

Low Carbon
West of England Local Sector
Skills Statement 2018



Working together to develop the current
and future skills of the sector.



Local Sector Skills Statements provide up-to-date market intelligence from industry sectors; celebrating the notable achievements and expertise of businesses and education in the region compared to regional and national policy and research. They provide insights into: the skills challenges faced by businesses in 2017, possible solutions, and potential partnerships for stakeholders to collaborate in the region. The reports inform key priorities for: investment in training, education, careers advice and professional development in the West of England.



Produced and written by Business West

Business West is working in partnership with the West of England Combined Authority, West of England LEP and the region's universities and colleges through the Western Training Provider Network. The intelligence gathered feeds into the West of England skills strategy.

Low Carbon

Local Sector Skills Statement 2018

The West of England is both a nationally and internationally recognised hub of low carbon sector activity, particularly in: renewable energies, waste and resource processing, low emissions vehicle technology and research and innovation. The region is at the forefront of the clean growth of the UK low carbon economy – in line with the government’s Clean Growth Strategy, ⁽¹⁾ providing: a highly skilled workforce, exceptional academic links and coherent, forward-thinking infrastructural investments.

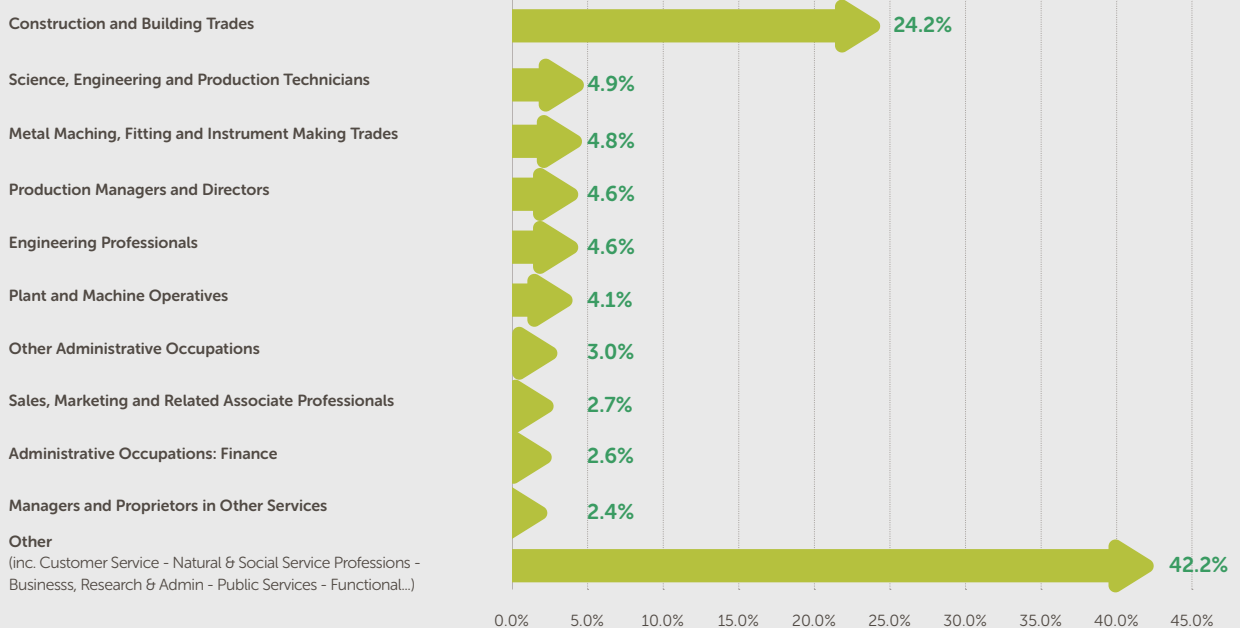
The UK low carbon and renewable energy (LCRE) economy grew by 5.0% to £42.6 billion in 2016, from £40.5 billion in 2015, with energy efficiency products accounting for almost half of the total LCRE turnover (£20.7 billion) and over two-thirds of LCRE employment (141,500 FTE) in 2016.⁽²⁾

In the West of England, a record 1600 jobs were created during 2016/17 through industry growth and targeted campaigns of investment, and across the

South West region we have the highest employment rate nationally as of March 2018.⁽³⁾ The technology sector, which currently contributes £1.2bn to the regional economy, is seen as an important future low carbon growth sector, with an average of 225 start-ups per year in the West of England.

