

**The Marches Sector Skills Deep Dive -
Environmental Technologies
Final Report July 2020**



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1. Sector Context

The environmental technologies sector accounts for 2.0% of the Marches total GVA which equates to a value of £295m. 1.1% of total jobs are based in the environmental technologies sector, this equates to 3,215 jobs. 0.6% of all establishments in the Marches are in the environmental technologies sector which is a total of 215 establishments. The proportion of the total jobs and establishments in the environmental technologies sector for the Marches matches the national base.

The Marches is playing a leading role in developing new and sustainable sources of energy. As part of this, the Marches has established itself as a national leader in the use of anaerobic digestions to generate power, and in water management and looking after the countryside.

As noted in the Marches local industrial strategy, there are opportunities to use the expertise in environmental technologies to use and manage resources more efficiently and sustainably, and these are essential given the global challenges with the environment today. The industrial strategy also emphasises that the Marches has strong local networks, such as the Marches Nature Partnership, the Business Environmental Support Scheme for Telford (BESST), Marches Business Environment Network and Sustainability West Midlands, who share best practice in sustainability and application of environmental technologies. This will help them to meet the commitment of becoming a net zero LEP by 2030.

The following table displays the GVA, jobs and establishments by the 12 sectors in the Marches.

Sector	GVA (£m)			Jobs			Establishments (Snapshot)		
	2018	%	UK %	2018	%	Eng. %	2019	%	UK %
Advanced Manufacturing	£2,416m	16.1%	9.7%	32,945	11.4%	8.5%	2,715	7.6%	7.5%
Agri-Tech	£694m	4.6%	1.6%	10,730	3.7%	0.7%	6,270	17.5%	4.9%
Business and Professional Services	£4,367m	29.1%	40.0%	54,320	18.8%	24.7%	9,080	25.4%	35.2%
Construction	£887m	5.9%	6.1%	15,000	5.2%	4.6%	3,595	10.0%	11.1%
Cyber Security and Resilience	£667m	4.4%	5.0%	11,800	4.1%	4.7%	535	1.5%	1.1%
Environmental Technologies	£295m	2.0%	2.7%	3,215	1.1%	1.1%	215	0.6%	0.6%
Food & Drink	£576m	3.8%	1.6%	9,250	3.2%	1.3%	205	0.6%	0.4%
Health and Social Care	£1,241m	8.3%	7.8%	40,900	14.1%	12.9%	1,725	4.8%	5.3%
Public Sector Inc. Education	£1,044m	7.0%	6.3%	30,000	10.4%	11.3%	1,670	4.7%	4.4%
Retail	£1,860m	12.4%	10.6%	49,000	16.9%	15.3%	5,705	15.9%	16.3%
Transport and Logistics	£411m	2.7%	4.1%	9,370	3.2%	4.9%	1,100	3.1%	4.0%
Visitor Economy	£553m	3.7%	4.4%	23,100	8.0%	9.9%	2,980	8.3%	9.2%
Total	£15bn			289,630			35,795		

Source: ONS: Regional gross value added, Business Register Employment Survey and UK Business counts, 2019

The latest data for total GVA in the environmental technologies sector was £295m in 2018. This sector accounts for 2.0% of the total GVA for the Marches which is slightly below the UK average of 2.7%. Compared to 2017, the environmental technologies sector for the Marches has increased by £45m, following the UK trends¹.

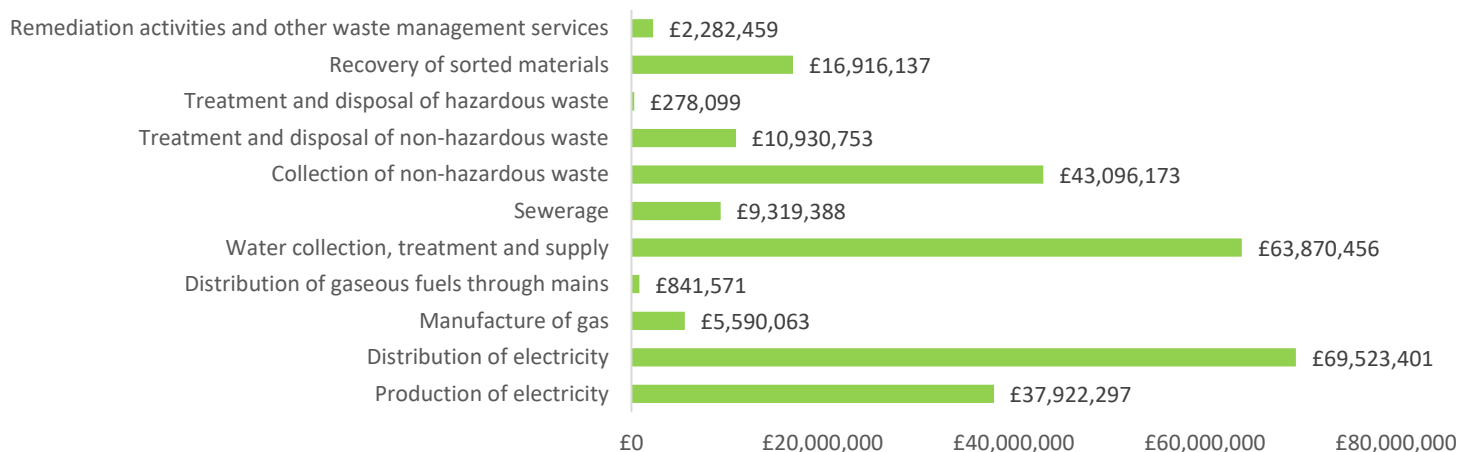
The following table displays the total value of GVA in the Marches.

Sector	The Marches 2017	The Marches 2018	The Marches Change (2017-2018)	The Marches 2018 % of Total	UK 2018 % of Total
Advanced Manufacturing	£2,478m	£2,416m	−£62m	16.1%	9.7%
Agri-Tech	£706m	£694m	−£12m	4.6%	1.6%
Business and Professional Services	£4,169m	£4,367m	£198m	29.1%	40.0%
Construction	£838m	£887m	£49m	5.9%	6.1%
Cyber Security and Resilience	£686m	£667m	−£19m	4.4%	5.0%
Environmental Technologies	£250m	£295m	£45m	2.0%	2.7%
Food & Drink	£573m	£576m	£3m	3.8%	1.6%
Health and Social Care	£1,118m	£1,241m	£123m	8.3%	7.8%
Public Sector Inc. Education	£1,037m	£1,044m	£7m	7.0%	6.3%
Retail	£1,804m	£1,860m	£56m	12.4%	10.6%
Transport and Logistics	£402m	£411m	£9m	2.7%	4.1%
Visitor Economy	£526m	£553m	£27m	3.7%	4.4%
Total	£14.6bn	£15bn	£424m		

Source: ONS: Regional gross value added, 2019

Based on 2015 EMSI GVA modelled data which allows for greater sectoral breakdown the sector contributed £267m in total to the UK economy in 2015. The distribution of electricity, water collection, treatment and supply and the collection of non-hazardous waste accounts for nearly 66% (£176m) of the total environmental sector GVA.

Total GVA by industry in the environmental technologies sector



Source: EMSI Analytics Tool, 2020

¹ ONS, Regional gross value added (balanced) by industry, 2019

In 2019, there were approximately 215 establishments in the environmental technologies sector², this accounts for 0.6% of the total establishments in the Marches which matches the UK average.

