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TEES VALLEY TRAILBLAZER LOCAL SKILLS IMPROVEMENT PLAN

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North East England
Chamber of Commerce

Supported by

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Contents

Section 1: Strategic overview

Focus and objectives

1.1 This Trailblazer Local Skills Improvement Plan (LSIP) for the Tees Valley has been produced by the North East England Chamber of Commerce, one of eight employer representative bodies testing an employer-led approach to skills planning. This will help the DfE determine how best to roll out LSIPs across the country. It is DfE's intention that the employer voice articulated in this plan should help inform the decisions of local skills providers and inform relevant future funding bids. This Local Skills Improvement Plan will be a starting point for any future Local Skills Improvement Plan produced under a national roll out of the programme.

1.2 This Trailblazer LSIP focuses on understanding the current and future skills needs of businesses working in Low Carbon, Clean Growth and Net Zero industries working in the Tees Valley.

1.3 The Low Carbon sector was identified by the Tees Valley Strategic Economic Plan as a key sector for growth. Key Stakeholders including the Combined Authority, Businesses and Providers are keen to work together to build an environment which supports Tees Valley residents to have access to a good career in the sector, and for every business to be able to access a skilled and available workforce.

1.4 The Tees Valley is also key to the Government's target to reach Net Zero by 2030. The Low Carbon/Green Energy sector is predicted to contribute significantly to jobs growth and employer demand for skills. Whilst the sector is still emerging and the number of companies active at the moment relatively small, the number is expected to grow rapidly with the most significant growth in jobs predicted between 2023 and 2027.

Rationale

1.5 The Low Carbon and Clean Growth sector is small and on the cusp of significant growth. New and cutting-edge technologies are being introduced which will require additional skills provision, but which also build on the existing skills base.

1.6 The development of new sectors and technologies means that this is a sector where the forecasting of future skills needs is difficult and evolving rapidly. The right provision will be crucial both in terms of the growth of the sector, but also to ensure the residents of the Tees Valley are best placed to benefit from the skilled and high value jobs which will become available.

1.7 As the industry develops, studying the skills requirements of the sector at this early stage will provide insights from industry. This will help to shape future provision and avoid the problems previously faced by other industries, such as skills gaps and a drain of talent from the area.

1.8 In 2021, The Green Jobs Taskforce Report identified that, nationally, green sectors will experience significant growth in the coming years. Significant jobs growth is expected in the follow sectors, all growing in the Tees Valley:

- **Power** – including renewable energy (such as wind, solar and hydropower), grid infrastructure, energy storage and smart systems technology;

- **Industrial energy** – including hydrogen production and industrial use, Carbon Capture, Utilisation & Storage (CCUS) and industrial decarbonisation;
- **Homes and buildings** – including retrofit, building new energy-efficient homes, heat pumps, smart devices and controls, heat networks and hydrogen boilers;
- **Transport** – including low or zero emission vehicles, aviation and maritime, rail, public transport and walking and cycling;
- **Enabling decarbonisation** – including science and innovation for climate change, green finance, and energy networks.

1.9 The Tees Valley is likely to benefit from the growth in low carbon sectors as the UK transitions to a net zero economy. These sectors could include Carbon Capture, Utilisation and Storage (CCUS), hydrogen, circular economy approach to industrial production, sustainable energy generation and energy optimisation, decarbonisation, biomass power, low carbon research, and more. The existing sectoral strengths of the Tees Valley (such as in Advanced Manufacturing) means it has staff with highly transferable skills and experience, who could enter roles in the clean energy sector. With high profile projects such as Net Zero Teesside already making the Tees Valley a leader of innovation in low carbon economies, the region has the potential to become a strong economic force as the country transitions to net zero.

1.10 However, the Tees Valley also faces skills issues that could hamper the area's ability to transition smoothly to a net-zero economy. The population of the Tees Valley holds fewer higher-level skills than other areas of the UK, and the numbers with higher-level skills have continued to decline over the course of the pandemic, contrary to the rest of the country. The area lags behind the national picture as the total percentage of jobs per working age population is 66% compared to a national rate of 73% and the high value jobs percentage is only at 41% compared to 52% nationally. The imperative is to create more good quality jobs and move from a ratio of 2 jobs for every 3 people and closer to the national picture of 3 jobs to every 4 people. There is also an ageing population in the Tees Valley, as well as higher than average unemployment or economic inactivity, which may reduce the local talent pool businesses have to recruit from. Additionally, there are skills shortages in some key areas, such as lower levels of digital skills, that could slow progress in encouraging people to move into low-carbon jobs, for which digital will be extremely important.

1.11 Of key importance is achieving a just transition, which benefits the local population while ensuring local businesses can access the skills they need to succeed and grow. As the high carbon economy contracts, it will be necessary to make concerted efforts to assist people from declining sectors and new entrants to the workforce in transitioning into low carbon careers. This may include widescale and evidence-based retraining programmes for workers in high carbon sectors, as well as significant improvements to the careers system to enable it to be more agile and better reflect the future skills needs of the low carbon economy. Moreover, efforts will be needed to support diversity with this provision, so that everyone can benefit from green jobs, businesses can recruit from the widest pool of talent possible and homegrown talent is not lost elsewhere.

The Tees Valley

Economy
(Source: Tees Valley Economic Assessment 2021)

1.12 Economic output across Tees Valley, measured in terms of Gross Domestic Product (GDP), stood at £16.1bn in 2019. Tees Valley GDP per capita was £23,815 or 72.4% of the UK rate which

translates to a GDP gap of £6.1bn, which is double what it was a decade ago. High rates of economic inactivity and low levels of employment are major determinants of this performance gap.

1.13 At 70.2% in the year to June 2021, the Tees Valley employment rate is the highest it has been over the last 5 years. Between 2020 and 2021, the Tees Valley rate has risen by 0.6 percentage points, with an extra 1,700 residents in employment. This compares to a drop of 1.5 nationally and 1.1 percentage point fall across the North of England. However, with 285,700 Tees Valley residents aged 16-64 in employment in the year to June 2021, the Tees Valley employment rate remains significantly below the equivalent England rate of 74.7%.

1.14 The skills levels of residents can present a challenge in meeting labour demands; Tees Valley residents are less well qualified than those of many other parts of the country. In terms of Degree/ Level 4+ qualifications in 2020, just 33.2% of Tees Valley's working age residents were qualified to this level, compared to 43.1% nationally.

1.15 The area has a relatively aged population profile and, as with many other areas, an ageing population. There has been slow population growth over recent years, below national increases, along with significant net out migration of younger people, largely related to movements in the student population. Future projections show increasing labour supply constraints, which could result in there being a lack of local workers. The number of working age residents aged 16-64 is projected to fall by around 1,000 every year for the next two decades. However, there is significant scope to mitigate this labour supply constraint by addressing levels of economic inactivity and unemployment.

