

# SKILLS FOR NET-ZERO IN LANCASHIRE

Building the low carbon workforce of the future

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# Foreword

Lancashire has a compelling story to tell when it comes to the energy and low carbon economy. The county has a concentration of low carbon energy assets including nuclear, wind, marine and battery technologies. There are 5,200 Lancashire businesses operating in the energy & environment sector. These businesses employ 40,000 workers. In addition to which, it is home to cutting-edge advanced manufacturers and world-leading engineering companies which provide the technical innovation and design expertise which contribute to a unique low carbon ecosystem. Lancashire already makes a huge contribution to the North West's energy and low carbon capacity, with more than a quarter of the region's assets located in Lancashire, with significant further investment planned over the coming years.

As the birthplace of the Industrial Revolution, the Lancashire Enterprise Partnership (LEP) want to ensure Lancashire remains at the forefront of the energy & low carbon revolution. To that end, we convened our Energy & Low Carbon Sector Group in 2020 to allow business leaders and experts to consider the strategic challenges facing the industry and to ensure that Lancashire was well placed to maximise the significant opportunities that the energy and low carbon revolution presented.

The LEP's recently published Energy & Low Carbon Sector Plan not only articulates the scale of those opportunities facing Lancashire, it also identifies the policy and funding interventions – at both the local and regional level - needed to realise that opportunity. However, the Plan also highlighted sector skills as a significant challenge that must be overcome. We are therefore delighted that we have been able to collaborate with The Work Foundation to explore those skills challenges in more detail and identify potential solutions.

Recent research from the LGA shows that Lancashire is forecast to have the highest number of low carbon jobs in the country - 44,000 by 2030 (the equivalent of 6.3% of all forecast low carbon jobs nationally). This represents a massive boost to the county's economy and it is clear that businesses are already adapting to find ways to ensure they have staff with the required skills to meet current needs. We now need to encourage government and education institutions to do more to ensure that Lancashire has the skilled workforce needed to fulfill its potential as the engine room of the green industrial revolution.

***Sarah Kemp – Chief Executive,  
Lancashire Enterprise Partnership***

## About the Work Foundation

The Work Foundation is the leading think tank for improving work in the UK. We have been an authoritative, independent source of ideas and analysis on the labour market and the wider economy for over a hundred years.

As the pace of economic change continues to disrupt the ways we work and do business, our mission is to support everyone in the UK to access rewarding and high-quality work and enable businesses to realise the potential of their teams.

To do this, we engage directly with practitioners, businesses and workers, producing rigorous applied research that allows us to develop practical solutions and policy recommendations to tackle the challenges facing the world of work.

We are part of Lancaster University's Management School, and work with a range of partners and organisations across our research programmes.

## About the Lancashire Enterprise Partnership

The Lancashire Enterprise Partnership (LEP) is a strategic collaboration between business, universities and local councils which directs economic growth and drives job creation.

The LEP was formed in 2011 to make Lancashire the location for business growth and inward investment. Since then, we have played a crucial role in setting the county's economic priorities.

Our role is to ensure the best possible economic conditions so that businesses can start, grow and thrive, offering easy access to business support which improves productivity and competitiveness and skills to develop the workforce and talent for the future.

We work with government to bid for public funds, focussing on opportunities that maximise job creation and green growth to spread the benefits right across the county.

## Acknowledgements

A number of individuals and organisations help made this work possible. The market research agency, Blue Marble, carried out survey and interview fieldwork. A number of colleagues at the Lancashire Enterprise Partnership and the East Lancashire Chamber of Commerce contributed to this research: Miranda Barker, Martine Winder, Dr Michele Lawty-Jones, Lisa Moizer, Stephen Sykes and James Ford. Mandy Dillon, Senior Research Development Manager at Lancaster University, also provided helpful input on the project's development, based on her own skills research. Special thanks must also be extended to the Lancashire Enterprise Partnership Energy & Low Carbon sector group members, who provided valuable contributions to this research.