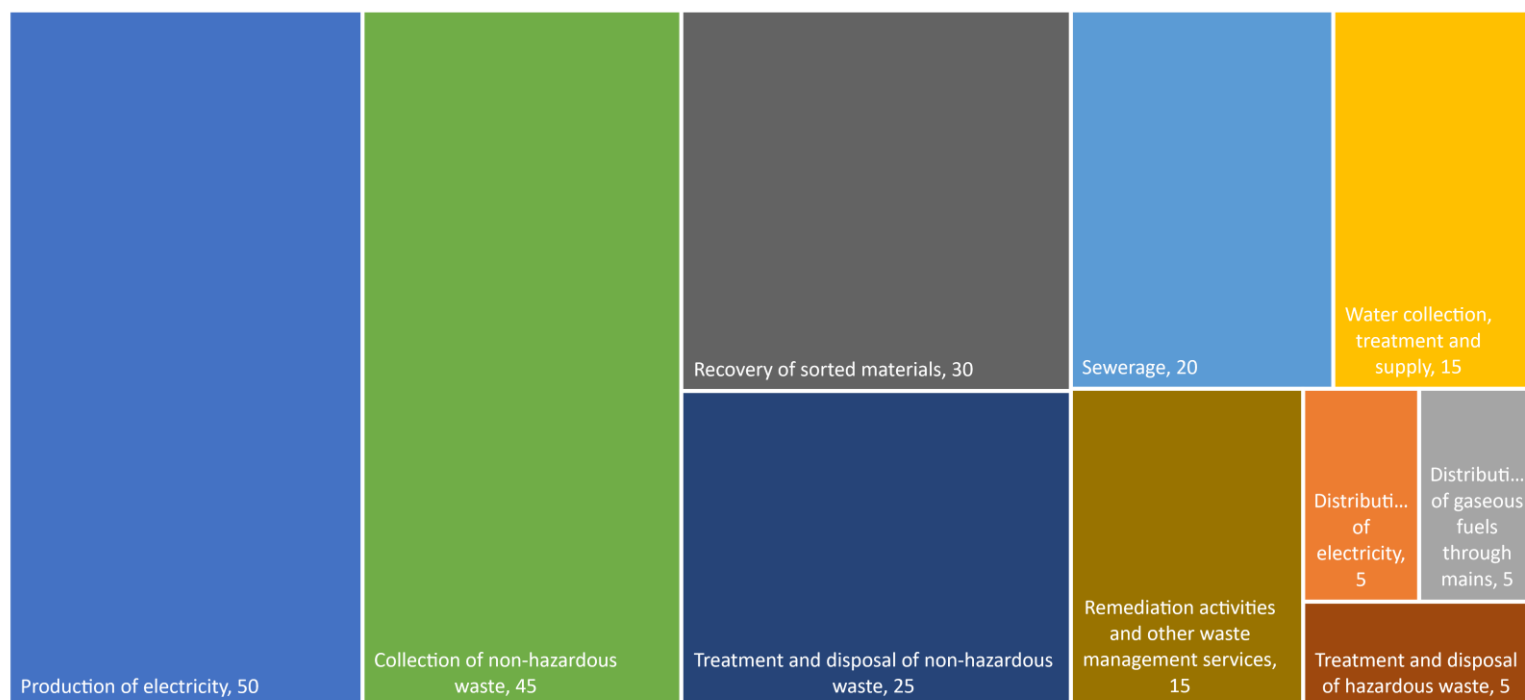
The following table displays the number of establishments in the Marches.

Sector	The Marches 2019	The Marches 2019 % of Total	UK 2019 % of Total
Advanced Manufacturing	2,715	7.6%	7.5%
Agri-Tech	6,270	17.5%	4.9%
Business and Professional Services	9,080	25.4%	35.2%
Construction	3,595	10.0%	11.1%
Cyber Security and Resilience	535	1.5%	1.1%
Environmental Technologies	215	0.6%	0.6%
Food & Drink	205	0.6%	0.4%
Health and Social Care	1,725	4.8%	5.3%
Public Sector Inc. Education	1,670	4.7%	4.4%
Retail	5,705	15.9%	16.3%
Transport and Logistics	1,100	3.1%	4.0%
Visitor Economy	2,980	8.3%	9.2%
Total	35,795		

Source: ONS: UK Business Counts, 2019

In 2019, production of electricity accounted for nearly 25% (50 establishments) of the environmental technologies sector establishments within the Marches³. The following figure shows the breakdown by the number of establishments by industry within the sector.

Establishments by Industry within the environmental technology sector



Source: ONS: UK Business Counts, 2019

² ONS: UK Business Counts 2019. Please note, currently the ONS Business Demography dataset does not provide a breakdown by industry for all registered establishments, the breakdown can be obtained from the ONS UK Business Counts which is a snapshot (March 2019) of the Business Demography dataset.

³ EMSI Analytics tool, 2020

The overall average wages for the environmental technologies sector in the Marches is £36,156, with 6 industries above the average. The average wages per job in the distribution of gaseous fuels through mains is £54,545 and the production of electricity is £53,199.



Source: EMSI Analytics Tool, 2020

Location Quotients (LQs) are a way of quantifying how concentrated a particular industry, cluster, occupation, or demographic group is in a region as compared to the nation. It can reveal what makes a particular region “unique” in comparison to the national average. Higher LQs correspond to higher levels of specialisation, with an LQ above 1 indicating that the area is more specialised in that sector than Great Britain as a whole. In 2018, out of the 11 industries within the environmental technologies sector, 6 are above 1.

The following table displays LQs for the environmental technologies sector in the Marches.

Industry	2018 Location Quotient
Remediation activities and other waste management services	3.62
Treatment and disposal of hazardous waste	2.08
Collection of non-hazardous waste	1.79
Water collection, treatment and supply	1.72
Recovery of sorted materials	1.19
Manufacture of gas	1.05
Distribution of electricity	0.74
Sewerage	0.61
Treatment and disposal of non-hazardous waste	0.56
Production of electricity	0.27
Distribution of gaseous fuels through mains	0.18

Source: EMSI Analytics Tool, 2020

2. Supply Side Analysis

2.1. Current Workforce Size⁴

There was an estimated number of 3,215 jobs in the environmental technologies sector in 2018. This accounts for 1.1% of the total jobs which matches the England average⁵.

The following table displays the number of jobs in the Marches in 2018.

	The Marches 2018	The Marches 2018 % of Total	England 2018 % of Total
Advanced Manufacturing	32,945	11.4%	8.5%
Agri-Tech	10,730	3.7%	0.7%
Business and Professional Services	54,320	18.8%	24.7%
Construction	15,000	5.2%	4.6%
Cyber Security and Resilience	11,800	4.1%	4.7%
Environmental Technologies	3,215	1.1%	1.1%
Food & Drink	9,250	3.2%	1.3%
Health and Social Care	40,900	14.1%	12.9%
Public Sector Inc. Education	30,000	10.4%	11.3%
Retail	49,000	16.9%	15.3%
Transport and Logistics	9,370	3.2%	4.9%
Visitor Economy	23,100	8.0%	9.9%
Total	289,630		

