Future skills needs in the York, North Yorkshire and East Riding Local Enterprise Partnership Area

Skills Needs in the Priority Sectors, looking to 2023:

Food and Drink Manufacture

Beyond 2030 has produced this Report on behalf of Calderdale College and as part of the College's delivery of the 2017-18 ESF funded Skills Support for the Workforce programme across the York, North Yorkshire and East Riding Local Enterprise Partnership Area.

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1 Introduction to the LEP and the research

The York North Yorkshire and East Riding Local Enterprise Partnership (YNYER LEP) has commissioned a series of research reports which will allow key decision makers to more fully understand the future skills needs of the eight identified priority sectors in the medium term. These sectors are:

- Visitor Economy
- Food manufacture
- Construction
- Engineering
- Health and Social Care
- Voluntary, Community and Social Enterprise (VCSE)
- Agritech
- Bio renewables

As the economic and political situation changes, it is nearly universally acknowledged that improved skills and the link to enhanced productivity is a key way by which to improve economic well-being. Consequently LEPs across England are looking at how best to support sectors with the potential to grow and generate wealth and prosperity.

In this research series we will seek to fully understand the future skills needs required to ensure that within the YNYER LEP area, priority sectors can recruit and develop world class employees who have the skills to deliver exceptional service now, but also that they are equipped with the relevant skills to ensure a highly productive and world class sector throughout their working lives. In short our research question can be regarded as:

> *Q. What skills are needed in the YNYER LEP to deliver world class performance in the identified 8 Priority sectors using 2023 as the horizon? What are the key messages for policy makers and those working in skills development?*

As well as wanting to more fully understand the characteristics and future needs of the eight sectors, the LEP wants to drill down to develop an understanding of the most significant sub sectors in each of the eight priority areas.

Consequently, in this series of reports there will be insight offered into the broad sector, but there will then be a more detailed series of reports which focus on sub sectors by geography.

Using standard EU metrics, the YNYER LEP has been classified into two constituent parts.

- ***Transition Area*** (TA) where GDP per capita is between 75% and 90% of the EU average – i.e. East Riding.
- ***More Developed Area*** (MDA) where GDP per capita is above 90% of the EU average – i.e. York and North Yorkshire.

In pieces of work such as this there are routinely suggestions that important nuances are missed because researchers ignore the smaller areas because they become intoxicated by the larger values and sample sizes of urban areas.

Consequently, what follows are studies of those subsectors in the MDA and the TA for each of the priority areas. There will be three subsectors studied in the MDA, with two standalone studies in the TA. These standalone reports let us test the big data against the local picture.

Following the detailed sub sector reports we present a thematic study which brings together all of the major issues identified in our secondary and primary research.

Our research draws on robust data analysis, primary research with stakeholders, employers and employees as well as many years of experience working in skills research and policy development. In this way, what follows now is a mixture of top down analysis combined with bottom up insight. In this way we expect to deliver reports which serve as both a comprehensive and robust basis for action and investment.

1.1 Explanation of the LEP

YNYER LEP is the largest LEP in England by land area (10,718sq. km) but has a lower population density than most (106 people per sq. km) (Burge, 2016). It has a resident population of 1.14 million (ONS, 2017).

597,500 individuals are considered to be economically active in the LEP (2016). The employment rate of 79.9% is greater than GB average of 74%, while unemployment stands at 3% compared to 4.8% GB average (ONS, 2017).

Across the LEP there are nearly 61,000 businesses - the majority (85%) are micro, employing less than 10 individuals. A further 13% employ between 10 and 49. To be clear, this means that 98% of businesses in the LEP area employ less than 50 people.

Key employment sectors in the area include: wholesale and retail, employing 15.9% of the workforce, Health and social work (13.7%), manufacturing (10.8%) and accommodation and food service activities (10.1%).

The LEP faces a number of challenges:

- Average weekly earnings for full time workers in the LEP are less the English average - £481.30 v £544.20.
- Productivity in the LEP is 18% lower than English average (GVA per head £21,486 v £26,159) and is ranked 23rd out of the 39 LEPs (ONS, 2017).
- 31% of all vacancies in the LEP are hard-to-fill and of these 68% of considered to be skills shortage vacancies (UKCES, 2014).

