Climate, Housing and Infrastructure, Institute for Public Policy Research; **Mike Hemsley**, Team Leader, Carbon Budgets, Climate Change Committee

[Q1–37](#)

Sue Ferns, Deputy General Secretary, Trades Union Congress (TUC); **Professor Josie Fraser**, Deputy Vice Chancellor, Open University, Skills & Education Panel member, Institution of Engineering and Technology; **Mr Martin Baxter**, Director of Policy and External Affairs and Deputy CEO, Institute of Environmental Management and Assessment

[Q38–66](#)

Wednesday 03 March 2021

Ms Charlotte Bonner, National Head of Education for Sustainable Development (ESD), Education and Training Foundation (ETF); **Mr Iain Patton**, Chief Executive Officer, EAUC - The Alliance for Sustainability Leadership in Education; **Meg Baker**, Director of Education, Students Organising for Sustainability UK (SOS-UK); **Graham Petersen**, Secretary, Greener Jobs Alliance; **Lee Jowett**, Fellow, National Association for Environmental Education, Sustainable Schools Coordinator, Leicester City Council

[Q67–84](#)

Samantha Smith, Director, Just Transition Centre; **Kevin Bentley**, Chair, Local Government Association's People & Places Board, Conservative Councillor, Stanway & Pyefleet Division, Colchester, Essex County Council; **Richard Kendall**, Executive Director, Humber Local Enterprise Partnership

[Q85–112](#)

Wednesday 12 May 2021

Jane Cooper, UK Stakeholder Relations & Regulatory Affairs, Orsted; **Dr Adam Read**, External Affairs Director, SUEZ Recycling and Recovery UK Ltd; **Venetia Knight**, Head of Employment and Enterprise at Groundwork Greater Manchester, Groundwork

[Q113–137](#)

Andrew Mennear, Director, UK Government Affairs, BP; **Peter Walters**, Head of Environment and Sustainability, Chemical Industries Association

[Q138–169](#)

Wednesday 09 June 2021

Rt Hon Anne-Marie Trevelyan MP, Minister of State (Minister for Business, Energy and Clean Growth), Department of Business, Energy and Industrial Strategy, UK International Champion on Adaptation and Resilience, COP26; **Amy Jenkins**, Deputy Director, Clean Growth, Green Finance and Sustainable behaviours for Net Zero, Department for Business, Energy and Industrial Strategy; **Gillian Keegan MP**, Parliamentary Under Secretary of State (Minister for Apprenticeships and Skills), Department for Education; **Sinead O'Sullivan**, Director, Career Learning, Analysis and Skills Directorate, Department for Education; **Rebecca Pow MP**, Parliamentary Under Secretary of State, Department for Environment, Food and Rural Affairs; **Jon Boswell**, Head of Strategic Funding, Green Finance Division, Department for Environment, Food and Rural Affairs; **Mims Davies MP**, Parliamentary Under Secretary of State (Minister for Employment), Department for Work and Pensions; **Jessica Hodgson**, Deputy Director for Labour Market Strategy, Department for Work and Pensions

[Q170-220](#)

Published written evidence

The following written evidence was received and can be viewed on the [inquiry publications page](#) of the Committee's website.

GRJ numbers are generated by the evidence processing system and so may not be complete.

- 1 Aldersgate Group ([GRJ0050](#))
- 2 Association of Colleges ([GRJ0067](#))
- 3 BBIA ([GRJ0047](#))
- 4 BSW Timber Group ([GRJ0036](#))
- 5 Biomass UK ([GRJ0013](#))
- 6 Bird, Lord John (Founder, Chair and Editor-in-Chief, The Big Issue) ([GRJ0030](#))
- 7 Cadent Gas ([GRJ0008](#))
- 8 Centrica ([GRJ0070](#))
- 9 Chartered Institution of Wastes Management; WAMITAB; and UK Resources Council; and SUEZ Recycling and Recovery UK Ltd ([GRJ0062](#))
- 10 Chemical Industries Association ([GRJ0041](#))
- 11 Clarke, Professor Linda (Professor, Centre for the Study of the Production of the Built Environment (ProBE), Westminster Business School, University of Westminster); Sahin-Dikmen, Dr Melahat (Research Fellow, University of Westminster); Winch, Prof Christopher (Professor of Educational Philosophy and Policy, Kings College London); and Duran Palma, Dr Fernando (Senior Lecturer, Westminster Business School, University of Westminster) ([GRJ0053](#))
- 12 Department for Business, Energy and Industrial Strategy ([GRJ0063](#))
- 13 Drax Group ([GRJ0024](#))
- 14 E.ON ([GRJ0019](#))
- 15 EAUC - The Alliance for Sustainability Leadership in Education ([GRJ0029](#))
- 16 EDF ([GRJ0048](#))
- 17 EDF Energy ([GRJ0069](#))
- 18 EEESafe ([GRJ0068](#))
- 19 Education and Training Foundation ([GRJ0014](#))
- 20 Electricity North West ([GRJ0054](#))
- 21 Energy Efficiency Association CIC ([GRJ0006](#))
- 22 Energy Systems Catapult ([GRJ0055](#))
- 23 Engineering Construction Industry Training Board (ECITB) ([GRJ0039](#))
- 24 EngineeringUK ([GRJ0038](#))
- 25 Enginuity ([GRJ0009](#))
- 26 Environmental Services Association ([GRJ0052](#))
- 27 Green Alliance ([GRJ0064](#))
- 28 Green New Deal UK ([GRJ0058](#))
- 29 Greener Jobs Alliance ([GRJ0060](#))