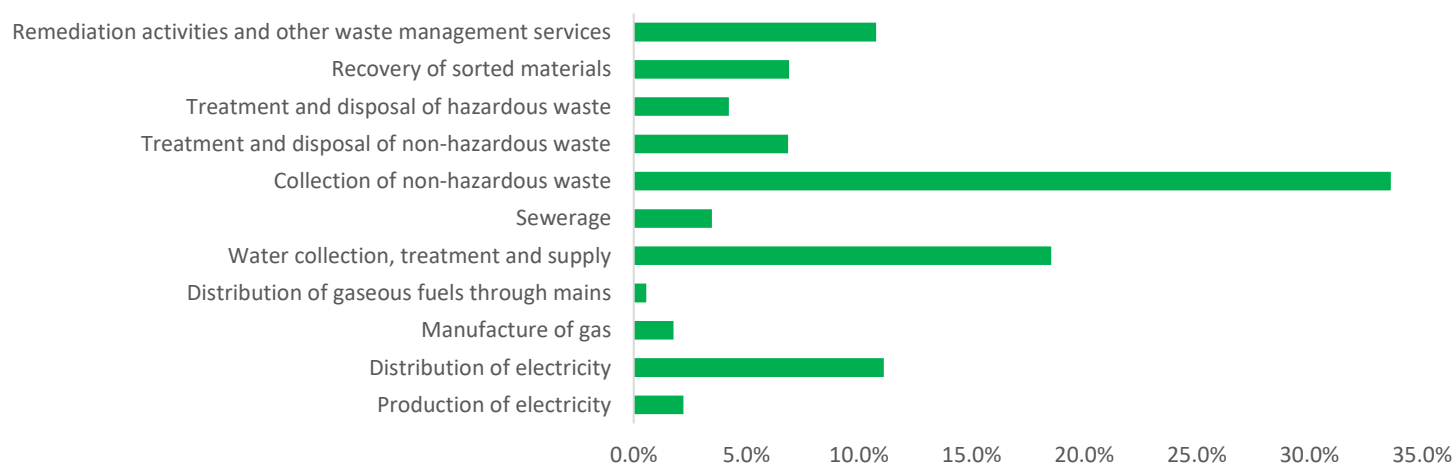
Source: ONS: Business Register and Employment Survey, 2019

Sector Analysis

EMSI provide a more detailed breakdown of jobs by industry and based on their total of 3,412 jobs in 2018- within the environmental technologies sector, collection of non-hazardous waste accounts for nearly 34% of total jobs, this equates to approximately 1,147 jobs in 2018⁶.

The following graph shows the proportion each industry accounts for of the total jobs within the environmental technologies sector.

Proportion of jobs by industry within the environmental technologies sector



Source: EMSI Analytics Tool, 2020

⁴ Please note depending on the source – BRES, EMSI – SIC or SOC codes there is some variation in the total jobs figures.

⁵ ONS, Business Register and Employment Survey, 2019

⁶ Please note, figures will vary as EMSI Analytics tool, 2020 has been used for further analysis.

Occupation Analysis⁷

For the economy in total, it is known that, due to technological progress, the demand for low-skill workers has decreased and the demand and rewards for higher-skill workers have increased. Unfortunately, little is known on the skills base of the environmental technologies for two reasons. First of all, the green economy is not well defined as a sector of activity. Second, environmental skills are not necessarily considered to differ from general traditional labour skills.

Environment skills are demanded by employers in different sectors and in particular by the eco-industry; and usually for a variety of occupations with inherently diverse skills profiles. Gauging the projected skills profiles of the labour force is important to understand which interventions are needed to ensure that enough competences will be supplied to the labour force to meet demand in the future.

The broad sector definition we have used to compile this report has identified 12 occupations associated with the environmental technologies sector. The most prevalent role in the Marches is gardeners and landscape gardeners which account for 35.5% of jobs in the sector.

⁷ Occupation and industry classifications categorise occupations and industries into clearly defined groups. As such they provide a common basis for collecting, presenting, and comparing of labour statistics. **Occupational** classifications (SOC) group people based on job and tasks performed whereas **Industry** (SIC) classifications group people based on the sector of economic activity in which they are employed. For the purpose of this work we have attributed occupations to their most natural industrial sector, so for example a 'Financial Accounts Managers' whose skills are transferrable across all sectors will be contained solely within Business and Professional Services. Any identified skills gap for this occupation would apply to all sectors.

Description	2018 Jobs
Gardeners and landscape gardeners	924
Groundsmen and greenkeepers	382
Environment professionals	276
Town planning officers	180
Waste disposal and environmental services managers	162
Architectural and town planning technicians	133
Conservation professionals	117
Natural and social science professionals n.e.c.	112
Production managers and directors in mining and energy	95
Social and humanities scientists	86
Water and sewerage plant operatives	73
Environmental health professionals	64
Total	2,603

Source: EMSI Analytics Tool, 2020

2.2. Existing Training Provision

2.2.1. Apprenticeship Provision

Apprenticeships Starts

The total number of apprenticeships in the Marches (across all sectors) increased to 6,360 from 6,020 in 2018/19 - up 5.5% compared to 4.7% nationally.

Of these starts, 10 were unique apprenticeships associated with the environmental technologies sector.

ESFA guidelines on the use of data contained within the Localities Data Cubes stipulates that raw data cannot be released and all figures below 10 have to be suppressed. Therefore, given the number of apprenticeship starts in the environmental technologies sector, no further analysis is possible.

Apprenticeship Provision

A mapping and gapping exercise of all apprenticeship provision in the Marches has highlighted that there are 16 apprenticeship providers offering apprenticeships in the environmental technologies sector within 55 miles of the Marches. This was calculated by using the most central postcode SY8 2AF.

The table in the supporting appendix shows the current apprenticeship training provision for each of the standards associated with the environmental technologies sector across the West Midlands: 15 out of the 30 apprenticeship standards associated with the sector are being offered within 55 miles of the Marches. Most provision is held at the training provider, with some courses offering training at the employer. A colour coding system was used to map and gap the provision, with a preference for

learning at providers taking priority in the colour coding, as some providers offer both onsite and offsite learning, which would be coloured green in the matrix.

In 8 cases there were courses with only one provider offering the course across England, e.g. Farrier, Packhouse line leader and Water environment worker. In 5 of these cases the provision was in the West Midlands. There were 12 courses not being catered for anywhere across England at the time of analysis.

2.2.2. Further and Higher Education Provision

Further and Higher Education providers are significant players in the training marketplace. Their role alongside private training providers is to provide opportunities for both the future and the existing workforce to access relevant training in the health and social care sector.

Specifically, there are the following major further and higher education establishments within the area:

- Herefordshire, Ludlow and North Shropshire College
- Telford College
- Shrewsbury Colleges Group
- Harper Adams University
- University Centre Shrewsbury (University of Chester)
- University of Wolverhampton
- NMITE

Higher Education (HESA)

Harper Adams University specialises in the agricultural and rural sector, whilst the University of Chester has a centre in Shrewsbury specialising in subjects aligned to medicine and healthcare, business, and education. The University of Wolverhampton has a well-established campus in the Marches, located at Priorslee in Telford, which currently specialises in engineering and University Centre Telford in Southwater which delivers education, marketing and business management. NMITE is a new higher education institution in Hereford which will focus on engineering subjects.

The table below sets out the number of students studying in these institutions in the academic year 2018/19. The data relates to all campuses not just those based across the Marches.

Sector	Harper Adams	University of Chester	University of Wolverhampton
Advanced Manufacturing	275	345	1,445
Agri-Tech	4,755	1,020	2,300
Business and Professional Services	135	3,020	4,060
Environmental Technologies	20	370	0
Food and Drink	160	0	0
Health and Social Care	25	4,645	4,300
Public Sector inc Education	5	2,925	4,655
Construction	0	0	0
Cyber	0	200	0
Transport and Logistics	0	10	0
Visitor Economy	0	1,785	2,295
Retail	0	245	0
Total	5,375	14,565	19,045

Source: HE student enrolments by HE provider and subject of study 2018/19

In 2018/19 there were 20 students on courses aligned to environmental technologies at Harper Adams, up 5 (+33.3%) since the previous year. These students accounted for 0.4% of the student body.

At the University of Chester there were 370 students studying courses in the environmental technologies sector, this is down by 5 (-1.3%) since the previous year. These students made up 2.5% of the student body.