Quantifying total low carbon sector employment figures is difficult, due to the inclusion of low carbon sector jobs under other sectors, such

% of Total Jobs in Industry Group (2017)





as engineering, construction and high tech, but according to the West of England Local Enterprise Partnership ⁽⁵⁾ around 5,900 work in the West of England region within water and waste management. If we take into account the relevant roles within: construction, engineering, research, manufacturing and environmental products - as well as the related professional and consultancy services employees, the figure is significantly higher. Although not in the LEP region, as a source of low carbon energy, the expected labour force for Hinckley Point C – the largest infrastructure project in the UK for decades – will create thousands of jobs and associated apprenticeships within operations and the supply chain.

Notable companies in green and renewable energy production and provision in the region include: Ecotricity, Bristol Energy, OVO, Good Energy and Pure Planet. According to RegenSW's 2016 Renewables Progress report ⁽⁶⁾, the wider South West has the greatest onshore installed capacity at 3.47 GW and the South West was also the region that added the greatest onshore capacity during this year, with 538.5 MW of new capacity. The West of England region now contains over 17,000 renewable energy projects. This growth has been slowed considerably by changes to governmental support in 2015/16, leading to a consolidation in renewable energy installation and provision companies.

There is recognition of the wider impact of the 'low carbon economy', but it is harder to define – the ONS definition of 'economic activities that deliver goods and services that generate significantly lower emissions of greenhouse gases' means that almost any product or service that reduces environmental impact against competition can be considered part of the low carbon economy. The government's recently released Clean Growth Strategy and 25 Year Environmental Plan ⁽⁷⁾ has continued to reinforce the requirements for all industries to improve their environmental performance, both in terms of energy used and material impact. The Clean Growth Strategy is also promising further investment of £2.5

billion from 2015 to 2021 to support low carbon innovation within the wider economy.

Because of these changes to industry support and wider recognition of the benefits of low carbon business, defining the skills needs for the sector (and economy) needs to reflect the wide remit of businesses and sectors that identify as low carbon through more sustainable practice and performance to minimise environmental impact.

In the Business West Skills and Training Survey 2017, respondents identified themselves part of the low carbon economy for reasons as varied as: ensuring the office was as energy and resource efficient as possible; to digital business models reducing requirements for printed media; transport and alternative products or services; illustrating how technology and innovation are driving wholesale change to lower carbon models of delivery and wider business recognition of the benefits of increasing sustainability.

Within education, the knowledge of low carbon practices and sustainability are embedded into learning where possible - particularly in related sectors such as STEM and construction - and it is recognised that 'low carbon' cannot and should not be taught as a standalone subject, recognising best practice and legislative drivers in all sectors, alongside encouraging intelligent access to innovation within all fields. ⁽⁸⁾

There is recognition that many requirements for upskilling the workforce to engage with low carbon activities are predominantly 'softer' skills such as project management and communication, although those surveyed in the Business West Skills and Training Survey 2017 ⁽⁹⁾ defined experienced and/or technical/manual roles (70.3%) as hard to fill.

Key Facts

A summary of key facts both locally and nationally in this sector

The UK low carbon and renewable energy (LCRE) economy is worth around £42.6 billion, having grown by 5.0% during 2016. ⁽¹⁰⁾



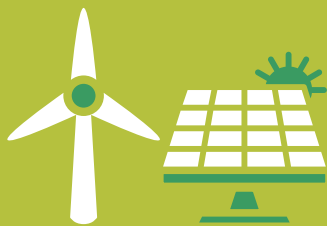
Around 208,000 employees in the UK work directly in the Low Carbon and Renewable Energy Sector. ⁽³⁾



There are approximately 5,900 low carbon employees working in waste and water management in the West of England region. ⁽⁵⁾



There are around 1,000 companies within the low carbon sector in the West of England. ⁽⁵⁾



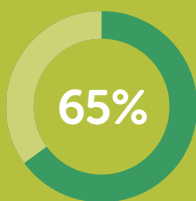
There has been 185% growth in the low carbon sector GVA contribution since 1998. ⁽⁵⁾



60% of all LCRE exports in 2016 were related to low emissions vehicles. ⁽³⁾



Skilled manual/technical roles were the hardest to fill (70.3%) with almost 65% saying that numbers of applications with required skills or experience were low. ⁽⁹⁾



77.8% of advertised roles in 2017 were listed for experienced/skilled workers. ⁽⁹⁾