- 30 Greenpeace UK ([GRJ0027](#))
- 31 Greig, Dr Alison (Director of Education for Sustainability, Ruskin, Anglia University); and Strachen, Ms Sarah (Research Assistant, Anglia Ruskin University) ([GRJ0032](#))
- 32 Groundwork UK ([GRJ0015](#))
- 33 Hubbub Foundation ([GRJ0002](#))
- 34 IEMA - Institute of Environmental Management and Assessment ([GRJ0025](#))
- 35 Imperial College London ([GRJ0045](#))
- 36 Institute for Public Policy Research ([GRJ0059](#))
- 37 Institution of Engineering and Technology ([GRJ0031](#))
- 38 Investment Association ([GRJ0040](#))
- 39 Local Government Association ([GRJ0016](#))
- 40 Mineral Wool Insulation Manufacturers Association (MIMA) ([GRJ0026](#))
- 41 Moyo, Miss Nicolle (Student, University of East Anglia) ([GRJ0010](#))
- 42 National Express West Midlands ([GRJ0007](#))
- 43 National Union of Rail, Maritime & Transport Workers (RMT) ([GRJ0012](#))
- 44 National Grid ([GRJ0043](#))
- 45 New Anglia LEP ([GRJ0037](#))
- 46 NNB Generation Company (SZC) Ltd; Laing O'Rourke; Doosan Babcock; EDF Energy; EDF Energy; NNB Generation Company (SZC) Ltd; and Agilia Infrastructure Partners ([GRJ0061](#))
- 47 OGUK ([GRJ0033](#))
- 48 Petersen, Graham (Secretary, Greener Jobs Alliance) ([GRJ0066](#))
- 49 Platform ([GRJ0051](#))
- 50 Public and Commercial Services (PCS) trade union ([GRJ0044](#))
- 51 Reay, Professor Dave (Chair in Carbon Management & Education, School of Geosciences, University of Edinburgh); and Petersen, Katrine (Campaign Manager - Narratives, Grantham Institute - Climate Change and Environment at Imperial College London) ([GRJ0023](#))
- 52 RSPB ([GRJ0028](#))
- 53 Rolls-Royce plc ([GRJ0018](#))
- 54 Royal Institute of British Architects ([GRJ0021](#))
- 55 Royal Society of Chemistry ([GRJ0034](#))
- 56 SUEZ Recycling and Recovery UK Ltd ([GRJ0056](#))
- 57 Solar Trade Association ([GRJ0035](#))
- 58 Strawbale Building UK ([GRJ0049](#))
- 59 Sustrans ([GRJ0011](#))
- 60 Transition Economics ([GRJ0022](#))
- 61 UK Energy Research Centre ([GRJ0042](#))
- 62 UK National Association for Environmental Education; UK National Association for Environmental Education; and UK National Association for Environmental Education ([GRJ0065](#))

- 63 UK Women's Budget Group ([GRJ0003](#))
- 64 Veolia ([GRJ0046](#))
- 65 Willett, Dr Joanie (Senior Lecturer in Politics, University of Exeter) ([GRJ0004](#))
- 66 Yau, Mr Nigel (Research Assistant, Smith School of Enterprise and the Environment, University of Oxford); Hristov, Deiana (Research Assistant, Smith School of Enterprise and the Environment, University of Oxford); O'Callaghan, Mr Brian (Lead of Oxford University Economic Recovery Project, Smith School of Enterprise and the Environment, University of Oxford); Innocenti, Dr Stefania (Research Associate in Behaviour, Finance and Social Statistics, Smith School of Enterprise and the Environment, University of Oxford); and Hepburn, Professor Cameron (Director, Smith School of Enterprise and the Environment, University of Oxford) ([GRJ0057](#))

List of Reports from the Committee during the current Parliament

All publications from the Committee are available on the [publications page](#) of the Committee's website.

Session 2021–22

| Number | Title | Reference |
|-------------|---|-----------|
| 1st | Biodiversity in the UK: bloom or bust? | HC 136 |
| 2nd | The UK's footprint on global biodiversity | HC 674 |
| 1st Special | Energy efficiency of existing homes: Government Response to the Committee's Fourth Report of Session 2019–21 | HC 135 |
| 2nd Special | Growing back better: putting nature and net zero at the heart of the economic recovery: Government and Bank of England Responses to the Committee's Third Report of Session 2019–21 | HC 327 |
| 3rd Special | Biodiversity in the UK: bloom or bust?: Government Response to the Committee's First Report | HC 727 |

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| 1st | Electronic Waste and the Circular Economy | HC 220 |
| 2nd | Pre-appointment hearing for the Chair-Designate of the Office for Environmental Protection (OEP) | HC 1042 |
| 3rd | Growing back better: putting nature and net zero at the heart of the economic recovery | HC 347 |
| 4th | Energy Efficiency of Existing Homes | HC 346 |
| 1st Special | Invasive species: Government response to the Committee's First report of Session 2019 | HC 332 |
| 2nd Special | Our Planet, Our Health: Government Response to the Twenty-First Report of Session 2017–19 | HC 467 |
| 3rd Special | Electronic Waste and the Circular Economy: Government Response to the Committee's First Report | HC 1268 |