1.16 Tees Valley has a relatively high proportion of localities within the most deprived 10% nationally, as ranked by the 2019 Index of Multiple Deprivation (IMD). Out of 38 English LEP areas, it ranks as the second most deprived. Whilst this ranking is unchanged since 2015, there has been a slight increase in relative deprivation across Tees Valley in this time.

1.17 Tees Valley has consistently recorded some of the highest economic inactivity and unemployment rates in the country. However, economic output per job is closer to national averages and above the North of England average, demonstrating that there are well paid and productive jobs in the region with the opportunity for further growth.

1.18 Tees Valley sectors that have high levels of productivity compared to the national average are Clean Energy, Low Carbon & Hydrogen, Chemical & Process, Digital and Bioscience. Tees Valley employment is highest in Health & Social Care, Creative Culture & Leisure, Professional & Business Services, Logistics, Advanced Manufacturing and Construction.

1.19 The value of inward foreign direct investment (FDI) earnings in Tees Valley increased by £86m from £487m in 2018 to £573m in 2019. This represented a 18% increase compared to a 42% decrease nationally. The Tees Valley saw the highest rate increase in the country and was one of only two Combined Authorities/City Regions, counties of the UK, or English regions to see an increase.

1.20 Tees Valley firms generally score below the LEP average on innovation metrics. However, a notable exception is the 'New business practices' indicator where Tees Valley firms rank slightly above national averages. This could be a signal of the shifting landscape within Tees Valley, as the economy transitions driven by Clean Energy growth.

1.21 Tees Valley includes the newly created Teesside Freeport which represents a significant opportunity for Tees Valley's private sector business and economic growth potential, particularly

across our strong Advanced Manufacturing and Clean Energy, Low Carbon and Hydrogen sectors.

Low carbon, green energy and hydrogen
(Source: Tees Valley Economic Assessment 2021)

1.22 Tees Valley is home to an array of companies and commercial operations, including many within the 'green energy' industry. As the UK and the rest of the world transition to Net Zero, this particular industry will grow in importance to maintain the wider economy. The Tees Valley has a particular strength in this industry, which can be utilised to make the region the place to be for projects surrounding hydrogen production, offshore wind and Carbon Capture, Utilisation and Storage (CCUS) to name a few. Much of the Tees Valley's present 'hydrogen economy' is built upon legacy ICI capability, which are now clusters of independently owned 'branch plants'.

1.23 Despite the separate branches, they still remain linked by both infrastructure and supply chains. There are three notable plants currently present in Teesside; the most prominent is a large steam methane reformation unit converting natural gas to hydrogen, located on the North Tees Site. This is operated by BOC and can produce approximately 32,000 tonnes of hydrogen per year. As part of the production of fertilizer, CF Fertilizers converts natural gas to hydrogen. This is another notable independent commercial operation that produces hydrogen in Teesside. The third notable operation is run by SABIC at the Wilton site, who in October 2021, announced plans to restart operations at the Olefins plant – known as the Cracker - as part of a £1bn investment in the facility. The larger cracker was recently configured to burn the available hydrogen instead of natural gas, thus resulting in a reduction in CO2 emitted.

1.24 Currently, the Tees Valley imports approximately 26% of the UK's natural gas through a Central Area Transmission System (CATS) pipeline and an onshore gas treatment plant operated by Kellas Midstream. This direct access to natural gas in Teesside has led to two commercial stage projects to evaluate the potential for converting the natural gas into hydrogen.

1.25 Firstly, in October 2021, Kellas Midstream announced a strategic initiative to build a 1GW facility producing 'blue hydrogen' through the utilisation of their existing assets. The hydrogen produced will by 'blue' (or carbon neutral) as over 95% of the CO2 produced from the process will be captured and stored in the North Sea, in collaboration with Northern Endurance Partnership (NEP). The project, called 'H2NorthEast', is expected to be operational in 2027 and will assist the Government in meeting its target of 5GW capacity of 'blue' hydrogen by 2030. Secondly, in March 2021, BP announced a 'blue' hydrogen facility, which is also targeting 1GW of hydrogen production. The proposed development, called 'H2Teesside', will also use the CO2 storage capability in the North Sea in partnership with NEP, which will support the low carbon transformation in the Tees Valley. The development is expected to be completed in 2027, with the process being fully operational in 2029. With both projects expected to have a capability of 2GW worth of 'blue' hydrogen, Tees Valley will account for 40% of the Government's 5GW capacity by 2030.

1.26 In August 2021, the UK Government released the first ever UK Hydrogen strategy. As part of the strategy, the Tees Valley was announced as the location for the UK's first 'Hydrogen Transport Hub'. The hub, which is supported by £3m of initial government funding, will enable government, industry and academia to come together and focus on future hydrogen research and development, real world testing and demonstrations.

1.27 Moreover, Teesside International Airport is leading the transition towards a greener UK aviation industry as it becomes the nation's first pilot area for hydrogen vehicles at an airport. The £2.5m project will see the airport, as well as other key Tees Valley organisations, use 100%

hydrogen emission engines in commercial and support vehicles. It was also announced that two local businesses have been chosen to help develop liquid hydrogen aircraft fuel as part of a government backed scheme. Almost £3m of funding was secured to further the cutting-edge projects. This further emphasises the breadth of projects to decarbonise industries across various sectors throughout the region. With 24% of the UK's total electricity generation being from wind power in 2020, it is clear that this renewable generation is key to the Net Zero plans. Located on the North Sea coast, Tees Valley is in a prime position to continue to support the offshore wind industry, particularly given that the northern North Sea experiences higher average wind speeds than anywhere else in Europe and is home to 16.5GWE of wind farm development.

1.28 Additionally, Tees Valley is a Centre for Offshore Renewable Engineering (CORE) and an extensive supply chain of over 400 companies is already in place to strengthen the industry in the region. This strength is consolidated by the approval of a 76,200sqm facility at Teesworks for GE Renewable Energy's wind turbine blade factory. The production facility, which is expected to be operational by 2023, will produce 107-metre-long wind turbine blades. These will be used at Dogger Bank, the world's largest wind farm, located 80 miles off the North East coast. The factory is expected to create up to 750 direct highly skilled jobs and close to 1,500 indirect jobs, whilst further establishing the region at the forefront of the UK's Net Zero commitments.

1.29 Net Zero Teesside & Carbon Capture - the UK Government has set a target to achieve net zero emissions by 2050. While the UK is aiming to be a leading country in the transition to net zero, Tees Valley is positioning itself at forefront of delivering net zero goals for industry, with a local ambition to achieve a net zero industrial cluster by 2040.