Other key points include:

- The population of the LEP is forecast to grow by 7.7% between 2014 and 2039 (ONS, 2017) – lower than the English rate of 16.5%.
- In 2014, 22% of the population was 65+. This is anticipated to increase to 31% in 2039, which is much greater than the England average where only 24% of the population is expected to be 65+ in 2039 (ONS, 2017). Additionally by 2039, it is expected that those aged 25 to 49 will equate to 26%, while across England this age group will account for 31%.

1.1.1 More Developed and Transitional Areas

The EU's Cohesion policy aims to reduce economic and social disparities at regional level across the EU. Consequently, the European Commission has three categories of regional funding:

- ***Less Developed regions***, whose GDP per capita is below 75% of the EU average.
- ***Transition regions***, whose GDP per capita is between 75% and 90% of the EU average.
- ***More Developed regions***, whose GDP per capita is above 90% of the EU average.

Within the YNYER LEP, York and North Yorkshire at nearly 98% GDP per capita is considered a More Developed Area (MDA), while East Riding at 83% is considered a Transition Area (TA) (Eurostat, 2016).

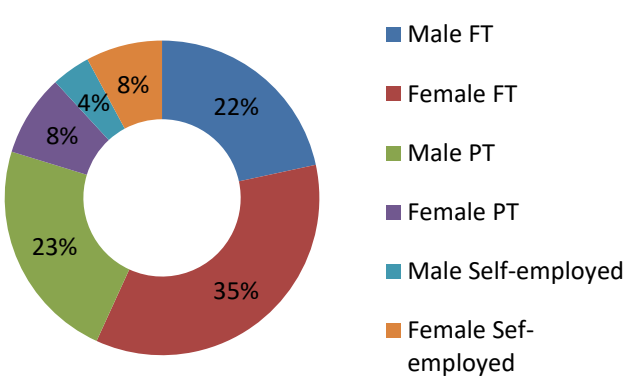
1.2 Future workforce projection

Working Futures is a model of the UK labour market, which seeks to assess future prospects for employment and address the question of where will jobs come from in the future. Whilst the data is not available at a LEP level the regional data for Yorkshire and Humber provides a useful indication of the employment projections.

1.2.1 Regional Growth

Employment in the Yorkshire and Humber region is expected to grow at 3.9% between 2014 and 2024 – or by 99,000. This is less than the whole economy where growth of 5.5% is anticipated (UKCES, 2016).

Figure 1 Employment by gender and status, Yorkshire & Humber, 2024



With an anticipated workforce of nearly 2.64 million in 2024, nearly half (31%) of the workers will be part-time.

57% will be full-time and 12% self-employed (Figure 1).

This is very similar to proportions seen in 2014.

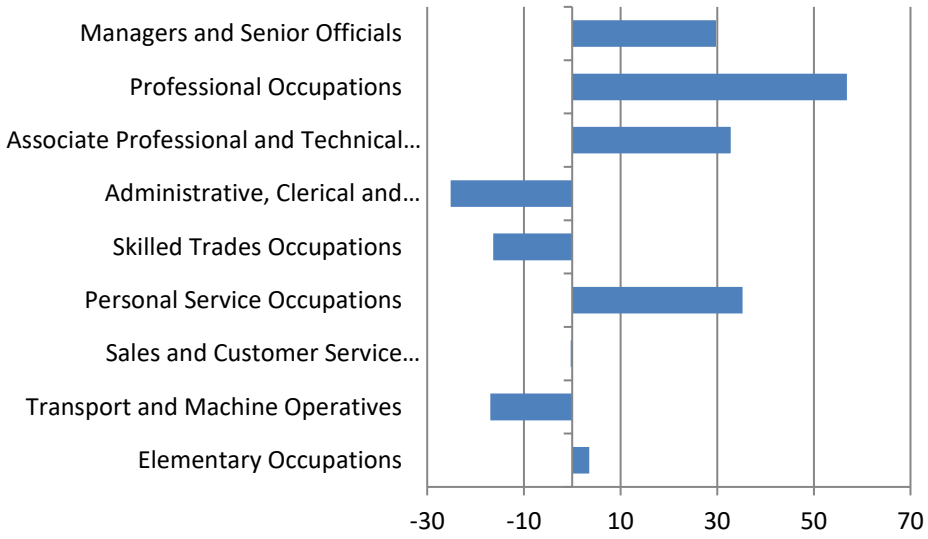
Source: UKCES Working Futures VI

Employment projections by occupation for the region are shown below. This is clearly useful for people making careers decisions.