# Headline findings

Lancashire's low carbon businesses face skills shortages that are constraining growth and development - holding the county back from reaching its net-zero ambitions:

- 47% of businesses surveyed find it difficult to recruit staff with the skills they need
- Almost a third find it hard to recruit for specialist skills
- Skilled trades roles are difficult to source
- For businesses who find it difficult to recruit staff with the skills required, they reported that this is:
  - Increasing the workload of current staff
  - Delaying the development of new products and services
  - Resulting in increased operating costs

To mitigate recruitment challenges, many low carbon businesses are undertaking intensive in-house training:

- 81% of all businesses surveyed stated that they are delivering their own training in-house
- Of these, 65% (28) of businesses who run their own training do so to fill gaps not covered by external provision
- 75% of survey respondents pay for external training to ensure their staff have the required skills
- Aside from training, only 36% of businesses engage with schools/colleges to provide career activities for children; and of the 25 businesses who find hiring difficult, only 9 engage with stakeholders in the skills system to shape the provision of local education and training

These findings indicate that the skills system needs to better incorporate the workforce needs of low carbon businesses, which will only increase as the march to net-zero gathers pace.

Recent policy development has focussed on employers playing a more central role in the local design and delivery of technical education, and this research demonstrates that the needs of low carbon businesses must be at the heart of co-developed skills provision.

The results referred to throughout this briefing are derived from:

- a quantitative survey with Lancashire-based businesses in the low carbon sector
- qualitative interviews with ten businesses who participated in the survey
- two seminars held with Lancashire Enterprise Partnership's energy and low carbon sector panel – referred to as the sector panel

A methodology can be found at the end of this briefing which provides greater detail about these research activities.

# Introduction

In 2019, the UK Government and the devolved nations committed to a target of net zero greenhouse gas emissions by 2050<sup>1</sup> - a balance between the carbon emitted into the atmosphere and the carbon removed from it. This action was welcomed as a bold and progressive step in the fight against climate crisis, and it has been followed by the Government's Ten Point Plan for a Green Industrial Revolution<sup>2</sup>. But to achieve net-zero by 2050, a transformative shift in our economy and labour market will need to occur, with significant impacts on the make-up and viability of specific sectors, the jobs available and the critical skills employers require.

The Government has established a Green Jobs Taskforce to provide strategic direction for the labour market to transition to a low carbon economy<sup>3</sup> more detailed labour market policies will be needed to reach net-zero.

Jobs will both be created and lost in the move towards net-zero. Estimates have suggested that there could be over 1.18 million direct jobs in the low carbon and renewable energy economy by 2050<sup>4</sup> and the Government has a target of an additional 90,000 green jobs to be delivered in this Parliament.<sup>5</sup> Though outside of this sector, jobs in all areas of the labour market will be affected by the green transition, to a greater or lesser extent.

The scale and pace of transformation will vary across the UK. The Work Foundation has worked in partnership with the Lancashire Enterprise Partnership to understand the distinct skills needs of the emergent low carbon sector<sup>6</sup> in the county, and the wider insights this generates for employers and decision makers in other areas across the country.

Lancashire is a strategically important area for the transition to net-zero. Home to a range of facilities that support clean energy, across nuclear, offshore wind and green energy<sup>7</sup> - the county is host to businesses developing green technologies that can help achieve lower carbon emissions. Partly due to its industrial heritage, Lancashire now holds strong advanced manufacturing assets, developed through institutional research including the North West Coastal Arc Partnership for Clean Growth.<sup>8</sup> A 2015 study estimated that 6.5% of Lancashire's total workforce is employed in energy and environmental technologies sectors<sup>9</sup> and proportion is likely to increase in future years.

## Which businesses fall within the low carbon sector?

Defining the low carbon sector can be challenging and there is an on-going debate about the full definition of 'green jobs'. The International Labour Organisation (ILO) have adopted a broad definition of green jobs that encompasses a range of roles involved in the reduction of energy consumption and greenhouse gas emissions, amongst other activities. The Office for National Statistics' Low Carbon and Renewable Energy Economy (LCREE) Survey focuses on seventeen sub-sectors, including: hydropower, offshore wind and bioenergy but does not include all activities that are on the periphery of the sector or businesses with a mixed portfolio.<sup>10</sup> For the purposes of this research, survey participants self-identified as either belonging to the low carbon sector directly, or having a link to it, through partnerships or as a supplier. Further detail on the approach is set out in the methodology.