1.30 Tees Valley is at the forefront of this revolution due to its pre-existing strength in engineering, construction and the robust local oil, gas, and chemical sectors, meaning we are well suited to capitalise on this growing market and become the world-leader in net-zero emission industries. NZT is set to create over 25,000 jobs by 2050, as well as add an average of £2bn in GVA. Furthermore, an additional 9,000 direct jobs are expected to be created during the construction of the schemes. The projects would safeguard existing manufacturing jobs in Teesside and upskill the labour force to ensure the full economic benefits are realised (Source: Vivid NZT report).

Challenges

1.31 The Tees Valley's existing education and skills challenges could interfere with its ability to fill jobs in the low carbon sector, either through bringing in more workers or retraining those already in the workforce.

1.32 In the Tees Valley, there is a mixed picture of educational quality and achievement. While primary schools achieve above-average Ofsted results, secondary schools have lower achievement levels than the national average.

1.33 There is good quality post-16 skills provision, with 16-18-year-olds achieving higher results than the national average. Apprenticeship achievement in the Tees Valley is higher than the national average, as is the number of apprenticeships starts in the 16-34 cohort. Despite this, apprenticeship starts have fallen by half compared to an 18% drop nationally, which reflects the impact of the changes in the apprenticeship funding system, but also the effects of the Covid-19 Pandemic. In addition, the percentage of working-age residents in the Tees Valley with higher-level skills is below the national average and has declined during the pandemic, whereas the national average has risen.

Skills needs for low carbon sectors nationally

(From the Green Skills Taskforce's 'ANNEX: Sectoral transitions to net-zero')

Offshore wind

- The UK offshore wind workforce is likely to increase by 170% by 2026, from c.26,000 to c. 70,000.
- Skills needs will be in manufacturing (L2-6), electrical engineering (L3), welders (L3-4), engineering (L4-5), project managers (L4), product development managers (L5), offshore technicians and seamen.

CCUS and hydrogen

- CCUS and low carbon hydrogen present significant economic opportunities for the UK, with industrial clusters in regions such as the North East being targeted.
- CCUS and hydrogen are emerging sectors, so skills requirements are unclear. Although the industry anticipates there will be skills needed for project structuring, design and manufacturing, health and safety, commercial financial and legal services, engineering, procurement, and construction.
- It is expected that workers from the oil and gas sector will provide critical skills to CCUS development.

Automotive

- The sector will undergo significant changes with the increased use of electric vehicles, with the UK likely to require eight giga factories with a capacity of 15 GWh by 2040.
- Skills needs will include charge point installers, operators, smart charging services, engineering, manufacturing, purchasing, material planning and logistics, vehicle scrappage and recycling, vehicle recovery operations, emergency services personnel, quality assurance and operations quality involved with batteries.

Tidal

- The Tidal Stream workforce will grow to 4,000 jobs by 2030 and 14,500 by 2040, according to estimates, in manufacturing, installation, and operations & maintenance.
- Skills needs will be manufacturing (L2-6), electrical engineering (L3), welders (L3-4), engineering (L4-5), project managers (L4), product development managers (L5), offshore technicians and seamen.

Nuclear

- As a reliable source of low carbon electricity, nuclear power will play a key role in decarbonising the UK's electricity system.
- Skills needs will be nuclear specific skills (for example, nuclear engineers) as well as general skills (such as welders, construction workers, engineers) suitable for the nuclear sector.
- Current skills shortages include nuclear safety case authors (L5-6), radiation protection workers (L3-6), nuclear grade welders (L3-4), non-destructive testing (L5-6), plutonium management specialists (L6+ including NVQ level), project planning and controls managers (L3 – 8), mechanical engineers (L5 – 6), control and instrumentation engineers (L3 – 6).

Onshore wind

- The onshore wind sector peaked at 21,000 jobs and during that year 1.6GW of capacity was installed.
- Skills needs will likely be welders (L3-4), engineers (degree level) and construction workers (L1-3).

1.34 Although employment in the Tees Valley is high in areas such as health and social care, education, retail, creative, culture, and leisure, and professional and business services, and the percentage of Tees Valley employers reporting skills shortages has dropped since 2017, the region faces a number of staff and skills shortages that could hinder the transition to a net-zero economy.

1.35 According to Tees Valley Combined Authority's 2020 Economic Assessment, 23% of all vacancies in the Tees Valley are classed as skills shortage vacancies (SSV), compared to 25% nationally. The transport & storage, construction, arts and other services, and business services sectors in the Tees Valley all face higher shortage vacancies than the UK. A skills shortage was reported by 8% of transport and storage businesses in 2020, up from 2% in 2017, compared to 6% nationally.

1.36 In the Tees Valley, 36% of employers reported SSVs in skilled trade occupations, compared to 26% nationally; 17% reported SSVs in Associate Professional roles, compared to 16% nationally; and 15% reported SSVs in caring, leisure, and other services roles, compared to 13% nationally. However, the area had a much lower prevalence of SSVs in Elementary staff than nationally, at 1% in Tees Valley compared to 12%.

1.37 Among the types of skills employers find difficult to obtain from applicants, 87% of Tees Valley employers find technical or practical skills difficult, compared to 89% nationally. Basic skills and digital skills appear to be more difficult to obtain in Tees Valley, with 44% of employers stating they have difficulty obtaining basic skills, compared to 36% nationally, and 36% stating they have difficulty obtaining digital skills, compared to 32% nationally.

About the research

Process of engagement

1.38 The Chamber's process of engagement focused on low carbon/clean energy industries, including firms working directly in low carbon, as well as businesses in other sectors that supply products or services to customers working in these industries. A broad range of employers, including SMEs, in the area (beyond the Chamber's own membership) were identified, and contacted via a combination of online discussions, telephone interviews and an online survey. Views of a wide range of employers, other employer representatives, and sector bodies were sought. Our focus was on the quality of the engagement over quantity, getting to the heart of the skills demand and supply issues for employers, through in-depth conversations, whilst also tapping into the supply chains of some of the larger organisations.

1.39 The Chamber team also sought to engage with key Tees Valley stakeholders, holding several discussions with TVCA before commencement of the project, and presenting to both the LEP Board and the Employment, Education and Skills Advisory Group (EESAG) that undertakes the Tees Valley Skills Advisory Panel function. This was partly to inform and ensure that all who wished to could engage with the project, but also to reinforce the alignment of the LSIP with current local skills plans and strategies such as the SAP Annual Skills Plan. It was also important to provide re-assurance that the LSIP work would build on, and not duplicate, work that had been done before.

1.40 The LSIP trailblazer has a narrower focus than the Tees Valley Skills Plan, but aims to provide a more in-depth view of the specific sector as the focus of the LSIP. The EES Advisory Group (EESAG) will receive a full briefing on the LSIP report and will consider how to incorporate

the findings into any future Skills Plan for Tees Valley. If the focus of the LSIP was widened to incorporate all technical education, this would then form an integral part of any future local skills plan.