We expect to see large employment growth for higher level occupations, including managers, professional occupations and associate professionals and technical roles, as well as personal service occupations (Figure 2).

But net job losses are projected for administrative and secretarial roles, skilled trades and elementary roles.

Figure 2 Occupation change, 2014 -2024 (000s) Yorkshire & Humber



Source: UKCES Working Futures VI

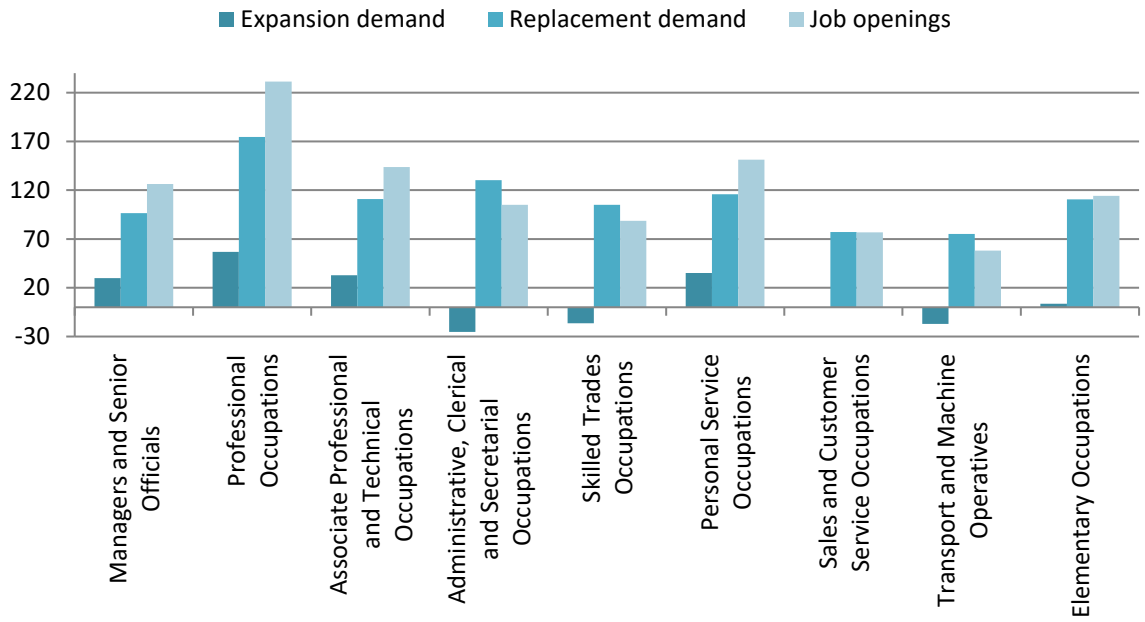
1.2.2 Replacement need and total demand

The above occupational change data is a useful indicator of changing patterns of demand for skills. However, it also important to consider the replacement demands – the job openings created by the outflow of workers from the labour market.

Workers leave the labour market for a variety of permanent and temporary reasons, including retirement, family reasons (i.e. maternity/paternity leave) etc. These outflows have a significant influence on job opportunities across the labour market. Over the next decade, replacement demands are expected to generate nearly ten times as many job openings in Yorkshire and Humber compared to net job growth. Overall the Yorkshire and Humber region is expected to have nearly 1.1million job openings between 2014 and 2024: 99,000 growth and 996,000 replacement demand. A fifth of all job openings will be within professional occupations (Figure 3).

Occupations where employment is growing will need additional workers on top of those being replaced. Occupational groups forecasting to see a net decline will still have job openings that need to be filled due to the replacement demand. Individuals need to consider this when making career choices but also employers need to be conscious of the need to replace key workers.