# Lancashire low carbon businesses are struggling to recruit

Almost half of businesses surveyed stated that it had been either fairly or very difficult to recruit staff or contractors with the skills needed over the past six months.

**Figure 1: Experiences of recruiting staff and contractors with required skills**



N=53

This challenge was further confirmed by other survey evidence. Businesses were asked about their confidence across a range of areas including managing the impact of Brexit on the business, managing the impact of Covid-19 and meeting customer expectations. Strikingly, confidence was lowest regarding their ability to find people with the right skills that the business needs. Interviews conducted for this project were undertaken under lockdown conditions in March 2021. Nevertheless, recruitment was emphasised as a major challenge and of greater immediate concern to low carbon businesses than the pandemic.

Further, around two in three of the businesses who stated they were planning to hire advanced technical staff, senior managers, or project

managers, also said that they expect to find this difficult. The skills gaps identified in our research reflect broader, overarching concerns about the workforce demands of meeting net-zero. The construction industry for example, critical to net-zero ambitions, was predicted to shrink by a quarter within a decade by the Farmer Review, largely due to poor public perceptions of construction work impacting attraction to the sector. Poor job security, working conditions and health and safety concerns were each identified as deterring new entrants from joining the construction industry.<sup>11</sup> Further, recent evidence shows that while there is a willingness to adapt within the construction industry, there are widespread concerns that there will be a shortage of skills for decarbonisation work.<sup>12</sup>

## Low numbers of applicants with the required skills

***"Biggest problem at the moment is [a] lack of people."***

(small business, electricity, gas, steam and air conditioning supply)

A lack of suitable applicants for roles is the key workforce challenge that Lancashire businesses in the low carbon sector feel that they face, followed by lacking interest in many roles that businesses in the sector need to fill.\*

A limited pipeline of candidates with qualifications in Science, Technology, Engineering and Maths (STEM) subjects was seen as a particular challenge for low carbon employers in Lancashire. This has also been identified as an obstacle for the development of the low carbon sector workforce at a national level, with other industries vying for emergent STEM talent.<sup>13</sup>

However, engineering and technology is the most studied subject at further education level in Lancashire, reflecting demand for skills from the county's large manufacturing sector.<sup>14</sup> This underlines the need for low carbon employers to develop a clear career proposition for STEM students within the area.

A range of activity is already underway to promote STEM career pathways in Lancashire. The Lancashire Careers Hub and Enterprise Advisor Network is supported by a range of energy and low carbon employers, for example, Westinghouse is a Cornerstone Employer which is helping to raise the profile of career opportunities in the sector. Also linked to the Careers Hub, Preston's Ashton Community Science College is part of a national network of twenty-two 'STEM Club Champions', funded by the Gatsby Foundation - which supports teachers to inspire children to continue their studies in STEM subjects, through engaging them

in more informal settings and through imaginative teaching methods.<sup>15</sup> Yet businesses in the low carbon sector are not yet reaping the benefit of these efforts. Manufacturing is the third largest sector in the county (following wholesale, retail & trade and human health & social work), and more established businesses in this sector may be more experienced at recruiting STEM graduates, and have established links with FE and HE institutions in the county.

Interviewees also reinforced how a lack of available talent, with few suitable candidates to recruit from, was stymying business development:

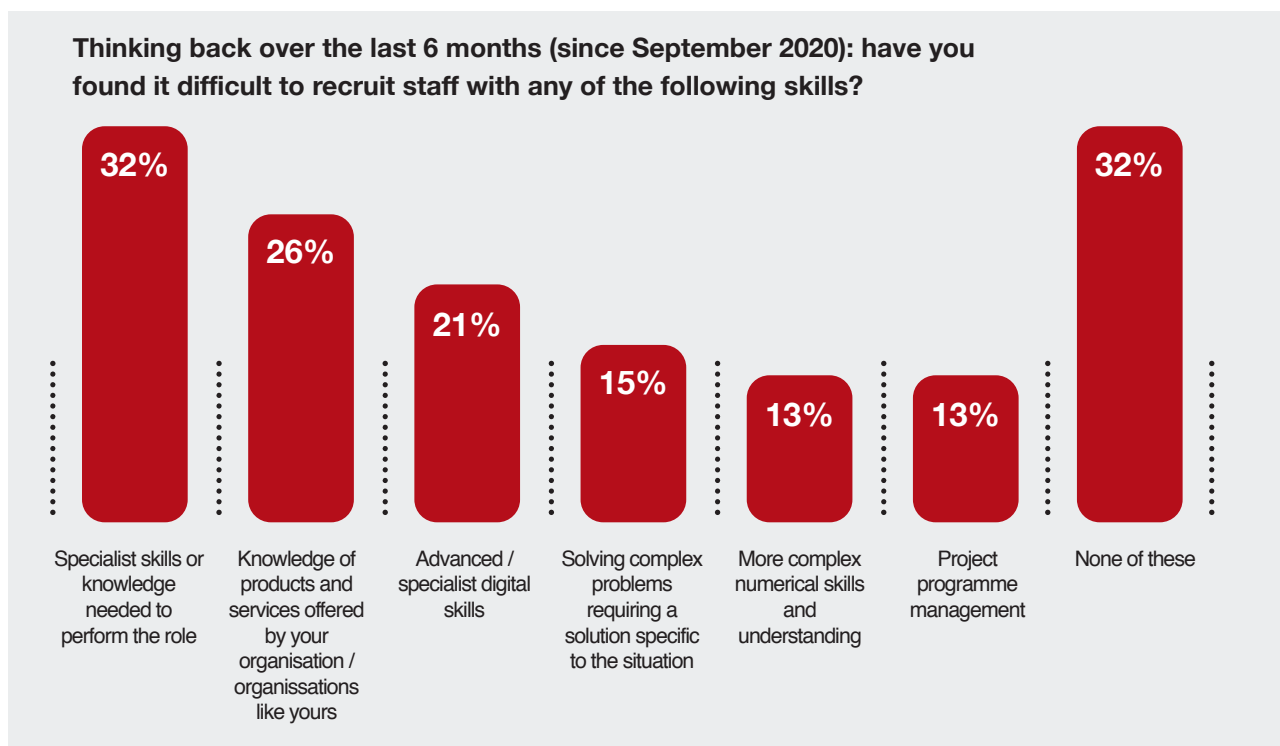
***"We put together a role for a Community Energy Kickstarter because there's a Level 3 to 4 community energy apprenticeship programme which talks about net carbon zero, energization, and off-grid. We thought someone will be really keen for it, but hardly anyone applied."***

(Small business, professional, scientific and technical activities, carbon free practices consultancy)

## Businesses in the low carbon sector are struggling to recruit to both specialist and generalist roles

Survey evidence highlights specialist skills as representing a particularly difficult recruitment challenge for low carbon businesses. Businesses reported recent challenges in recruiting individual specialist skills and knowledge needed to perform the role (selected by 32% of respondents), as well as knowledge of products/services offered (26%). Given the specialist nature of many of the businesses surveyed, it is perhaps unsurprising that the second greatest skills gap is awareness of products and services. Indeed, the difficulty in recruiting for specialist skills or knowledge needed to perform the role speaks to the highly specialised nature of many businesses in the sector.

\*17 and 11 businesses selected these two response options respectively, of the 25 businesses who reported hiring difficulties.



**Figure 2: Specialist skills gaps**

N=53

## Specialist skills

Specialist skills that survey respondents were struggling to recruit for included:

- Advanced engineering
- Software development
- Digital technology
- Digitilisation of manufacturing

Another core area highlighted by employers was difficulties sourcing candidates with problem-solving skills needed to adapt to new challenges, such as a new type of machinery.

***“They have the technical skills on paper but lack the technical abilities – the ability to relate to what a piece of equipment is for...”***

(LEP sector panel attendee)

***“Education system doesn’t make people job/work ready”***

(small business, electricity, gas, steam and air conditioning supply)

Additionally, some businesses highlighted a specific challenge in recruiting web developers and coders. Not only are candidates with these skills in short supply, but businesses in the county have struggled to attract these staff partly due to the growing need to compete with ‘London salaries’. This is concerning as digital skills and data analytics are expected to become core skills for the net zero workforce going forward.<sup>16</sup>