Meanwhile there were no students on courses aligned to environmental technologies at the University of Wolverhampton.

Qualifications and skills are on a spectrum, with many academic qualifications now having considerable employer input, and many vocational and professional qualifications being delivered by universities. There is an identified need for both detailed subject knowledge and transferable skills to be part of vocational qualifications: 'many formerly purely technical occupations are expected to show a new demand for creative and interpersonal skills' (World Economic Forum, 2016). Health and engineering are examples where such a binary divide becomes unhelpful. Employers will need all of the skills and qualifications along this spectrum, at different times and in different combinations, and learners and employees will need to be able to move along this spectrum and should be supported in doing so.

3. Demand Side Analysis

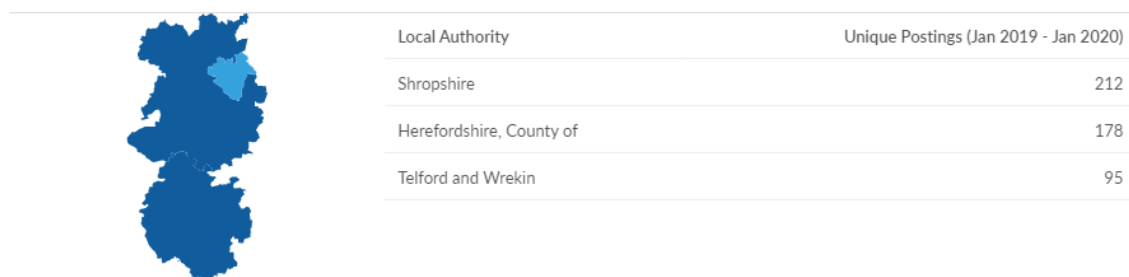
Sustainability and the environment are diverse topics that cut across many employment sectors. Many organisations have also realised that it is both practical and responsible to develop more efficient processes, use fewer natural resources and produce less waste. As such, sustainability and environmental work is no longer a niche market and employment opportunities have gradually become more mainstream. This will continue as political, social and economic commitment to environmental protection and achieving net zero grows.

Economic opportunities associated with the sector have become more obvious. This is reflected by the Marches LEP Energy Strategy, <https://www.marcheslep.org.uk/download/energy/Marches-Energy-Strategy.pdf>, which identifies the area's ambition to grow 1,000 new jobs in the low carbon and renewable energy sector by 2030.

Analysis of environmental technologies job vacancies shows that in the last year (January 2019 to January 2020) there were 2,029 job adverts, of which 485 were unique postings.

The highest demand was in Shropshire which accounted for 43.7% of all unique vacancies, followed by Herefordshire with 36.7%, and Telford and Wrekin with 19.6%.

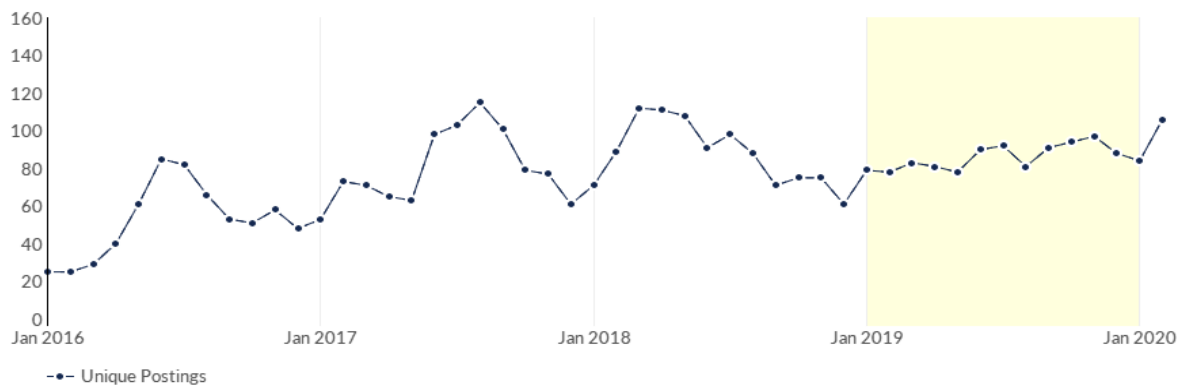
Job Postings Regional Breakdown



Source: EMSI Analytics Tool, 2020

The graph below shows the long-term monthly trend from job adverts for openings in the environmental technologies sector. The number of adverts increased from 25 in January 2016 to 106 in January 2020. This is an increase of 324%.

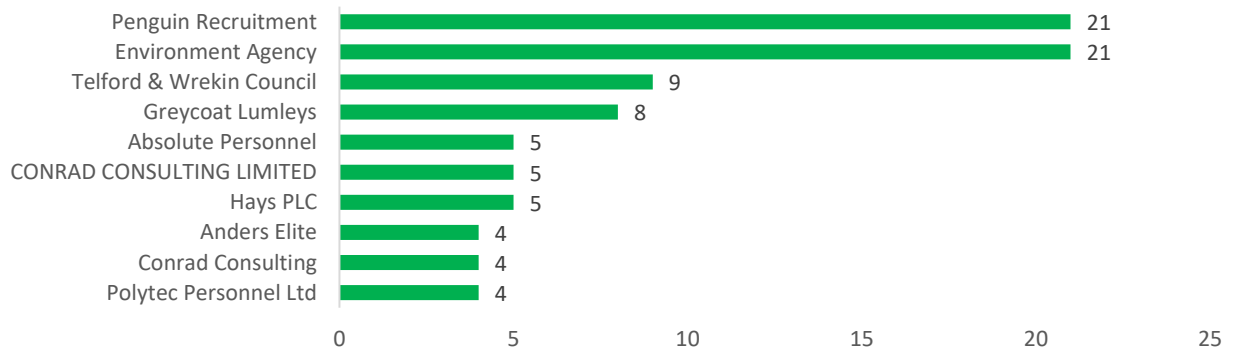
Monthly Unique Postings



Source: ESMI Analytics Tool, 2020

The top 10 companies looking to recruit to the environmental technologies sector accounts for 17.7% of all unique vacancies posted in the Marches areas.