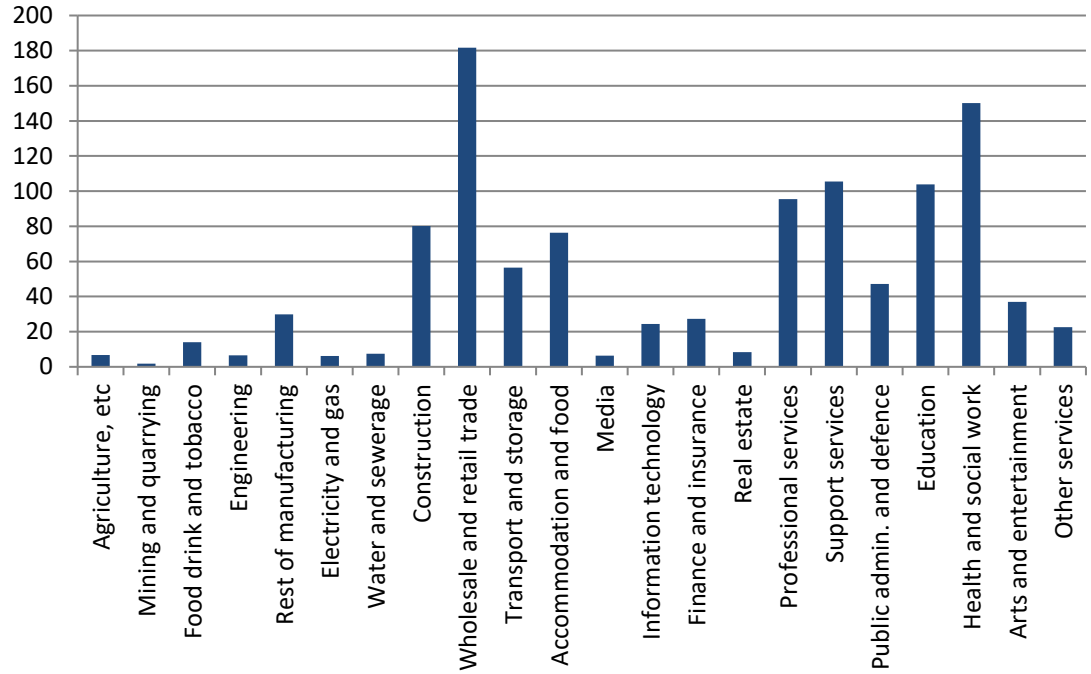
Figure 3 Job openings in by occupation 2014 - 2024 (000s), Yorkshire and Humber



Source: UKCES Working Futures VI

Nearly 182,000 (17%) of the anticipated job openings across Yorkshire & Humber will be within wholesale and retail and a further 150,000 in health and social work (Figure 4). These are the sectors with the highest proportion of individuals in the region.

Figure 4 Job openings in Yorkshire & Humber by sector, 2014 - 2024 (000s)



Source: UKCES Working Futures VI

1.2.3 Qualifications

The latest Working Future projections also consider the qualification levels of the workforce. It shows that there will be a shift towards more people holding higher qualifications.

By 2024, 47% of people employed in the Yorkshire and Humber region are expected to be qualified at level 4 and above, whilst the proportion of people with no formal qualifications is expected to fall to 2.6%, noticeably lower than the 2014 level of 6.0%.

Table 1 Change in qualification profile, Yorkshire and Humber

	No qualifications and level 1	Level 2	Level 3	Level 4 – 6	Level 7 – 8
Qualification example	GSCE (grades D – G) BTEC level 1	GCSE (grades A* - C) NVQ Level 2	AS & A level BTEC National	Certificate of higher education (L4) Foundation degree (L5) Bachelor's degree (L6)	Master's degree (L7) Doctorate (L8)
2014 level **2024 level**	565,300 338,000	564,600 542,300	549,200 514,800	674,400 985,600	183,000 255,200
2014 – 2024 % change	-40%	-4%	-6%	46%	39%
2014 % share	22%	22%	22%	27%	7%
2024 % share	13%	21%	20%	37%	10%

Source: UKCES Working Futures VI

In-depth analysis of the skills needs and challenges facing the identified Priority Sectors and their main subsectors in both the MDA and TA

The section which follows provides an overview of each priority sector at national and LEP level.

2 Food and Drink Manufacturing

The food and drink supply chain plays a crucial role to the UK economy. It is a large and varied sector, containing a number of industries including a variety of employers engaged in the 'gate to plate' supply chain.

The sector manufactures and processes domestic and imported foods, soft and alcoholic drinks and serves home and international markets. Many food manufacturing companies run vertically integrated operations, so that import/export, distribution and wholesaling are integral parts of their work. In some sectors, notably bakery and butchery, both traditional and emerging specialist producers process and retail on the same premises.