## Recruiting skilled trades workers

The low carbon sector is highly diverse, comprising specialist technical roles, as well as skilled trades including electricians and plumbers. Recruiting to these latter types of role was highlighted as challenging by Lancashire low carbon businesses, with one interviewee lamenting the construction industry’s image problems as a barrier. Skilled trades opportunities are deemed unattractive by many younger people, with poor pay and low prestige turning them away. This notion is supported by additional evidence showing that young people find the prospect of manufacturing roles unappealing.<sup>17</sup>

***“The idea of working in a factory and its preconceptions is limiting employment. The younger generation’s mindset to work is different; working unsociable hours isn’t appealing.”***

(Large business, manufacturing, door and window extruder)



### **Case study: specialist construction firm**

This business specialises in retrofitting social housing to make it more environmentally friendly, such as by installing insulation and solar PV panels. The business employs more than 200 staff in Lancashire and the surrounding area.

The business leader we interviewed expects to need to hire 40 new apprentices each year, to meet customer demand and achieve plans for growth. Specifically, these apprentices will be in "traditional" trades, such as plumbing, tiling, roofing and plastering. The company has historically found that hiring apprentices is an effective way to ensure that staff have the specific skills they need for the business. The company has a strong ethos of internal development, and while apprentices can be a costly investment, their recruitment can help benefit the businesses' overall workforce by also allowing other members of staff to move into more senior roles.

The business leader anticipates that it will be very difficult to hire 40 new apprentices each year, due to a shortage of supply. He anticipates that finding keen apprentices from Lancashire or across the North West will be very challenging because many school and college leavers do not consider such "traditional" trades attractive, due to both the nature of the work and salary expectations. He expects that this will slow the growth of his business at a time when demand for the "green" retrofitting of social housing is high. In turn, he anticipates that equivalent challenges across the sector will make it hard for the Government to hit its decarbonisation targets.

## **Lacking workforce skills are constraining businesses' plans for growth**

Difficulties in securing workers with the right skills are affecting performance among low carbon businesses. A number of businesses reported that recruitment challenges risk preventing them from keeping a pace with growing demand.

Our survey found that skills shortages are causing wider challenges for low carbon businesses, including:

- An increased workload for other staff;
- Delays in developing new products or services; and
- Increased operating costs.

The sector panel discussed the indirect costs of these skills shortages, such as the need to take on more contractors to meet up with business demand.

Our research strongly suggests that there is a real risk skills shortages will hold low carbon businesses in Lancashire back, and as a result potentially stall progress towards activity that would help the county achieve a net-zero future. To mitigate this, businesses interviewed reported that they are seeking candidates with relevant experience gained in different sectors and then training these new entrants with the relevant trade skills required. The following quote clearly encapsulates how businesses in the sector are having to take drastic action to fill skill needs to meet development aspirations:

***"...we want to grow to around 60 million over the next four years.... I know that to get to that figure, we need 15 more site managers, I need 10 more resident liaisons and I need 40 more tradesmen. The reality of that is, when I get there, I can see that there's a hole there, and I would need to fill those, so we're working unbelievably hard to put career development plans, and do succession planning...ourselves..., we'll try to bring our own through, because they're just not coming in with the right qualifications, or with the interest in the construction industry."***

(Large business, construction)

# Low carbon businesses are undertaking intensive in-house training to develop the skilled workforce they need

Evidence shows that low carbon businesses in Lancashire are investing substantial time and resource into their internal training programmes - often in response to recruitment challenges.

When asked about how businesses ensure their staff have the skills they need, four fifths of survey respondents stated that they deliver their own training.

Figure 3: Approaches to addressing skills gaps



N=53

Of the 81% of businesses who are delivering their own internal training, the most common reasons for doing so are: to obtain skill needs not available through external provision; to provide training on a modular basis, around existing work commitments and to manage costs.

The importance of internal training as a mechanism for workforce development was also highlighted within the qualitative research. Sector panel attendees provided multiple examples of how they approach this. A district energy company took on apprentices with a plumbing or engineering background and provided them with more specific training, and was developing a new dedicated staff training site. Another business was in the process of creating a commissioning academy to help

translate engineers from different backgrounds into becoming a commissioning engineer, a role that ensures engineering projects are safe and effective through the commissioning and installation of equipment and systems.