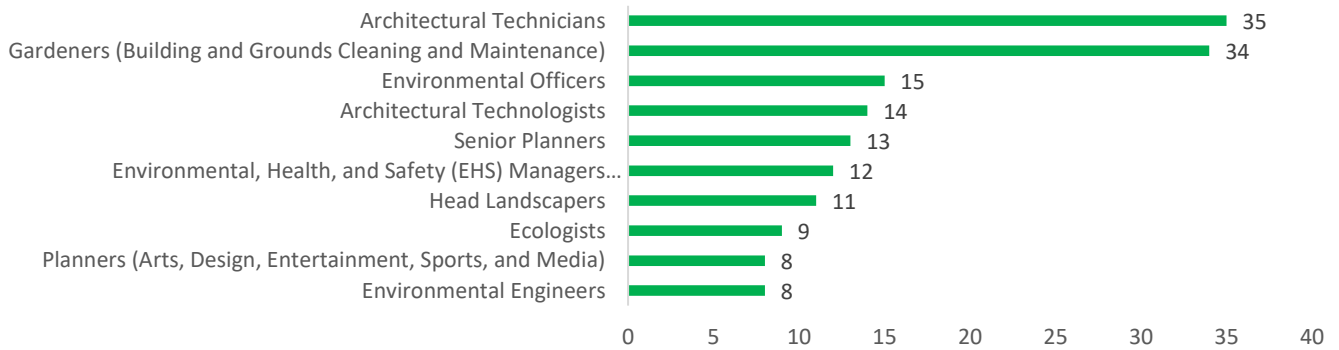
Top 10 Companies Looking to Recruit



Source: ESMI Analytics Tool, 2020

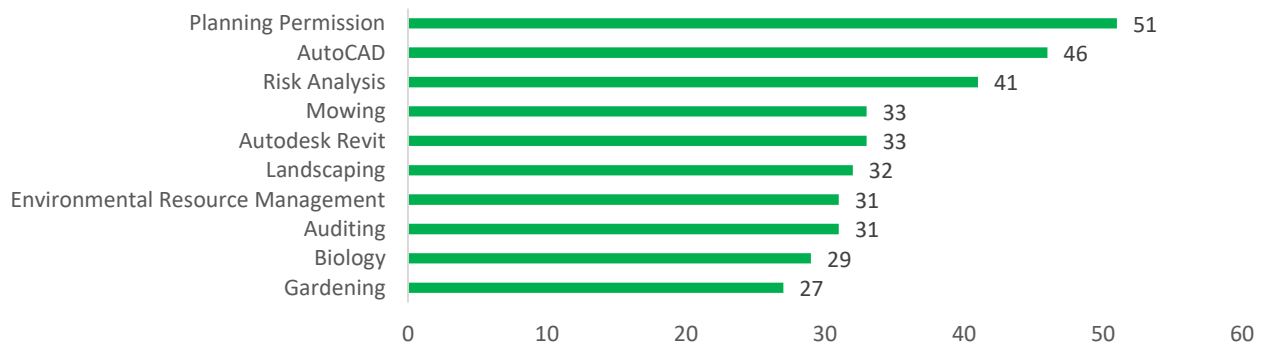
The top job title employers were looking to hire was architectural technicians which accounted for 7.2%. Overall, the top 10 job titles that employers were looking to hire accounted for 32.7% of all unique vacancies.

Top 10 Job Titles Employers are Looking to Hire



The top requested skill was planning permission with this being requested in 51 unique postings, this was followed by AutoCAD (46) and risk analysis (41).

Top 10 Skills Employers are Requesting



Source: EMSI Analytics Tool, 2020

3.1. Occupational Forecasts

In this section of the report we use UKSOC 4-digit 2010 classifications to understand at a granular level the types of occupations and activities forecasts to be required for roles within the environmental technologies sector.

Occupation	2018 Jobs	2022 Jobs	2018 - 2022 % Change	2018 - 2022 Openings	Education Level Required	Automation Index
Gardeners and landscape gardeners	924	981	6%	217	Level 2 NVQ; GCSE at grades A*-C	21.4%
Groundsmen and greenkeepers	382	386	1%	95	Level 2 NVQ; GCSE at grades A*-C	97.7%
Environment professionals	276	285	3%	45	Honours, Bachelor's degree	2.6%
Town planning officers	180	179	0%	35	Honours, Bachelor's degree	65.7%
Waste disposal and environmental services managers	162	171	6%	43	Level 3 NVQ; A Levels	8.7%
Architectural and town planning technicians	133	133	0%	21	Level 4 NVQ; Intermediate, DipHE, DipFE	1.1%
Conservation professionals	117	117	0%	16	Honours, Bachelor's degree	2.6%
Natural and social science professionals n.e.c.	112	115	3%	17	Honours, Bachelor's degree	N/A
Production managers and directors in mining and energy	95	98	3%	18	Honours, Bachelor's degree	N/A
Social and humanities scientists	86	87	1%	13	Honours, Bachelor's degree	7.0%
Water and sewerage plant operatives	73	69	-5%	<10	Level 2 NVQ; GCSE at grades A*-C	34.6%
Environmental health professionals	64	64	0%	12	Honours, Bachelor's degree	3.2%
Total	2,603	2,685	3%	540		

Source: EMSI Analytics Tool, 2020

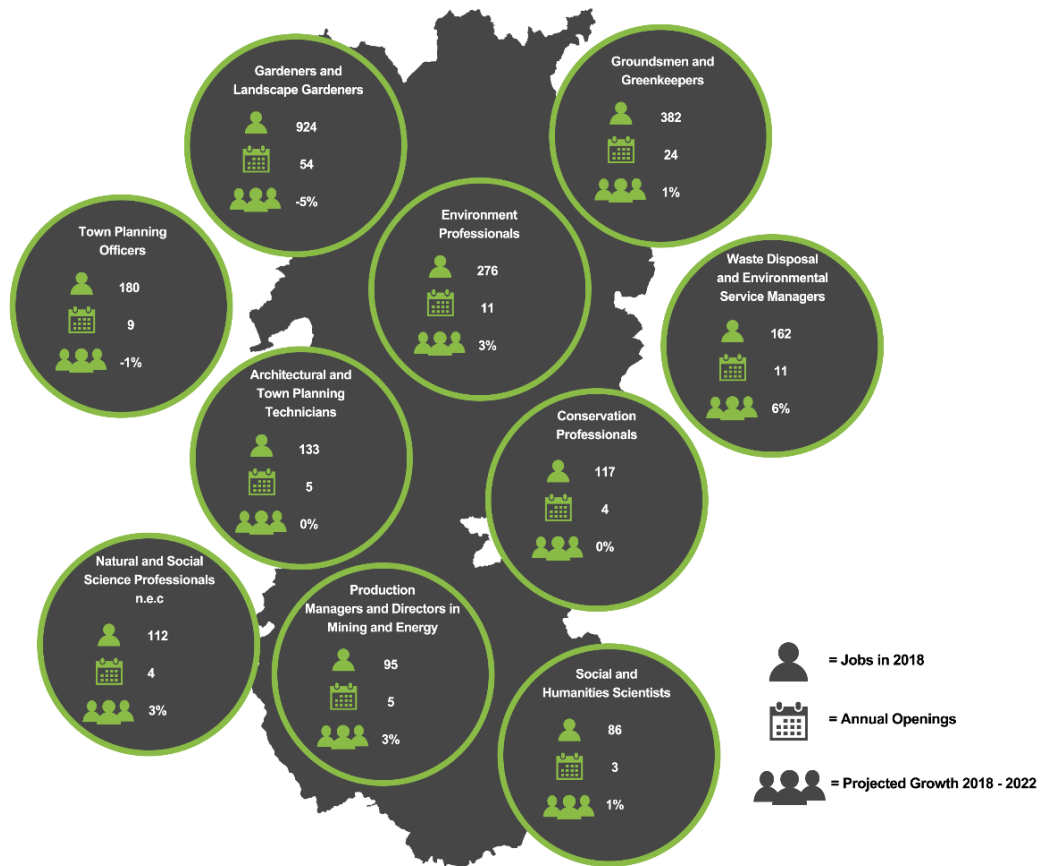
In total there are 12 occupations associated with the environmental technologies sector. Occupations in the sector are dominated by 'Gardeners and landscape gardeners' which account for 35% of all jobs. Demand for this role is also expected to increase (6%) by 2022.

Of the 12 occupations listed above, all but one is expected to grow. The only occupation expected to contract is 'Water and sewerage plant operatives' by -5% or four jobs. Conversely, jobs for 'Waste disposal and environmental services managers' are expected to increase the most, by nine roles in real terms or 6%.

Most occupations in the environmental technologies sector score low on the automation index (the automation index captures an occupation's risk of being affected by automation). Indeed, only two occupations are rated above 50%, 'Groundsmen and greenkeepers' (97.7%) and 'Town planning officers' (65.7%).

The skills profile for occupations within this sector are broad, ranging from Level 2 for ‘Gardeners and landscape gardeners’ to postgraduate Level 6 and above in seven of the other 11 occupational areas.