The food and drink manufacturing sector is well distributed throughout the UK, although there are obvious geographical concentrations of some subsectors, such as whisky producers, fish catchers and processors. Some other subsectors of the sector are traditionally stronger in certain areas and these concentrations can be recognised in the North West, Yorkshire and Humberside, the South West, Northern Ireland and Scotland.

For the following report we have defined the food and drink manufacturing sector as:

SIC	Description
10.1	Processing and preserving of meat and production of meat products
10.2	Processing and preserving of fish, crustaceans and molluscs
10.3	Processing and preserving of fruit and vegetables
10.4	Manufacture of vegetable and animal oils and fats
10.5	Manufacture of dairy products
10.6	Manufacture of grain mill products, starches and starch products
10.7	Manufacture of bakery and farinaceous products
10.8	Manufacture of other food products
10.9	Manufacture of prepared animal feeds
11.0	Manufacture of beverages

This report will provide an overview into the sector and its main subsectors. We will review the data and literature which captures the challenges and opportunities facing the sector and present an overview on the sector situation within the LEP. This gives us the stake in the ground against which we can test the local and regional situation.

2.1 National Picture

2.1.1 Current sector performance

The UK's food and drink manufacturing sector contributed £28 billion in 2015, about two per cent of total GVA. Although it is a relatively low productivity sector in comparison with other branches of manufacturing, over the last five years GVA has had year on year growth (ONS, 2016).

Across the UK the sector operates 11,305 businesses (ONS, 2016). The number of businesses has increased 19% since 2010, which is a slightly higher rate than across the economy where the number of local units grew by 17%.

The vast majority of establishments employ less than 10 people (65%). This is lower than the average across the UK economy (84%). 13% of establishments in the sector employ more than 50 individuals more than UK economy, where only 3% of all firms employ over 50 people.

At 77%, the manufacture of beverages has the highest proportion of firms with less than 10 individuals. The rise in microbreweries could explain this higher proportion. In 2002, beer duty was halved for companies that make less than 5,000 hectolitres (3,055 barrels or 880,000 imperial pints) a year and consequently the number of breweries have increased. Between 2010 and 2016 the number of firms manufacturing beverages has increased 77%, from 1,155 to 2,045.

Conversely the manufacture of grain mill products, starches and starch products is made up of larger organisations, with 30% employing 50 or more.

Table 2 Size of establishments (2016), UK

	Micro		Small	Medium		Large	Total
	0 to 4	5 to 9	10 to 49	50 to 99	100 to 249	250+	
Processing and preserving of meat and production of meat products	455	185	325	75	70	100	**1,215**
Processing and preserving of fish, crustaceans and molluscs	140	55	110	30	20	15	**375**
Processing and preserving of fruit and vegetables	375	70	120	35	35	40	**665**
Manufacture of vegetable and animal oils and fats	40	5	10	10	5	0	**70**
Manufacture of dairy products	340	135	150	45	50	15	**735**
Manufacture of grain mill products, starches and starch products	70	15	55	30	25	5	**200**
Manufacture of bakery and farinaceous products	1,350	875	890	120	110	105	**3,455**
Manufacture of other food products	1,015	285	375	110	85	95	**1,975**
Manufacture of prepared animal feeds	255	75	145	65	20	10	**570**
Manufacture of beverages	1,325	255	320	50	60	30	**2,045**
Food Manufacture	**5,365**	**1,960**	**2,505**	**570**	**480**	**415**	**11,305**
%	47%	17%	22%	5%	4%	4%	

Source (ONS, 2016)

In 2015, nearly 1,390 new businesses opened across the sector, with 800 closing (Table 3). The greatest number of openings was across the manufacture of beverages.

Survival rates from firms opening in 2010, shows that 42% are still operating after five years - this is in line with the all economy figure where 41% still operate (ONS, 2016).