Interviewees also expressed how vital their internal training work is for their businesses. The specialist technical services and products that low carbon companies provide means that, not only do they require workers with highly developed skills within their area of expertise, but even with these qualifications, often further internal training is needed in order to bring the staff member up to speed with practices and approaches specific to the company. One interviewee within the information and communication sub-sector, outlined this challenge in regard to coding activity undertaken within their business:

***"...and when you try to hire for roles that enable people to work on these software and platforms, they're just not aware of them. It's just not part of a curriculum or teaching process. So you've got to readjust everybody towards something, and that may be getting them to relearn everything from a coding perspective for a new thing."***

(small business, information and communication)

The degree to which businesses currently feel the need to conduct rigorous in-house training in part reflects the very specialist nature of services and products which they provide. But, the provision of in-house training can be costly, and smaller firms may not be able to achieve the economies of scale that a large internal training programme could deliver. A strong grasp of industry-wide standards for certain specialist technologies should be developed. On the basis of these criteria, external training provision could be better targeted to meet the specific technical skill requirements of low carbon firms.

This provision should be centred on emergent technologies that will become increasingly important through the transition to net zero. Certain new technologies will require the blending of more

traditional skills into combined skill sets, such as heat pumps which require plumbing and electricity competences. Sector bodies that straddle these emerging technologies should collaborate to help shape skills provision on a local basis.

The lack of specialist external skills provision was further confirmed in the interviews - multiple interviewees outlined an approach to recruitment based on identifying applicants who demonstrate core behavioural competencies, followed by intense training and development:

***"Like to hire people with strong attitude and behavioural skills, then mould them to the..."  
(core values)."***

(large business, construction; fibre optic infrastructure provider)

***"Should have a base understanding, but a lot of training will be mentoring and support from other colleagues."***

(small business, information and communication)

The degree to which low carbon businesses require specialist skills and knowledge bespoke to their businesses is clearly outlined in the following case study, provided through an onshore wind specialist firm that participated in this research.

### **Case study: onshore wind specialist**

This Lancashire-based business specialises in manufacturing, installing and maintaining onshore wind turbines, as well as electric vehicle charging points and battery storage. The business has been growing quickly in recent years: it currently has 15 staff, and hopes to continue growing.

Due to the organisation's position in the field, training staff has been a challenge. The wind energy sector includes various sub-sectors, from small-scale onshore wind to large-scale and commercial offshore wind, which require different skill sets. Many manufacturers who used to work in small-scale onshore wind have since changed trajectory, and no longer offer training. This limits the available external training options, and the business is often required to use generic training courses which they can get funding for but don't lead to formal certification: including health and safety, working at height, and basic electrical training.

Furthermore, each model of wind turbine is different, so the business requires highly specialised in-house training. This is time-consuming and expensive, as staff typically work off-site. The business tends to hire people with practical skills in another sector, such as mechanics, and upskills internally. Their current programme includes a list of site-specific skills that they expect an employee to know in the first year of the job – but there is no industry-wide standard for this. Currently, there is no funding for any of this training, so it is expensive to train a member of staff who is new to the industry. The business would be interested in collaborating to create an industry-wide training course for small-scale wind.

However, through a significant proportion of upskilling being delivered through internal training, workers in the sector will be left without formal official endorsement of their skills and development, as would be provided through official training and courses. This problem was raised by sector panel attendees. This situation will not only prevent workers from being able to furnish their credentials, but will also make it more difficult for employers to gauge the skill levels of applicants, where it is not accredited. This may result in additional costs with hiring firms repeating training that is not needed.

At 36%, the proportion of the survey sample that engage with schools and colleges is modest. Of the 19 companies who stated that they do undertake this engagement, 14 were of 100 employees or more, compared to 2 of 15 employees or less and 3

of less than 100. The increased propensity of larger firms to engage with local school and colleges speaks to resource constraints that can prevent smaller outfits from undertaking outreach.

Given that employers are set to be more involved in developing and designing courses,<sup>18</sup> it is vital that engagement underpinning this approach also includes the views of smaller firms. This should be facilitated through strong local partnerships. For example, larger multinational firms engage frequently with their supply chains which hold a proportion of smaller businesses, representing one such conduit for this type of consultation. But public sector bodies too, such as councils and education providers, should seek to coordinate local skill needs through a range of channels through which the needs of smaller firms can be voiced.