The top 5 most important skills for working in the low carbon economy were: ⁽⁹⁾
Communication (93.9%)
Team working (86.7%)
Problem solving (82.7%)
Customer service (82.3%)
Numeracy & analytical skills (71.1%)



77.5% of respondents said that their staff had undergone some form of training in the last 12 months. ⁽⁹⁾



53.9% of respondents who had taken on apprentices had done so for skilled manual and technical roles. ⁽⁹⁾



65.2% of respondents said that they offered work experience opportunities to young people and those returning to work but only 37.8% offered traineeships. ⁽⁹⁾





Notable Achievements

Local Sector Skills Achievements in 2017

SGS College – Ambitions+ 2018

Ambitions+ is one of the largest careers advice events in the region with around 1800 attendees from post-16 education in North Bristol and South Gloucestershire. This year Ambitions+ incorporated low carbon careers seminars throughout the programme, advising attendees on routes into the sector and helping them make informed decisions about their future career progression within associated fields. SGS College is also a member of Hinckley Point Training Agency and works in partnership with Gloucestershire Engineering Training.

Weston College – Award winning CEIAG

Weston College has a specialist and award-winning 'ASPECT' (Advice, Schools, Progression, Employability, Careers, Transition) team within its careers service guided by their overarching 'Creating Brighter Futures' strategy 2016-19. Weston College also utilises new form recruitment campaigns including online and social media to reach a diverse range of individuals using updated platforms alongside more traditional methods.

SGS College – Berkeley Green Campus

SGS College's new Berkeley Green campus (at the former Nuclear Laboratories) provides engineering and technical-based construction courses. This campus enables the college to provide vocational training in engineering and construction on behalf of employers working on the new Hinkley Point C nuclear power station, as well as the proposed Oldbury B power station. The college has already developed a strong working relationship with EDF who are building Hinkley Point C and has become a member of the Hinkley Point Training Association.

SGS College currently has £800k of ESF funding to provide low carbon training. An online training portal will support this.

UWE – Embedded Sustainability

UWE has identified over 200 courses available at the university making important contributions to the low carbon sector and the skills required for its continued growth. These range from exploring efficiency in manufacturing, through to reducing the carbon footprint of aviation in advanced aerospace engineering, and energy efficiency within architecture and built environment courses.

University of Bath – Sustainable Technologies Business Acceleration Hub

The University of Bath recently secured funding through the European Regional Development Fund to launch the **Sustainable Technologies Business Acceleration Hub**, providing bespoke support to SMEs and start-ups in the West of England area to grow within the wider low carbon economy. Based at the **Bath SETSquared Innovation Centre** and supported by green network **Low Carbon South West (LCSW)**, the hub aims to establish and scale-up over 130 Small and Medium Enterprises (SMEs) and is the first of its kind in the UK, reinforcing the region's recognition as a hub for low carbon and sustainable technologies, products and services.

In 2017/18, **Skills West** supported education providers at a series of events aimed at young people and careers advisers to inform of the sector challenges, needs and landscape. These included the Pathways to Professions advice events, Ambitions+ at SGS College, Bath College Careers Fair, sector-based talks to students at SGS College and dissemination of the local sector skills statements to all colleges in the region.

Skills West hosted a number of industry events in partnership with **Low Carbon South West** covering topics such as low carbon/green building techniques to explore 'What skills do education providers need to be teaching in order to develop competent, work-ready students?'

Skills West partnered with **SGS College, City of Bristol College, Bath College, Weston College** and **WTPN** to host an Apprenticeship Levy event for employers. Following this, a recruitment event was held for potential new recruits, from the industry, interested in transferring into teaching and/or assessing.

Skills Priorities for 2018

Priority One

Improve Careers Education Information Advice and Guidance (CEIAG)

- *Reflecting on how the objectives in this section can address equality and diversity.*



Issue

Definitions of the 'low carbon sector' and the 'low carbon economy' can be difficult for employers and organisations to understand, although the definition of 'low carbon' as a practice or driver within business seems well understood. Respondents to the Business West Skills and Training Survey 2017 recognise that there is widespread acceptance of the importance of low carbon and sustainability knowledge, but that the term itself may not be adequate to reflect the inclusion within the related fields and that 'low carbon' as a specific subject is not potentially best for business and learner engagement. Good progress has been made towards forging stronger links between education providers and the region's low carbon support networks, but this could be progressed overall in a more coherent way, continuing the improving links between low carbon and construction in the region and building on recent successful programmes of immersion events and a number of relevant reports such as CITB's research into sustainable construction. Headway has also been made by various educational establishments towards making CEIAG available to wider audiences through online campaigns and information dissemination.