The Marches Top 10 Environmental Technologies Occupations



Source: EMSI Analytics Tool, 2020

3.2. Job Forecasts by Industry

The Marches LEP Energy Strategy <https://www.marcheslep.org.uk/download/energy/Marches-Energy-Strategy.pdf> identifies an aspiration for significant job growth in the long-term for the environmental technologies sector. This is further supported in the near-term, where recent trend data suggests that jobs in the environmental technologies sector will increase by 246 by 2022.

Within the environmental technologies sector, the collection of non-hazardous waste industry is projected to increase by a total of 110 (to 1,257 jobs) by 2022⁸. The remediation activities and other waste management services industry is projected to increase overall by 98 (to 465 jobs).

⁸ EMSI Analytics tool, 2020

The following table shows 2018 jobs and the projected change by industry within the environmental technologies sector by 2022.

Industry	2018 Jobs	2022 Jobs	2018 - 2022 Change
Collection of non-hazardous waste	1,147	1,257	110
Remediation activities and other waste management services	367	465	98
Treatment and disposal of hazardous waste	144	201	57
Distribution of electricity	379	425	46
Manufacture of gas	60	65	5
Sewerage	118	122	4
Distribution of gaseous fuels through mains	19	15	-4
Treatment and disposal of non-hazardous waste	234	230	-4
Recovery of sorted materials	235	221	-14
Water collection, treatment and supply	633	615	-18
Production of electricity	75	44	-31
Total	3,412	3,659	246

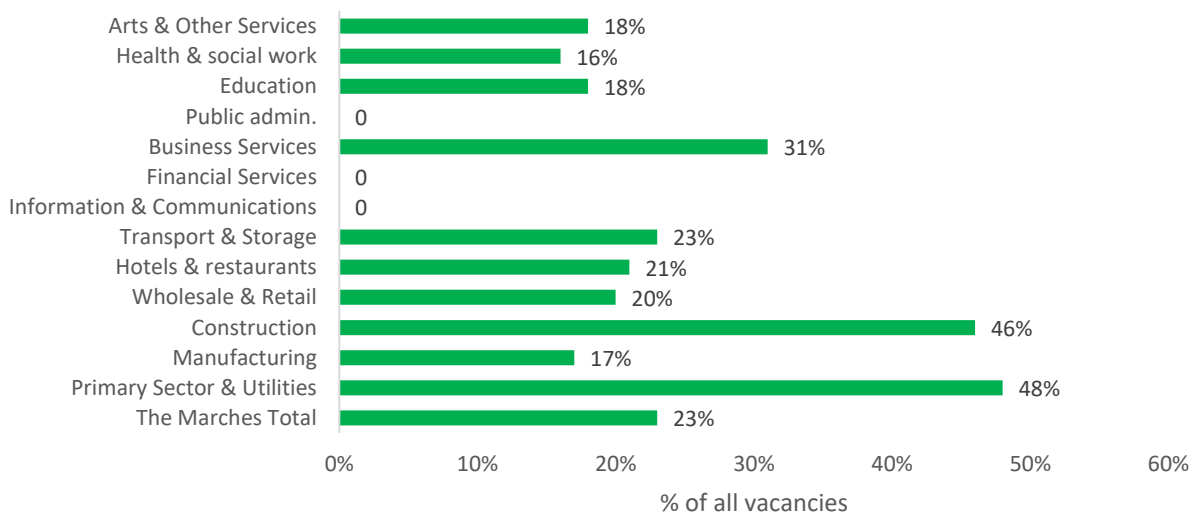
Source: EMSI Analytics Tool, 2020

3.3. Sector Skill Shortages

23% of all vacancies are skills shortage vacancies, compared to 22% nationally. The graph above highlights the acute problem of skills shortage vacancies in certain sectors.

Environmental technologies, defined in the graph as primary sector and utilities has an acute skills gap at 48%. This will be a problem for employers who are unable to fill vacancies due to the lack of skilled staff and will therefore decrease productivity in this sector whilst vacancies aren't filled. Staff that are recruited may need significant training to equip them with the valuable skills that employers request in this sector.

Percentage of all vacancies which are SSVs by sector

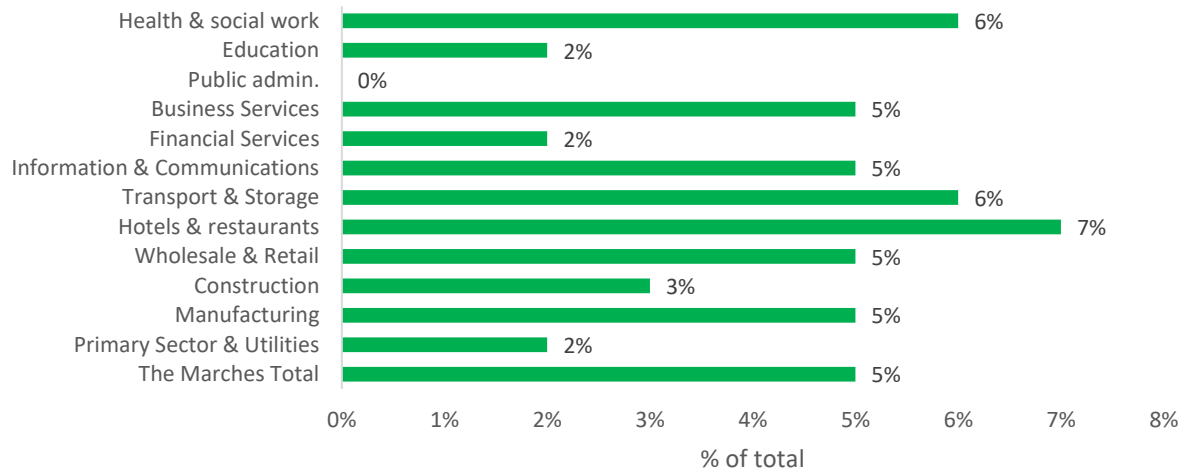


Source: Employer Skills Survey 2017, LEP Summary Tables

5% of staff are not fully proficient in the Marches, compared to 4% nationally. In the environmental technologies sector, 2% of staff are not fully proficient.

This sector does not have a big problem with skill shortages within the current employment base, this may be due to successful hiring of candidates with sufficient skills, or employers investing in training to train up staff who lack vital skills.

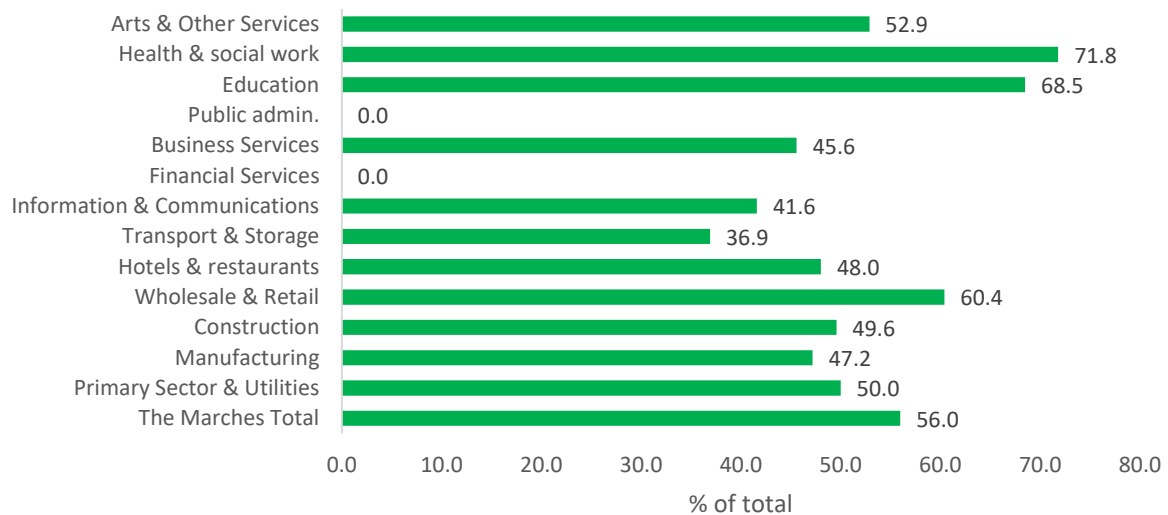
Staff not fully proficient as a percentage of employment