1.41 In addition to a small LSIP project team, skills from existing staff and the Chamber's CRM systems and external data sources were utilised. Tees Valley Relationship Managers in Small, Medium and Large membership business teams supported the project, alongside generous input from the marketing and communications team. Externally, engagement and relationships were forged with all stakeholders, providers, sectors contacts and membership organisations, with efforts heavily focused on employer consultations, employer engagement, stakeholder discussions, business engagement, business development and profile raising throughout the duration of the project. New Skills Consulting, a leading UK economic regeneration and funding consultancy, was recruited to help support with employer engagement and research. Regular updates were held with the steering group, whilst briefings, engagement, and playbacks of developments in research findings with all stakeholders continued throughout the project.

1.42 To start the process of developing a robust, accessible and meaningful employer view of the skills most needed in the Tees Valley, we undertook an extensive employer engagement exercise. This research focused on low carbon/clean energy industries, including firms working directly in low carbon, as well as businesses in other sectors that supply products or services to customers working in these industries.

1.43 In total, we gathered input from 34 businesses based in and around the Tees Valley via a combination of online discussions, telephone interviews and an online survey. This included:

- 19 businesses that participated in an in-depth one-to-one discussion via Teams/Zoom
- 11 businesses that participated in a telephone interview
- 4 businesses that provided feedback via an online survey

1.44 The key themes explored in these consultations included:

- Current skills needs, gaps and recruitment challenges.
- Future skills and qualifications needed to support businesses in Tees Valley priority sectors to grow.
- Barriers in the skills system/supply-side to meeting these needs, and potential solutions to overcome the barriers.

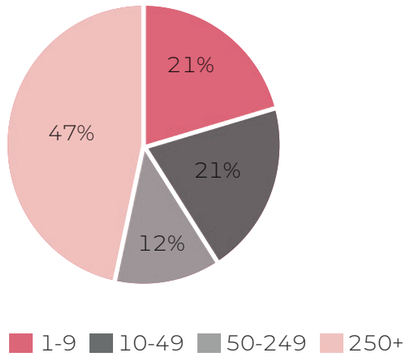
About the businesses we spoke to

1.45 Businesses contributing to the research represent a cross section of Tees Valley's low carbon and related sectors, including:

- Those working directly in the sector in energy and power generation (oil and gas, nuclear, and renewables), and providing infrastructure for the sector (such as offshore cabling).
- Supply chain businesses, including engineering and manufacturing firms producing engines, generators, power systems and filtration systems, as well as component manufacturers in the supply chains of these businesses.
- Professional and business services firms, including engineering and architecture consultancy; specialist training for offshore, renewables and other high-risk environments; and project/ programme management services.
- Organisations that provide enabling services, including port services, construction, and utilities.

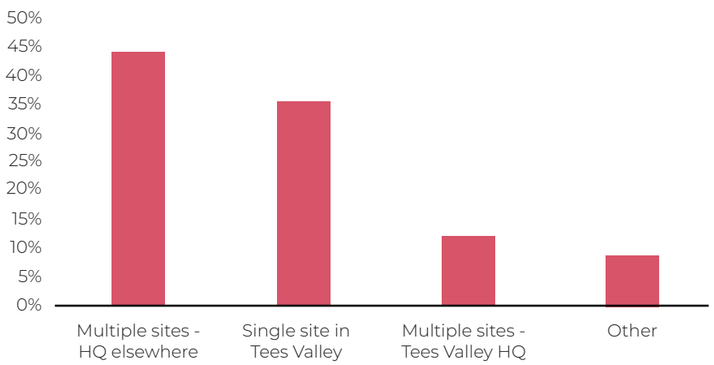
1.46 The organisations consulted also represent a good cross section of the Tees Valley business base in terms of company size and structure. Just over half (53%) are SMEs and the remaining 47% are large businesses.

Figure 1: Business size



1.47 The largest proportion of businesses (44%) have multiple sites with headquarters located outside of Tees Valley, in most cases overseas. Just over one third of the businesses (35%) have a single site in Tees Valley and all these businesses are SMEs. Meanwhile, 12% of businesses have multiple sites with a headquarters located in Tees Valley. Of the 3% that described their structure as 'other', all were single site businesses based elsewhere in the North East of England.

Figure 2: Business structure



Section 2: Specification of employer skills needs

Introduction

2.1 A central aim of the research with employers was to develop a better understanding of their current and future skills needs. As the focus of the Tees Valley LSIP is on the skills needs of businesses working directly or indirectly in low carbon/clean energy industries, we specifically sought to explore how the growth in low carbon activities is changing the skills needs of businesses in the Tees Valley, both in terms of the type of skills and qualifications they require, and the volume of staff they need to deliver their low carbon activities in the next five years.

Impact of low carbon on skills needs

2.2 Most of the businesses we spoke to indicated that the growth in low carbon industries has not yet resulted in a significant revolution in terms of their skills needs. For example, many emphasised that their main ongoing need is for staff with strong underlying engineering/ manufacturing skills including mechanical, electrical, chemical, process and civil engineers, technicians, machinists, process operators, instrumentation control, welders, and fabricators. It is expected that the need for staff with these skills will continue in the longer-term.

2.3 However, to ensure a successful transition to low carbon technologies as the sector grows and develops, these core engineering and manufacturing skills will need to be supplemented with new knowledge and skills relating specifically to low carbon technologies. For example, this would include carbon reduction, hydrogen fuelled IC technology, fuel cells, carbon capture technologies, or electrolyser and battery power applications. In some cases, it is likely that the skills and knowledge will be fairly specialised to the individual business, while others will require staff with a broader knowledge and understanding of low carbon technologies.

2.4 Currently the main concern amongst businesses is overall staff shortages as the low carbon sector grows. Some businesses are already experiencing challenges in recruiting technicians, engineers and process operatives, highlighting that companies in Tees Valley are 'fishing in a small pond' for staff and those qualified to work in the sector tend to move between different businesses. There are concerns that, as the low carbon sector grows, there will be insufficient people in the Tees Valley workforce to meet the needs of businesses. This is of particular concern to the small and medium sized businesses that are less able to compete with larger companies in terms of salary.

Challenges in planning and articulating skills needs

2.5 Currently many businesses operating in, supporting, or transitioning into the low carbon sector find it challenging to predict and articulate their future skills needs. There is still a great deal of uncertainty about the specific direction of the market and a lack of longer-term clarity about the technologies that will become dominant. Some businesses even expressed the view that the new skills required in the future could relate to technologies that don't yet exist.

2.6 Whilst the low carbon sector is growing in Teesside, the scale, speed and nature of this growth is still unknown. For example, some businesses are currently involved in developing projects and

bidding for contracts; some are waiting for clarity on when certain technologies and facilities will be phased out; and many require more certainty and clarity on the direction of travel in terms of low carbon technology and energy generation.