## Conclusions and policy recommendations to boost the supply of skilled labour for net-zero in Lancashire, the North West and the UK

### Shaping skills provision through deep engagement with Lancashire's low carbon sector

A relatively small proportion of employers surveyed said that they seek to engage with stakeholders in the skills system, to shape provision. In contrast however, most businesses are increasing the training offer for existing staff, and offering training to less well qualified recruits. This indicates that employers would benefit from more tailored skills provision from FE Colleges and other forms of provision, such as private training providers and local Higher Education institutions. But with few businesses actively seeking to engage local providers in the skills system, there are clearly barriers to this form of consultation and businesses may not be able to clearly identify how they could approach this; or they lack the resource to do so. Survey evidence showed that smaller businesses had less clearly defined targets for future hiring, indicating that they are less equipped to undertake

extensive workforce planning, and by extension engagement with the skills system.

The recent FE White Paper: Skills for Jobs,<sup>19</sup> set out a vision of technical education in which employers play a leading role in shaping provision. Local Skills Improvement Plans (LSIPs) will be a key mechanism for achieving this through complementing Skills Advisory Panels, which are currently an established route to identifying local labour market priorities. A Lancashire application to be a Local Skills Improvement Plan Trailblazer, as lead by North and Western Lancashire Chamber of Commerce, in collaboration with the other Lancashire Chambers, and Colleges, is pending at time of writing. Should this be successful, businesses will be consulted as part of a collaborative approach and will be supported to articulate their workforce challenges. This should reflect the distinct needs of the low carbon sector. Lancashire has also bid for an Institute of Technology (IoT) at time of writing. IoTs are collaborations between colleges and universities, intended to deliver higher technical

training in STEM subjects. If successful, it would provide an important channel through which businesses could outline their Levels 4 and 5 skills needs.

The Community Renewal Fund (CRF) represents a further mechanism through which this engagement can take place, and will provide £220 million of investment for local areas to pilot new approaches and programmes that can unlock local capacity, and prepare communities to make full advantage of the up-coming UK Shared Prosperity Fund which will replace EU structural funding. The CRF includes a focus on investment in skills for local business, as well as supporting people into employment.<sup>20</sup> At a local level, smaller low carbon businesses should be engaged through local forums created by the CRF and their more generalist skills needs shared, in order to help provide opportunities for possible candidates looking for work. It will be important for emerging LSIPs and CRF initiatives to collaborate and coordinate their efforts with the latter providing a vehicle to identify needs.

### **Policy recommendation**

Sector bodies should undertake surveys with businesses in the low carbon sector to gauge the most pressing skills needs. Based on this evidence, partnerships between Colleges, Higher Education, private providers, and statutory bodies, should be developed in order to take forward provision for identified skills needs.

It is also vital that smaller businesses who can lack the resource needed to engage with the skills system in traditional ways are supported to do so, through engagement facilitated within emerging Local Skills Improvement Plans, the Community Renewal Fund, as well as Institutes of Technology.

### **Facilitating transitions from adjacent sectors**

Too few candidates with the necessary technical skills are holding low carbon businesses in Lancashire back from delivering on their growth ambitions. But, there will be workers in sectors set to decline due to net-zero, such as oil and gas, who would be able to apply their skill sets to many jobs emergent in the sector. International evidence shows that more than three quarters of workers in oil and gas are said to be 'positive about retraining' into the renewable energy industry as part of the net zero transition.<sup>21</sup> Opportunities for transitions

into the low carbon sector should be facilitated by a skills system that is responsive and centred on lifelong learning. Workforce transitions should be partly facilitated by on-the-job training, making upskilling a faster and more targeted process.<sup>22</sup>

Job growth in the low carbon sector and its supply chain can go a long way to helping the Government achieve its 'levelling-up' agenda, as industrial bases are frequently found outside of the South East of England; with a strong presence of electric vehicle manufacturing in the North East and reconditioning and recycling in the West Midlands, as examples.<sup>23</sup>

### **Policy recommendation**

Supporting workers in high carbon transitioning sectors to retrain in new green technologies is one of the key objectives listed in the Green Jobs Taskforce's terms of reference,<sup>24</sup> and it is the body that should provide overall strategic direction to this objective. To help achieve this objective the Taskforce should establish a working group comprised of a range of representative bodies such as the Local Government Association, the CBI and sector groups such as the Northern Automotive Alliance, to produce plans to support sectoral transitioning.