Source: Employer Skills Survey 2017, LEP Summary Tables

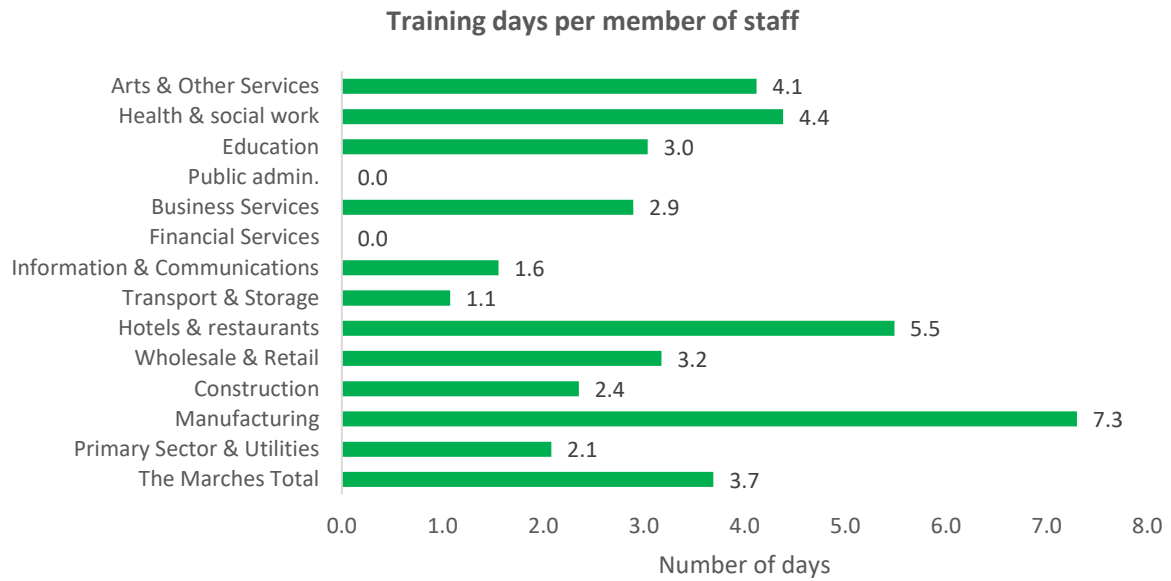
In the Marches, 56.0% of staff are trained as a percentage of all staff, compared to 62.2% of staff in England. 50.0% are trained in the environmental technologies sector.

Staff trained as percentage of total staff



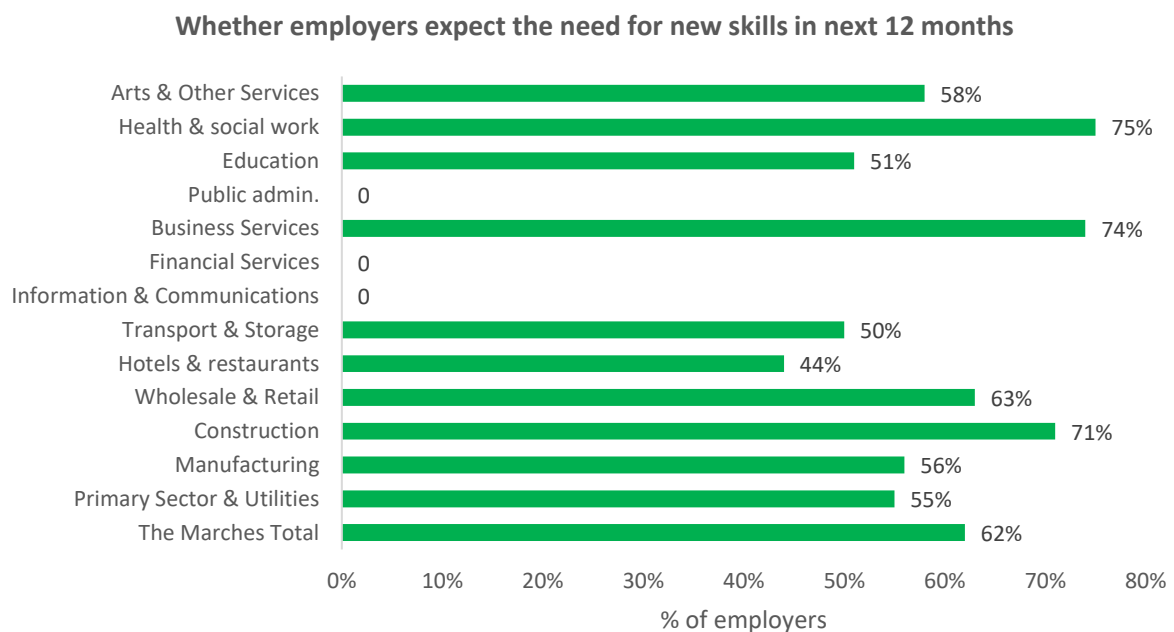
Source: Employer Skills Survey 2017, LEP Summary Tables

On average, employees in the Marches have 3.7 training days. In the environmental technologies sector this is less at 2.1 training days.



Source: Employer Skills Survey 2017, LEP Summary Tables

62% of employers in the Marches expect the need for new skills in the next 12 months, this is the same as national levels. In the environmental technologies sector 55% of employers expect new skills from employees. Upskilling may be the preferred solution to this problem – that is, training current employees with new skills to ensure they can keep up with a changing work environment e.g. enhancements in digital technology. Upskilling may be cheaper for employers and more attractive, given the high number of skills shortage vacancies and the possibility of adding to these if employers can't 'grow their own'.



Source: Employer Skills Survey 2017, LEP Summary Tables

4. Supply vs Demand

4.1. Provision Review

In this section of 'Supply vs Demand' we will concentrate on the most significant areas of misalignment and gaps across the sector. Identifying which courses are currently over-supplying the labour market, which areas of labour market demand is currently being met and where there might be areas of opportunity for the development of new skill provision.

Discipline	Completers 2019	Annual Openings	Gap Between Demand and Provision	% Jobs Growth (2019-2022)
Waste Management	4	49	45	4%
Environmental Conservation and Management	12	22	10	1%
Urban, Rural, and Regional Planning	0	61	61	0%
Geography	115	3	-112	1%

Source: EMSI Analytics Tool, 2020

Green: Areas where the provider base already offers courses, but the data indicates that there may be room to grow these to meet employment demand.

Blue: Courses the provider base does not currently offer, indicating that there is potential for creating new courses to meet these skills needs.

Yellow: Areas where the data suggests that the provider base is currently oversupplying the labour market to a significant level.

Skills provision that is aligned to local jobs and industry demand not only helps providers with their Ofsted inspection but also helps to ensure learners are best placed to get employment using the skills they have learned, supply employers with the skills they need and support growth in the local and wider economy.