2.7 In addition, supply chain companies are waiting for information from major customers on what products they are going to need from them in the next few years. Until this is known, they are unable to make any significant investments in plant, machinery, or staff recruitment and training.

Current and future skills needs

Current skills needs

2.8 Around 40% of the employers consulted felt they currently had the right skills in their business to deliver their low carbon activities. They have accessed these skills through a combination of recruiting suitably skilled new staff, creating new apprenticeship posts, and delivering in-house training to up-skill existing staff.

2.9 Where businesses currently do not have all of the skills they require in the business, the main challenge identified is a lack of volume in the current labour market, with insufficient people moving into the sector or developing the relevant skills for those jobs. Specific gaps include basic manufacturing skills, and mechanical, electrical and chemical engineers.

2.10 This is further exacerbated by an ageing workforce in some of these businesses, where there is a high level of replacement demand as more staff move towards retirement age. In some cases, businesses are seeking to upskill existing staff so that replacement need is at a lower, and therefore easier to obtain, skill level. These lower skilled new recruits will subsequently be developed with further on-the-job training.

2.11 In addition, some businesses have older staff who may still be a number of years from retirement and require upskilling. Often, this includes staff who may have been slower to adapt to changes in technology; increased digitisation; and knowledge of low carbon, decarbonisation, and energy transition.

Future skills needs

2.12 While businesses currently find it challenging to predict the specific skills and qualifications that they will require in the next five years, or the exact number of staff they are likely to need, they were able to highlight broad themes that indicate priority areas for skills development in the Tees Valley.

2.13 There is an ongoing need for strong underlying engineering and manufacturing skills at all levels, from entry level and semi-skilled roles up to graduate and post-graduate engineers.

2.14 Taking the needs of the different businesses combined, there will be a requirement for engineers across all of the disciplines of electrical, mechanical, chemical and civil engineering. There will also be a need for technicians, process operators, machinists, fabricators and welders.

2.15 To ensure a successful transition to low carbon technologies over the next few years, these core engineering and manufacturing skills will need to be supplemented with additional knowledge and skills relating specifically to low carbon technologies. For example, this would include carbon reduction, hydrogen fuelled IC technology, fuel cells, carbon capture technologies, or electrolyser and battery power applications.

2.16 As well as having some staff who are highly specialised in a particular aspect of low carbon technology, it is likely that many businesses will require staff to have an awareness and understanding of a comprehensive range of low carbon technologies. This will enable them to employ staff flexibly across different projects and roles as required.

2.17 Upskilling and reskilling the existing workforce will be a crucial aspect of meeting skills needs for many businesses. For example, in the energy sector, people who are currently skilled in offshore oil and gas roles could be developed into an 'all energy' role that enables them to work flexibly and transfer to different functions, such as CCUS, hydrogen and offshore renewables.
2.18 In addition, new technologies and the increase in digitisation and automation mean there is a growing need for strong IT and digital skills, such as coding. For example, there is an increasing need for staff who can operate and programme CNC machines, or welders who can manage robot welding processes. IT and digital skills are becoming increasingly important for all job roles and should be a core competency in all STEM courses.

2.19 Given the rapid pace of change and development in the low carbon industries, it will be essential that staff are able to work flexibly, adapt quickly and think innovatively. Therefore, businesses identified a need more generally for staff with strong core skills, including project management, critical thinking, complex problem solving, productivity improvement and process optimisation, as well as leadership, communication, and people skills.

2.20 Given the planned projects and investments in the low carbon sector in Tees Valley, some businesses identified a significant need for industrial construction skills. There is currently a shortage in the Tees Valley of people with planning and construction skills for major projects, which means staff currently must be sourced from elsewhere in the UK or Europe.

2.21 Over the next five years, there is a significant volume of infrastructure projects in the pipeline in Tees Valley, which it is estimated will generate several thousand construction jobs. Whilst a small proportion of these jobs will be higher level roles requiring specialist skills in planning, engineering, project management and low carbon, the majority will cover the full range of traditional construction trades, including bricklaying, welding, carpentry, electrical and plumbing.

2.22 These major industrial projects in the low carbon sector will also be competing with an increased need for labour on residential construction projects. In addition to the construction of new properties that meet new environmental standards, this will also include retrofitting tens of thousands of existing properties to meet zero carbon standards. These projects will require construction staff across all of the trades, as well as those with knowledge of relevant legislation; carbon literacy; an understanding of different energy technologies; and relevant skills in retrofitting.

2.23 Whilst the shortage of construction skills, from basic trades to high level design engineering, was raised as an issue for the Tees Valley, it is recognised by employers that this is a UK-wide problem that will impact businesses and projects across the country over the next few years.

Section 3:
What needs to change and why

Introduction

3.1 To understand what needs to change in the skills system, and how it could better meet the needs of employers, we explored with businesses their current use of colleges and training providers; the effectiveness of the current system in meeting their low carbon skills needs; and how the system could be improved to meet their needs.

Current use of local skills provision

3.2 Many of the organisations consulted have comprehensive and well-developed in-house training systems, which, in some cases, includes their own tailored Apprenticeship programmes. This is particularly the case in larger businesses, many of which have extensive training resources, tailored content, and sophisticated online learning systems. Currently, in-house training and on-the-job development is used widely to upskill existing staff and deliver specialist training, particularly for systems and technologies that are specific to the organisation.

3.3 A number of organisations also access training from external providers. In some cases, this includes providers based elsewhere in the country, as equivalent provision is not available locally. Examples of this included heavy plant mechanics training in Leeds and King's Lynn; specialist onshore wind farm training in Cumbria; and partnerships with Leeds, Brighton, and Loughborough Universities for graduates with specialist hydrogen technology knowledge. However, it was acknowledged by employers that the training they access out of area tends to be highly specialised. Some also expressed the view that provision may become more viable locally as the low carbon sector grows and demand for these skills increases.

3.4 Nevertheless, the discussions also highlighted many examples of businesses working effectively with colleges and training providers in the Tees Valley. Feedback suggests that there have been improvements in the skills system in recent years, with many employers stating that they have good working relationships with local colleges, universities, and training providers.

3.5 Some businesses cited examples of partnership working with providers to develop new courses, and of industry supporting providers by contributing to course delivery, mentoring, workshops, and educational projects. Such activities can help to create better links for learners between what they are learning and the world of work in which they will use these skills. Whilst it is often the larger businesses that have the time, resource, and influence to do this, it can nevertheless have positive impacts for smaller businesses who are subsequently able to access improved and more relevant course content.

Barriers and challenges

Developing qualifications

3.6 As much of the technology in the low carbon sector is new and emerging, certain training and qualifications do not currently exist and in some cases employers and providers are in the process of developing appropriate standards and qualifications. There is an understanding that this will need to be done at a national level to ensure consistency, and also as a partnership between businesses and providers.