Objectives

- ▶ Improve both employer and education's understanding and definitions of the 'low carbon sector', as well as the definition of the wider 'low carbon economy' alongside terms within these, such as the circular economy and environmental efficiency. Ensure these terms are embedded into overall course provision in education.
- ▶ Ensure low carbon is included and referenced in construction/advanced engineering/tech/creative and built environment CEIAG activities to highlight the sector.
- ▶ Encourage and support further uptake of multi-format and accessible CEIAG alongside encouraging industry and support network led CEIAG activities targeted towards under-represented groups, with a strong peer-led initiative.
- ▶ Work with industry and the industry networks/bodies to provide current information on the labour market and careers pathways into the sector that can be shared: with schools, further and higher education using existing platforms such as Careers Pilot and Careers Near Here.
- ▶ Encourage CPD and better quality work placements for all ages by working with industry led schemes and assets in the region through the Skills West 'Employability' Programme.
- ▶ Continue to work with the National Careers Service contract holder and Careers Enterprise Network Advisers to further develop and improve Labour Market Intelligence (LMI) and ensure that materials are available to support on-the-ground careers advice and guidance for practitioners as well as careers advisers.

Skills Priorities for 2018

Priority Two

Improve the quality and responsiveness of local education and training provision.



Issue

Relevant training and education for the sector has often been a 'bolt on' to existing curriculum content, with little specific delivery available because of economies of scale issues.

According to the Business West Skills and Training Survey 2017, skilled manual/technical roles were the hardest to fill (70.3%) with almost 65% saying that numbers of applications with required skills or experience were low.⁽⁹⁾ Low carbon and sustainability are shown to be embedded in higher education across either all or all relevant sector courses, but this is slightly less so within FE. It is important to encourage links between employers and training providers. Feedback from FE colleges has shown that low carbon sector specific courses have little demand; SGS College has £800k of ESF funding to provide low carbon training, but with limited interest so far. The college's online training package is nearing completion and may change this.

The UWE BA Team Entrepreneurship course is producing sustainable business models due to the embedding of sustainability and low carbon as themes throughout all its courses, including students current plans to build sustainable, affordable homes on campus during 2018 as a way of starting a property development business.

Objectives

- ▶ Improved understanding of relevant low carbon practices and innovation should be embedded into FE courses, to ensure that learners are prepared for these sector themes. This can be achieved by examining low carbon sector knowledge and learning in higher education while tailoring this content to a more introductory level at FE. (Understanding BIMM)
- ▶ Education providers to create closer knowledge sharing partnerships with businesses to ensure upskilling learners, so they meet industry requirements and are aware of the industry shift towards clean growth.
- ▶ Encourage more employers to become involved in the co-design of qualifications and training provision through the Skills West programme and engaging with education directly. Possibly creating a business group reflecting the theme of low carbon across all industries that can liaise with education providers, ensuring low carbon is reflected in the training, upskilling and reskilling of staff, trainees and apprentices.
- ▶ Work with Skills West, Western Training Provider Network and cluster organisations to bring together industry and education to better inform of the sector challenges, needs and landscape.
- ▶ Education to raise the awareness of apprenticeship reforms and the support available to businesses financially to encourage use of apprenticeship standards to upskill existing staff as well as recruiting new staff.

Skills Priorities for 2018

Priority Three

Increase apprenticeship starts and availability of higher apprenticeships

- *Reflecting on how the objectives in this section can address diversity and equality.*



Issue

Employers need to be made aware of the full range of apprenticeship areas and levels available, as do new entrants to industry. Although apprenticeship starts fell heavily in the 6 months following the introduction of the Apprenticeship Levy (a 61% decrease, DfE figures Jan'18) the feedback from the Business West Skills and Training Survey 2017 suggests that employers are becoming more aware of the requirements for the levy, over 50% suggesting they had at least some knowledge. Further work is needed to encourage greater engagement with higher level apprenticeships and the use of them for upskilling staff. Apprenticeships made up over 50% of employees taken on for skilled manual or technical roles, according to the Business West Skills and Training Survey 2017.