It is vital that these plans are devised through the careful involvement of local actors. Councils and LEPs in particular can help provide a 'place shaping' role and should seek to provide a pipeline of local skilled talent, through careful evaluation of employers in high carbon sectors who will be shedding staff, who could be supported to transition into low carbon job opportunities.

### **Widening the appeal of low carbon job opportunities**

Our research found that limited interest in low carbon jobs is hampering workforce development. Young people in particular are often not attracted to roles in engineering and manufacturing, with perceptions of low pay and unsociable hours highlighted as barriers.

But there exists scope to make careers in the low carbon sector more attractive to young people. Polling undertaken by YouGov shows that among younger people (18-24), tackling climate change is the second most popular cause they would like to be part of their job.<sup>25</sup> But to capitalise on this sentiment, employers, particularly in engineering

and manufacturing, must ensure that their employment offer is attractive to prospective candidates through the provision of a good work-life balance, secure terms and clear prospects for development. Packaged in this way, jobs in the low carbon sector will also appeal to groups currently underrepresented among the workforce including young people and women.

There is also a role for wider careers advice to play in helping to broaden the appeal of jobs in the low carbon sector. For large clean growth infrastructure developments, where there will be a local need for employment, such as Hinckley Point, the local careers advice infrastructure, both within and outside of schools should seek to highlight opportunities through engagement and collaboration with employers.

### **Policy recommendation**

To facilitate internal succession planning, low carbon businesses should engage with and inspire young people through local networks, such as Careers Hubs and Enterprise Adviser Networks, and Skills Pledges, which can support businesses to engage with inspiration and recruitment activities.

These activities should be based on a strong employment offer across various terms and conditions, but clearly identifiable career pathways will be crucial to their success, particularly for under-represented groups.

### **Increasing entry level opportunities in the sector**

Firms have told us that there are often low numbers of applications among young people, particularly for entry level jobs in engineering and manufacturing.

Yet young people have been most affected by the labour market disruption caused by Covid-19.<sup>26</sup> There is an opportunity to provide entry level roles for young people not in employment, as well as those looking to start afresh, with entry level opportunities within the low carbon sector. This can be particularly helpful for smaller companies who are less likely to use apprentice training, as our survey highlighted.

### **Policy recommendation**

Low carbon businesses should develop entry level roles aimed to attract younger workers as well as individuals joining from other sectors. These roles should be provided as stepping stones to further opportunities in the sector, as precursor positions to apprenticeships.

The Department for Work and Pensions could support this activity by engaging with employers at a local level, ensuring that job centres and employment support providers are positioned to work closely with businesses in the low carbon sector to signpost and support take up of entry level opportunities.

Additionally, the DWP should pilot a low carbon sector-based work academy scheme in Lancashire, to boost the recruitment for the sector and provide opportunities for people not in employment.

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# Methodology

The Work Foundation commissioned Blue Marble to undertake quantitative and qualitative research to explore the current skills gaps and future workforce planning issues among Lancashire-based firms operating in or for the Low Carbon and Renewable Energy Economy.

This research included an online survey of 53 businesses between 19th March and 9th April 2021. The survey took the form of an open-link survey, publicised by the Lancashire LEP and the East Lancashire Chamber of Commerce on social media and via email newsletters.

Due to the ambiguity the challenge of defining the “low carbon and renewable energy economy” precisely, businesses were invited to self-identify as having a link to this sector by suggesting examples in the survey introduction.

Survey respondents were invited to participate in a follow-up depth interview, in return for an additional gift voucher incentive. 10 depth interviews were conducted between 24th March and 31st March 2021.

Additionally, two discussions with the Lancashire Enterprise Partnership’s Energy and Low Carbon Sector group were held. The first of these meetings took place at the early stages of the project. The discussion provided a broad overview of the key skills issues faced by low carbon sector businesses, which informed the design of the quantitative and qualitative research instruments that were subsequently delivered. The second of these meetings provided an opportunity for attendees to input on the key findings and early recommendations, contributing to the development of this briefing.

# References

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