Table 3 Business openings and closures (2015)

	Number business openings	Number of Closures
Processing and preserving of meat and production of meat products	85	85
Processing and preserving of fish, crustaceans and molluscs	25	20
Processing and preserving of fruit and vegetables	105	50
Manufacture of vegetable and animal oils and fats	10	10
Manufacture of dairy products	75	65
Manufacture of grain mill products, starches and starch products	10	10
Manufacture of bakery and farinaceous products	290	235
Manufacture of other food products	355	180
Manufacture of prepared animal feeds	50	25
Manufacture of beverages	385	120
Food Manufacture	1,390	800

Source (ONS, 2016)

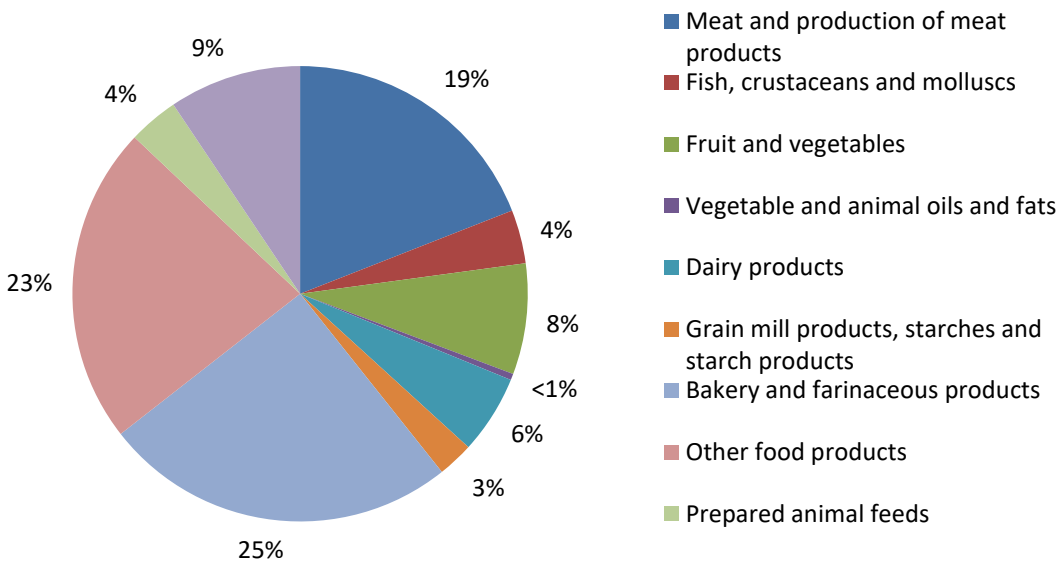
2.1.2 Workforce

Employment in the sector is diverse, encompassing single handed in-shore fishing boats and milk roundstaff (Milkmen) at one extreme and fully integrated multi-national companies employing many thousands of people across a wide range of roles. In between there are large numbers of small to medium size enterprises, many of which are involved in traditional food production.

Over 395,000 individuals work across the food and drink manufacturing sector (roughly 1% of total employment). Employment in the sector increased by 6% between 2010 and 2015.

Processing and preserving food activities accounts for 31% of employment, while the manufacturing of food accounts for 60% and the manufacturing of beverages the remaining 9% (Figure 5).

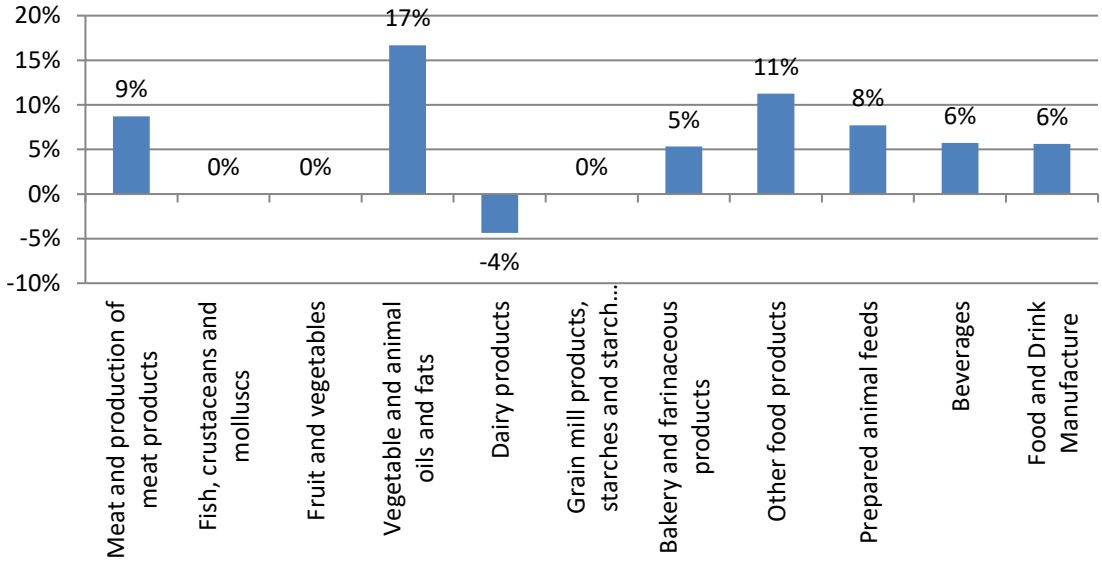
Figure 5 Employment by food manufacture subsectors