Objectives

- ▶ Continue to share information with businesses on the Apprenticeship Levy and reforms to ensure that knowledge goes up by at least 15% over reported levels in the Business West Skills and Training Survey 2017. Providing clear, accessible apprenticeship advice and guidance to individuals and employers with pathways and entry points.
- ▶ Education providers to work in partnership with businesses to raise the awareness of apprenticeship reforms and the financial support available for new starts and upskilling existing staff.
- ▶ Create an overall strategy and template for employer engagement - available for all apprenticeship providers, to reflect the more competitive marketplace for providing apprenticeships.
- ▶ Further develop industry partnerships to better reflect business requirements in higher apprenticeships and enhance the development path between levels 2 and 3 to higher and degree level providers, to ensure greater ease of progression through levels.
- ▶ Develop a higher level apprenticeships communications strategy, focused on peer and industry representative led engagement and outreach with under-represented groups, targeted towards sector requirements but including elements of sustainability and efficiency throughout.
- ▶ Consider different models of apprenticeship delivery in the region (for example through the sharing of larger firms apprenticeship levy funds) to increase take up. This matches a commitment from UK government in the Creative Industries Sector Deal to "monitor the impact of the Apprenticeship Levy".
- ▶ Increase partnerships with: industry, networks, further and higher education to ensure high quality and relevant apprenticeships and higher apprenticeships suitable for business needs.

Skills Priorities for 2018

Priority Four

Engage SMEs in the active retention of staff through programmes of skills development and training to ensure increased productivity and sustainable growth.



- *Encouraging SMEs to consider best practice in staff welfare.*

Issue

SMEs within the low carbon economy play a crucial role in the overall economic growth of the region. Many would benefit from support in upskilling and training amongst their workforce, in particular management and leadership levels. The Business West Skills and Training Survey 2017 highlighted both that upskilling existing staff in the softer side of low carbon employment will be beneficial to fill skills gaps, and that the skills required in new roles are not necessarily similar to perceived existing skills gaps, with the majority of harder to fill roles categorised as skilled manual or technical (70.3%). Additional provision to fill these skills gaps in project management, communications and teamwork could all be provided to employers through FE and HE training providers whilst also giving insight into potential requirements for low carbon and softer skills required in the future. 77.5% of respondents said that their staff had undergone some form of training in the last 12 months⁽⁹⁾ which demonstrates a commitment from this sector to upskilling staff.

Objectives

- ▶ Encourage SMEs to upskill existing staff in areas such as management, communication and projects through methods such as free skills assessments and better pathfinding, through affiliated support networks in the region. The Future Bright programme would be well utilised here.
- ▶ Education and businesses to work in partnership to provide flexible and cost-effective training for SMEs to develop staff into roles; to develop leadership, management and IP skills.
- ▶ Support SMEs in exploring the best use of new apprenticeship standards for both recruitment and upskilling existing staff, and provide the opportunity for businesses to influence future skills and training provision. Providing more information on: changes around the apprenticeship levy, age restrictions, new standards and funding.
- ▶ Develop a roadmap for primary contractors to offer support to SMEs in their supply chain through methods such as engagement, training and mentoring, including where identified with under-represented communities.
- ▶ Communicate the business and productivity benefits of upskilling staff via targeted industry campaigns, using online presence, engagement activities and traditional marketing methods to ensure maximum reach.
- ▶ Develop an information package from training providers explaining what Value Added and softer skills offerings are available from training providers, alongside apprenticeship provision for SMEs to increase course uptake, retention and upskilling. (Cost benefits / financial benefits of retaining staff)

Skills Priorities for 2018

Priority Five

Support SMEs to be inclusive and effective in staff recruitment

- *Reflecting on how the objectives in this section can address equality and diversity.*
- *How to build the talent pipeline in the region.*



Issue

A diverse workforce leads to improved productivity, greater reflection of customer base and in turn employee satisfaction. Large parts of the low carbon economy, such as the construction industry struggle with lack of diversity across all areas of its workforce. Suggestions from education providers in the Business West Provider Action Planning Report included changing the way equality and diversity is promoted, raising concerns that promotion campaigns are potentially not effective. Suggestions for better methods of increasing diversity within the low carbon sector included peer, employer and specific sector-led methods, alongside work with existing support networks and regional groups to promote the sector directly rather than inclusion as end result.

65.2% of respondents said that they offered work experience opportunities to young people and those returning to work but only 37.8% offered traineeships.⁽⁹⁾ This provides a strong basis to offer more diverse routes and pathways into the sector alongside improved careers advice and guidance.