3.7 There needs to be recognition that national policy must play a role in developing new qualifications in the sector and that the current approach, particularly in the development of occupational standards, can act as a significant barrier to employment. There is a chicken and egg situation where it is impossible to develop occupational standards until job roles are firmly understood, and to form a trailblazer group to develop a standard and end-point assessment plan to be used in an apprenticeship there must be a group of employers who can justify a need for the apprenticeship. When the predicted jobs finally come on stream, there is no skills base to fill them because the qualifications have not been developed. Working with employers, the system must be more flexible to allow qualifications to be developed for emerging sectors.

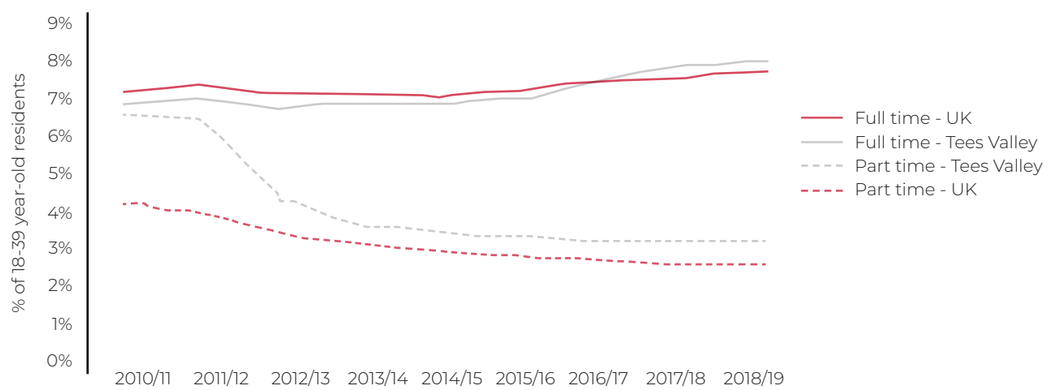
3.8 Future skills needs in the industry are heavily determined by rapidly changing technologies, so it appears to be predominantly those businesses that are deeply involved in the new technologies that are beginning to understand the specific future skills requirements. These are the businesses that are most likely to be able to support the development of new standards and qualifications.

3.9 In terms of upskilling the existing workforce, short modular courses are required to develop sector specialisms. However, the current funding system makes it difficult for providers to develop these courses and for employers to access them. The funding system is focused on full-time, long-term courses for younger people, such as Apprenticeships and T levels, rather than short vocational courses for older people aged 25+ and those already in the workforce.

3.10 More flexibility is needed in the funding system, coupled with an improved awareness of low carbon / net zero career opportunities and the skills required to access them. This would help to improve provision of, and access to, relevant short courses that would help to upskill the current workforce and build a pipeline of potential employees for the low carbon industries.

3.11 There must be a training ecosystem which allows entry at all levels and progression from Level 2. Skills reforms have seen Level 2 apprenticeships halve over 10 years and the reduction of lower-level qualification routes are a significant barrier to whole cohorts of the workforce who could potentially develop a career in the Low Carbon industries. The proposed reforms to qualifications may exacerbate this further, and whilst employers are supportive of T Levels, they are not necessarily the right solution for more entry level roles.

Figure 2: Rate of 18-39 year-olds participating in Higher Education by mode of study



Adult training

3.12 Whilst there is a strong focus on attracting young people into the Low Carbon sector, there will not be enough local school and college leavers to meet the demand from industry.

Employers will therefore need to look to older workers and career changers to fill the gaps. There have been several recent announcements from Government on adult skills, not least the Lifetime Skills Guarantee. However, this only goes some way towards restoring previous reductions in the adult education budget.

3.13 However, for most, career change is a difficult and costly process financially and in time. Career change is not easily supported by current funding models and skills provision often does not fit around existing work or childcare commitments. The requirement to self-fund courses often closes doors, with many individuals in lower income brackets not able to afford course and living costs whilst training, or reluctant to take on debt.

3.14 The Bootcamp model is potentially helpful, but provision is patchy and sometimes restricted by postcode. There are some excellent bootcamp courses leading to recognised qualifications, but it is not the case for all. Some bootcamp courses only provide a basic introduction to the industry and are of limited use to employers. There should be recognised accreditation across training courses aligned to the standard requirements for industry.

3.15 There is a section of the workforce, often with zero hours contracts, who need to have multiple jobs to make ends meet and are simply not able to think about training and career development.

3.16 The requirement employers set for entry into jobs can also be an issue. Many employers have a default of requiring significant experience in addition to qualifications. When challenged on this by providers, it is often the case that there is no real need for such levels of experience to carry out the role but employers have set HR policies. This can be detrimental to both school leavers and adults looking for new careers and lead to poaching of existing employees and ultimately a contraction of the labour pool.

Social factors

Transport

3.16 Transport can be a significant barrier to individuals accessing employment and training opportunities in parts of the Tees Valley. Whilst transport provision within the main population centres and to schools and colleges is adequate, major industrial centres can be difficult, particularly outside of normal working hours.

Examples of Public Transport times to the Teesworks site

Route	Journey time (minutes)	Number of buses/trains
Firthmoor, Darlington	93	3
West Hartlepool	100	2/3
Nunthorpe, Middlesbrough	65	2
Guisborough	66	2
Hardwick, Stockton	65	2
Loftus, East Cleveland	62	1

The Prince's Trust NatWest Youth Index 2022 (2022)

- The pandemic has caused massive disruption to young peoples' education, employability, and work chances. This has resulted in heightened fears for future work and long-term prospects, with young people reassessing what they want in a job. Concerningly, one in five young people (20%) don't think their employment prospects will ever recover from the pandemic. This figure rises to more than a quarter among those from poorer backgrounds (23%) and who are Young People Not in Education, Employment or Training (NEET) (27%). Half of young people who have missed out on school or work due to the pandemic (50%) believe they'll be overlooked for jobs. Three quarters of young people who have missed out on school or work due to the pandemic (73%) are frustrated at missing opportunities to help their future career. Almost half of young people (48%) now consider the impact of a job on their mental health before accepting. Additionally, over a quarter (28%) state they want their job to be pandemic proof, with one in five (19%) stating that the pandemic has motivated them to start a new career.

- For those young people facing disadvantage and unemployment, the situation is even worse. Among those young people who are NEET, a quarter (23%) report that they constantly feel anxious compared to 16% of young people overall. For those from poorer backgrounds, this figure rises to 18%. Sadly, these concerns are once again heightened for young people from poorer backgrounds (54%) and those who are NEET (56%). An additional consideration among NEET young people is how isolating looking for work can be; with more than a third (38%) reporting that struggling to find work makes them feel lonely.