This provision review identifies areas of misalignment in the Marches for the environmental technologies sector:

Strengths (course areas that are well met compared to industry demand)

Course areas which have a gap between supply and demand, where that there is less provision than supply is possibly where there is still potential to increase provision locally. These include the disciplines highlighted green in the table, e.g. waste management and environmental conservation and management.

Disciplines in the green section of the table that also have a net positive change in jobs in the next few years are seen as extra strengths to the area, e.g. waste management and environmental conservation and management.

Opportunities (course areas that are currently under supplied compared to demand)

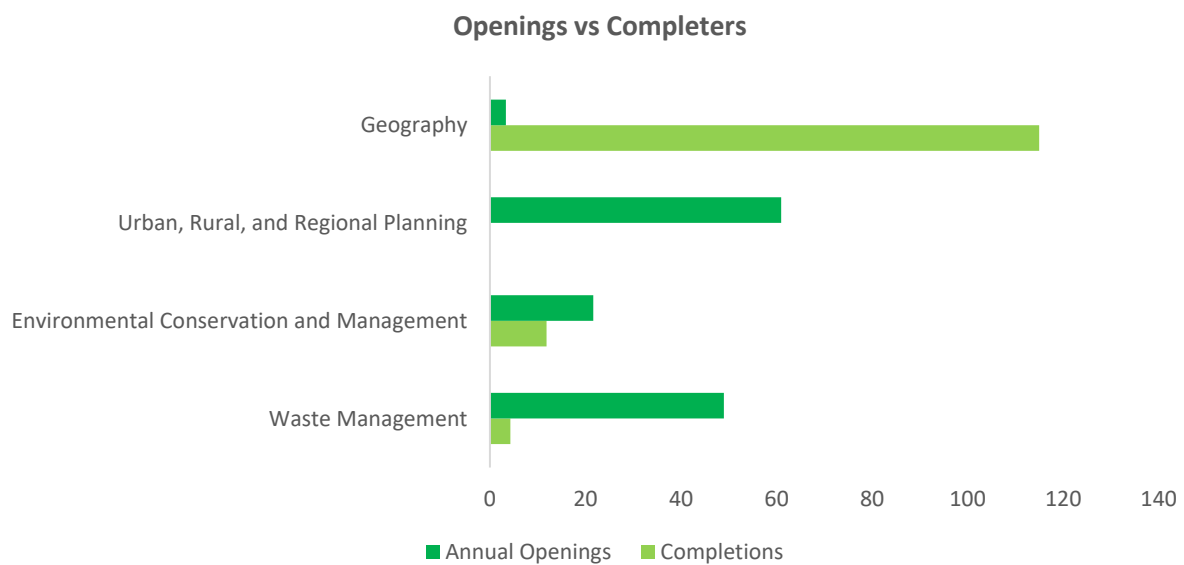
Opportunity areas include those highlighted in blue with a gap between provision and demand, as these are the disciplines which are sought after but have no provision locally. There is room for courses to be developed in these disciplines to meet local employer needs however there are no examples in this analysis.

Threats (course areas that are well met or oversupplied compared to industry demand)

Disciplines with too much provision and not enough employer demand will lead to an oversaturated supply of labour in certain disciplines. Graduates from these courses will find it difficult to find employment locally, and may have to move out of the area to find work in their field. People skilled in this discipline might have to upskill or retain in other disciplines to find work elsewhere. Courses in this group include those highlighted in yellow, e.g. geography.

The best way to implement change is to prioritise interventions based on biggest misalignments and gaps. Disciplines with a low uptake e.g. those in blue, need extra resources to highlight the opportunities in these occupations.

These strengths, opportunities and threats can be clearly identified in the graph below.



Source: EMSI Analytics Tool, 2020

4.2. Future Drivers of Skills

The global urgency for green growth and mitigation of climate change has resulted in the need for a workforce with skill sets necessary for establishing and sustaining new environmental industries, services, and practices. According to a study by UNEP on environmental technologies jobs, which are “jobs in the environmental sector and/or jobs requiring specific environment-related skills”, environmental employment will be affected in at least four ways:

1. Additional jobs will be created in some areas, like in the manufacturing of pollution control devices which are added to existing production equipment;
2. Substitution of some employment, like shifting from fossil fuels to renewable energy sources, or from truck manufacturing to rail car manufacturing, or from land filling and waste incineration to recycling;
3. Particular jobs may be eliminated without direct substitution, like in the situation that the use of certain packaging materials are now discouraged and an end is put on their production.
4. Many existing jobs (i.e. plumbers, electricians, metal workers, and construction workers) may be altered due to the greening of day-to-day skill sets, work methods and profiles.

4.3. Impact of Brexit

For the environmental technologies sector, the immediate impacts of Brexit are less obvious than in other sectors. The Government has been working to set up legislative frameworks that promise to uphold and improve existing green legislation, but could ultimately be renegaded from in the pursuit of new trade deals. Businesses affected by environmental regulation should continue to monitor negotiations (both with the EU and between the government and Parliament) carefully.

The findings of the recent Marches Growth Hub: Brexit Preparation Report, which surveyed nine businesses from the environmental technologies sector seems to suggest that they are more concerned about Brexit when compared to other industries. For example, 66.7% (6) had considered the potential impact of Brexit on them, and those same companies had also considered the impact of a change in the EU / UK trade relationship could have on their suppliers and customers. Only one of the companies interviewed expressed serious concerns about Brexit, and this was due to them having an office in an EU country.

4.4. Impact of Covid-19

Covid-19 is having and will continue to have an impact on all business sectors. Digital technology has helped businesses continue to operate by enabling virtual working and addressing skills issues through online tools and training opportunities where appropriate. Predicting how that might impact on businesses in the future is difficult but methods of doing business will change and in some cases that might alter the requirements on digital technology and change skills and training requirements.

5. Conclusions

5.1. Summary

Although still a relatively small sector, environmental technologies represents one of the fastest growing sectors in the Marches. The sector is also forecast to grow further, due to the transformation needed for a cleaner, greener planet, increased legislation, greater research and a general shift towards more sustainable modes of production, development and consumption.

This healthy outlook however depends in part on addressing barriers to growth including a need for knowledge and innovation support and a range of skills from vocational Level 2 to postgraduate. These needs vary by sub-sector. Invariably, the skills needed by the sector are not new ones, they are skills whose availability needs to be increased or which need to be applied in new situations or adapted with further training to the sector context.

Much of this work is captured and ongoing within the Marches Energy Strategy (July 2019) - particularly the way energy is consumed and the threat to business and economic growth. Utilised correctly, the growth plan should provide the means to expand high-value supply chains which support technological innovation and deliver growth.

5.2. Recommendations

The environmental technologies sector is a relatively new and growing area that would benefit from increased employer engagement, and collaboration with both Higher and Further Education in developing skills required for growth. Priorities to harness this growth and better understand the sector could include:

- Engagement with employers to help articulate and prioritise their skills needs and stimulate demand for and investment in training and education.
- Develop a range of specialist technical HE and FE provision through joint action between industry and academia
- Identify the research needs of industry and new ways to collaborate with HEIs at a cost affordable to industry - these might include knowledge transfer partnerships
- Promote careers in engineering at all levels of education to attract STEM graduates particularly around apprenticeships

In addition, research for this report also highlighted that there is an incomplete understanding of the sector. Therefore, additional research is needed so effort directed at improving skills for the sector can be better targeted. Specific information needs include:

- information on participation and achievement in education and training for the industry;
- readily accessible information on participation in learning programmes, and candidate success with all types of qualifications

5.3. Action Planning

It will be the responsibility of the Marches Local Enterprise Partnership (LEP) and its key stakeholders to review the recommendations, develop a strategy and agree an action plan to address the challenges and opportunities identified within this report.