Objectives

- ▶ To use the exemplary activities of FE colleges and universities and suggestions from the recent low carbon immersion events to communicate the benefits of increased links with: the industry, sector groups and sector programmes and how these links can improve inclusivity in recruitment, particularly encouraging new recruitment methods.
- ▶ Assist with the support of industry ambassadors and peer-led engagement activities to further the inclusion of under-represented groups and promote sustainability and wider low carbon practises across the region in all sectors.
- ▶ Engage with existing programmes such as Skills Bridge and the Skills West programme to encourage low carbon related companies to seek best practice to explore their company culture and the nature of their 'talent pipeline' to open recruitment possibilities for women and under-represented groups.
- ▶ Utilise existing networks to develop a 'bank' of industry mentors to provide role models to young people and offer ongoing support to sustain a career.

Regional Centres of Excellence and Research

The Advanced Composites Centre for Innovation and Science

Composites Research Centre

Centre for Energy and the Design of Environments

National Composites Centre

University of Bath: I-SEE/Centre for Sustainable Chemical Technologies

University of Bristol: BRITE Futures Energies/CABOT Institute

University of the West of England (UWE Bristol) - Institute of Environmental Sciences (IES), Institute of Air Quality Management (IAQM)

Key Training Providers

Weston College

City of Bristol College

Bath College

SGS College

University of the West of England (UWE Bristol)

University of Bath

University of Bristol

Professional Networks and Organisations

Low Carbon South West

RegenSW

Centre for Sustainable Energy

Institute of Environmental Management and Assessment

The Green Register

Bristol Green Capital Partnership

Endorsed by

West of England LEP and Low Carbon South West

Reference Documents

- 1) Clean Growth Strategy <https://www.gov.uk/government/publications/clean-growth-strategy7> (Oct 2017)
- 2) ONS Low Carbon and Renewable Energy Economy Survey 2017 (Jan 2018)
- 3) ONS Regional Labour Market Statistics 2018
- 4) West of England Combined Authority Business Summary (2017)
- 5) West of England LEP – Low Carbon Sector, Employment in the West of England 2015
- 6) Regen Renewables Progress Report 2016
<https://www.regensw.co.uk/Handlers/Download.ashx?IDMF=19345491-c8de-4cb2-99b3-4273f521ee38>
- 7) 25 Year Environmental Plan, Nov 2017?
- 8) Business West – Skills West Provider Action Planning 2017
- 9) Business West Skills and Training Survey 2017
- 10) UK Environmental Accounts: Low Carbon and Renewable Energy Economy Survey: 2016 final estimates (released January 2018)
<https://www.ons.gov.uk/economy/environmentalaccounts/bulletins/finalestimates/2016/pdf>
- 11) Low Carbon Report, Provider Planning 2017, Business West
- 12) West of England Combined Authority Quarterly Economic Bulletin, July 2017
- 13) West of England LEP Quarterly Economic Bulletin, Q2 2017 <https://s3-eu-west-1.amazonaws.com/so-welep-uploads2/files/About%20Us/Economic%20Intelligence/Quarterly%20Bulletin%20new%20branding%20July%202017%20FINAL.pdf>
- 14) The West of England LEP Employer Skills Survey, 2016
- 15) Department of Education – Apprenticeship and Levy Starts, March 2018
- 16) Emsi - economic modelling 2018 courtesy of Prospects Services

Supporting Research Documents

- a) Tech Nation Report 2017/18
- b) 2018 Creative Industries Federation Report
- c) West of England Combined Authority Business Plan, 2018/19
- d) West of England Combined Authority Operating Framework 2018/19
- e) Industrial Strategy: building a Britain fit for the future, November 2017
- f) The Grand Challenges, Policy paper, May 2018 <https://www.gov.uk/government/publications/industrial-strategy-the-grand-challenges/industrial-strategy-the-grand-challenges>
- g) Careers strategy: making the most of everyone's skills and talents, December 2017
- h) Careers guidance: for further education colleges and sixth-form colleges, February 2018

Advise, connect, support

Get in touch today



businesswest.co.uk/skills



skillswest@businesswest.co.uk



0330 124 4446



#skillswest



Education & Skills
Funding Agency



Western
Training
Provider
Network
Connecting education,
business & training.

**WEST OF
ENGLAND**
Combined Authority

The West of England Combined Authority (WECA) covers Bath & North East Somerset, Bristol and South Gloucestershire. WECA also supports the Local Enterprise Partnership, which includes North Somerset.