- Some of the ways in which young women feel they could improve their confidence include having access to more support and inspiration. Half of young women (50%) agree that having a mentor would improve their confidence in their future, while 49% said seeing young people like themselves achieve their goals gives them confidence.

- In 2021, 6.6% of 16–19-year-olds in Tees Valley were claiming UC and searching for work compared to 4.3% nationally (Tees Valley Combined Authority, 2021). The Tees Valley rate had fallen 0.2 percentage points from December, higher than the national decrease of 0.1 percentage points (Tees Valley Combined Authority, 2021). In addition, 12% of 20–24-year-olds are claiming compared to 8.7% nationally (Tees Valley Combined Authority, 2021). This was an increase by 0.2 percentage points over the last month, compared to no change nationally (Tees Valley Combined Authority, 2021).

- Following years of broadly unchanged rates, the COVID-19 pandemic has resulted in a sharp increase in the youth alternative claimant count in Tees Valley, regionally and nationally (Tees Valley Combined Authority, 2021) All Tees Valley local authorities have followed broadly similar claimant count trajectories over the past five years (Tees Valley Combined Authority, 2021). However, within that, Hartlepool remains an outlier with youth unemployment rates above the other four Tees Valley districts (Tees Valley Combined Authority, 2021).

What needs to change

General principles

3.17 Employers were very clear that the change required should be a process of evolution not revolution; much of the provision required is in place and working well. Existing provision should be enhanced with new modules building on a solid base, rather than the invention of whole new programmes.

3.18 Provision will, however, differ depending on the sector and size of the company seeking to access training. Large employers using new technologies demonstrate a willingness to work with providers to develop tailored courses. The Government should allow that to happen without being over prescriptive on the length or delivery of courses.

3.19 However, a large part of the move to Low Carbon is likely to impact on small scale SMEs. New technologies in motor vehicles and domestic retrofitting will largely be done by small operators and few have yet invested in the technology or training to make the transition. Part of the challenge for providers will be persuading small companies to invest and to get the timing right, so that the skills are available once there is a ready market for the services. There is some evidence that some SME owners may consider retirement and leaving the market rather than making that investment.

Careers advice

3.20 There is recognition among employers that they face challenges in attracting young people into their businesses and there is a need to change perceptions to make these jobs more appealing to the younger generation. Businesses that are still operating in what are perceived to be older, traditional, or less environmentally friendly sectors particularly struggle to attract young people. This includes sectors such as oil and gas, diesel engine manufacture, and traditional engineering and manufacturing businesses in their supply chains.

3.21 In addition, there has been a gradual decrease overall in young people pursuing careers in engineering and manufacturing, with many instead opting for careers in the IT and digital sector. Due to the significant increase in environmental awareness among younger generations, those that are pursuing engineering and manufacturing careers are more likely to be focused specifically on green industries such as renewable energy.

Nevertheless, the more traditional technologies and power sources are still some years from becoming redundant, added to which many businesses in these sectors are in the process of transitioning to new areas of work focused on low carbon technologies. It is, therefore, essential that they continue to attract new entrants to the workforce and can position themselves as the employer of choice for younger people.

3.22 Many employers have been taking steps to address this at an individual organisation level, trying to promote the good quality job opportunities they can offer, as well as how these jobs are changing, and the role they play in supporting the wider low carbon industries. There is, however, more work to be done and opportunities for the wider skills system to play a role in this. For example:

- Increased intervention at an earlier stage of education and careers advice to engage young people, raise awareness of the job opportunities available, and begin to create a pipeline of employees for the future. Many businesses already undertake engagement work in local schools and colleges and there is potential to expand this work significantly.

- A number of businesses commented positively on the UTC model, and the potential this system has for engaging and developing more young people to work in the low carbon and related industries. Whilst there is some recognition that the UTC model has not been universally successful, employers like the strong emphasis on interaction between industry and education and their sustained involvement with the organisation.

- Some businesses suggested that training providers could rethink the way they promote and deliver provision for more traditional trades, such as plumbing, welding and metalwork. There is a need to continue teaching these traditional skills but in a way that links them to new and emerging industries.

- Efforts to bring more young people into the sector should also focus on diversity, for example bringing in more females and people from ethnic minority backgrounds. Developments in technology and digital applications will also create more opportunities for people with a disability to enter the sector and to access jobs that have previously been unavailable to them.

Skills provision

3.23 In addition to supporting the challenge of attracting more young people to pursue careers in the low carbon industries and its wider supply chain, employers identified other priorities that would help to develop a workforce that meets the skills needs of their businesses. These include:

- An increased focus on the development of personal attributes and attitudes to create a ‘more rounded’ individual. For example, this could include the development of skills such as adaptability, flexibility, innovation, problem solving, creative thinking, professional attitude, work ethic, and career management. Employers want to bring motivated people into their organisations who are keen to progress, have the ambition to excel at their job, have open minds and a desire to innovate and try out new approaches.

- Employers are keen to bridge the gap between education the real working environment, with younger people having a better understanding of the practical attributes that are needed in the workplace. For health and safety reasons, some businesses are unable to allow young people on site for visits and work placements. However, they are receptive to college/learning provider staff undertaking work placements or visits, and to representatives from their organisation spending time with learners in a college setting.

- Businesses would like providers to be more proactive with emerging markets, highlighting the potential benefits of local education provision being aligned to major projects and developments in the Tees Valley. This would help to generate the new external talent pool that employers need to tap into in the coming years, as well as supporting the development of existing staff. However, they also acknowledge that greater clarity is required from decision makers at a higher level in the low carbon/energy sector, so that both employers and providers can respond accordingly. In addition, they recognise the need for businesses themselves to provide better information on their future skills and recruitment needs, for example through stakeholder and supplier events.

- The Apprenticeship levy is too restrictive and, as a result, is not being used to greatest effect. Many employers currently have unused levy money but are required to pay more for some of the training they actually need, such as short courses. Therefore, the levy is not addressing skills needs, or ensuring that the company gets best use from its training budget. Employers

would like to be able to fund a wider range of more relevant training activity, for example one-year industry placements for undergraduates to provide practical work experience; summer placements for students; short, modular courses to upskill existing employees; or CPD for the current workforce.

- The Digital Apprenticeship Service has added a layer of complexity to the employer engagement process and can be difficult to navigate especially for SMEs. Many employers struggle with the system and often give up halfway through the process. The technology should be simplified, or providers allowed to assist employers to register apprenticeships.

Research and development

3.24 In developing skills provision for the new, low carbon technologies, support should be given for a Research and Development facility where employers can come together with providers to develop the provision employers need. This would also allow employers and providers to develop a detailed, high-level plan for skills provision when new investors come to the area or significant contracts are awarded.

3.25 Whilst providers do undertake some Research and Development, it is done using existing funds and it is not always possible to do it collaboratively because of the competitive nature of funding. Special provision should be considered to allow collaboration and the development of new programmes and courses to fit with employer requirements as they arise.

3.26 There is also a need for support to develop skilled teaching staff. There are many excellent staff with considerable industry experience working with providers across the Tees Valley. However, if the ambitions for growth of the Low Carbon industries in the Tees Valley are to come to fruition, there will be a requirement for many more skilled tutors and an upskilling of existing tutors in the new technologies. Providers are in competition with the industry itself to attract individuals to teach, and face an uphill struggle when unable to match wage rates to those paid by industry.

Social benefits

3.27 It was also emphasised by employers that the skills needs that are emerging from the ongoing growth of the low carbon sector in Tees Valley offer significant potential to deliver wider social and economic benefits for the area. A number of employers highlighted both a practical need, as well as their own desire, to deliver good quality training and employment opportunities for the local population in the Tees Valley. There is a desire to ensure that jobs are taken by local people and an emphasis on creating social mobility. Employers would like increasing diversity and inspiring local people to be features of the LSIP, including:

- Using adult apprenticeships and other training schemes to upskill and reskill unemployed people.
- Making the sector more appealing and accessible to females, people from ethnic minority backgrounds and people with disabilities.
- Raising the aspirations of local people so that a greater proportion see themselves as potential supervisors, leaders and senior managers.

3.28 One of the main factors preventing the take up of adult training and re-skilling in the Tees Valley is debt aversion; many adults simply will not take on the level of debt involved in re-skilling. Consideration should be given to how costs could be co-funded. This approach has been successful where applied to the Access to HE Level 3 course where individuals completing the course and then going on to complete their degree, student loans were then written off. There may be a case to pilot a re-skilling scheme where loans can be written off if progressing from a Level 4 to 5 for re-skilling in a priority sector.

Section 4:
Roadmap for delivering change

Introduction

4.1 The discussions with employers also highlighted some practical ideas and actions that could help to improve the overall skills ecosystem in the Tees Valley. These suggestions were made with the understanding that collective action is required from employers, providers, and wider stakeholders in the local skills system, as well as local and national Government. As well as focusing on ways to ensure local provision can be more responsive to the needs of employers, it also recognises the need to increase demand for skills amongst local people, and, in particular, to draw more young people into pursuing careers in the low carbon industries and their supply chains.

4.2 Again, it is important to emphasise here that change should be a process of evolution and not revolution, building on the Tees Valley's strong engineering and manufacturing background.

Feedback from employers

4.3 Co-ordinated initiatives are required to change perceptions of careers in engineering and manufacturing. The narrative needs to focus on how jobs in these industries are changing, with more modernised and inspiring working environments; greater accessibility and inclusivity to people from a wide range of backgrounds; high quality job opportunities with strong long-term career prospects; and a greater focus on carbon reduction and environmental impact.

4.4 Skills plans should include an upskilling/reskilling strategy for Tees Valley, setting out opportunities to retrain people who are looking for a career change and bringing unemployed people back into the workforce. In partnership with employers, the strategy should seek to identify the '10 big skills' that would have the biggest impact in terms of creating an appropriately skilled workforce for the low carbon industries.

4.5 Implement initiatives in the education system that will help young people to develop the skills and knowledge needed for jobs in the future. This would include developing strong core skills such as creative thinking and critical problem solving; building awareness and understanding of low carbon/net zero and its relevance to the workplace; and building digital skills into the education system as a core cross-cutting skill.

4.6 Implement a 'low carbon academy' approach, whereby different businesses would be able to share the costs, benefits and outcomes of pooling knowledge and resources to upskill the workforce. This would include, for example, businesses and providers working together to develop tailored training modules; creating short and longer-term work placements for both learners and training provider staff, to improve practical understanding of the workplace; and creating access to academic and other research staff so that businesses can build their own knowledge and expertise in new and emerging specialist technologies.

4.7 More capacity in training for higher level roles or specialist skills such as planning, project management, process optimisation and leadership and communication.

4.8 There is clearly more work to be done, and further engagement with businesses will be required to develop more detailed plans as the specific skills needs of the low carbon industries become clearer. Nevertheless, businesses appreciate they have an important role to play in ensuring that local skills provision is fit for purpose, for example by engaging with providers; working with schools and colleges to raise awareness of job opportunities; sharing knowledge and expertise; and supporting efforts to make their workplaces more diverse and inclusive.

The skills system

4.9 Tees Valley is an area in transition with many potential opportunities for economic regeneration and jobs growth. It is vital that the skills system responds to ensure businesses and local people can make the most of these opportunities. Given the scale of growth in the low carbon sector, and the impact this will have on the need for a much greater volume of appropriately skilled people in Tees Valley, employers recognise that collective action is required at a regional level. This requires providers, employers and other key stakeholders working collaboratively to identify and focus on the key skills priorities and the areas of skills development that will make the biggest difference in Tees Valley.

4.10 There are a number of programmes and initiatives which already have elements of the recommendations from employers and we should have the opportunity to learn from the SDF Teesworks Skills Academy, the Institutes of Technology and the good work being done by individual providers working with their individual client groups. However, there is nothing pulling all this together where there is an easy access point for employers with a creative, collaborative space to try new ideas and develop skills programmes benefitting the whole area which are dynamic and respond to rapidly shifting markets. A Research and Development function funded separately from delivery and working with employers may be able to provide this.

4.11 Skills bootcamps may be one way of responding to the desire of employers for a modular approach to skills provision in this sector. Current bootcamp provision has not delivered much in the sectors covered by this trailblazer but there is real potential to develop new programmes. Employers would need to be confident in the quality of provision but a robust, collaborative development process could overcome that. Funding models should also be simplified as there has been a significant expansion in recent years in the number of funding streams with one provider reporting moving from around 8 funding streams to now having 59. This is very resource intensive and feels like micromanagement of the skills system by the centre.

4.12 Due to the rapidly changing nature of the sector and much of its basis being large contract work which then feeds down the supply chain, providers should have the ability to collaborate in a Research and Development function which is funded separately from delivery. Whilst urging general caution about complicating the funding environment, a Tees Valley budget allowing providers to work together with employers to look ahead and assess the skills requirements for pending contracts or new technologies would be welcome.

Learners

4.13 Consideration should be given to piloting a re-skilling scheme with flexible funding options, perhaps where loans can be written off if a learner progresses from a Level 4 to 5 for re-skilling in a priority sector. This would help to create an ecosystem where adults want to retrain but are discouraged by the cost and potential debt. It would also help to channel individuals to priority sectors. However, there is a potential issue in balancing the number of individuals training with the jobs available to avoid a large oversupply of trained individuals chasing too few jobs.

4.14 Employers should be challenged on their requirements for industry experience and encouraged to re-think hiring policies for certain roles. This may be a role for Employer Representative Bodies and industry organisations.

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