Source (ONS, 2015)

Whilst the sector on average has seen growth in employment numbers, looking at the subsectors there is noticeable differences in employment fortunes. The manufacture of vegetables and animal oils and fats and other food products saw above sector average employment growth, but numbers employed in manufacturing of dairy products have actually decreased (Figure 6).

Figure 6 Food manufacture employment change 2010-2015 (%)



Source (ONS, 2015)

2.1.2.1 The jobs people do

Jobs in the food and drink manufacturing sector tend to be concentrated towards the lower end of the occupational scale. Over a third (36%) of the workforce are process, plant and machine operatives. This compares to 6% across the all economy.

There are also slight over-representations of elementary occupations (packers, bottlers, canners and fillers and storage occupations). There are relatively few professional workers in the food and drink manufacturing sector, comprising just 7% of the total workforce compared with 20% of all workers.

Table 4 Employment by occupation

	Food & Drink Manufacture	All economy
Managers, Directors And Senior Officials	10%	11%
Professional Occupations	7%	20%
Associate Professional And Technical Occupations	8%	14%
Administrative And Secretarial Occupations	5%	10%
Skilled Trades Occupations	11%	11%
Caring, Leisure And Other Service Occupations	<1%	9%
Sales And Customer Service Occupations	3%	8%
Process, Plant And Machine Operatives	36%	6%
Elementary Occupations	19%	11%

Source (Office for National Statistics, et al., 2016)

The distribution of workers varies within the sector (Table 5):

- Two fifths (43%) of workers in processing and preserving of food work in process, plant and machine operative positions and a further 25% in elementary occupations.
- The manufacture of beverages employ a large proportion of higher skilled workers, a fifth (19%) of workers being managers (twice the UK all economy average).
- The manufacture of food products has a high proportion of lower skilled workers, with 54% working in elementary positions or as process, plant and machine operatives.

Table 5 Subsector employment by occupation

	Processing and preserving food	Manufacture of food products	Manufacture of beverages
Managers, Directors And Senior Officials	3%	11%	19%
Professional Occupations	3%	8%	12%
Associate Professional And Technical Occupations	6%	8%	13%
Administrative And Secretarial Occupations	3%	4%	10%
Skilled Trades Occupations	15%	11%	5%
Caring, Leisure And Other Service Occupations	*%	*%	3%
Sales And Customer Service Occupations	2%	4%	2%
Process, Plant And Machine Operatives	43%	36%	25%
Elementary Occupations	25%	18%	10%

Source (Office for National Statistics, et al., 2016) * less than 1%

The most common job roles in the food and drink manufacture sector are show below.

Table 6 Top 15 occupations in the food manufacture sector

Rank	Occupation	Number employed
1	8111 Food, drink and tobacco process operatives	109,400
2	9134 Packers, bottlers, canners and fillers	29,800
3	1121 Production managers and directors in manufacturing	20,100
4	9260 Elementary storage occupations	18,100
5	8222 Fork-lift truck drivers	10,600
6	5223 Metal working production and maintenance fitters	9,800
7	3545 Sales accounts and business development managers	8,800
8	5432 Bakers and flour confectioners	7,800
9	9272 Kitchen and catering assistants	7,700
10	2462 Quality assurance and regulatory professionals	6,600
11	5431 Butchers	6,100
12	8212 Van drivers	5,800
13	8211 Large goods vehicle drivers	5,600
14	9139 Elementary process plant occupations n.e.c.*	5,400
15	5433 Fishmongers and poultry dressers	4,500

Source Labour Force Survey April-June 2016 *not elsewhere classified

There are notable differences in the top occupations across the subsectors, particularly in the manufacture of beverages (Table 7).

Table 7 Top five occupations in each subsector

Processing and preserving food	Manufacture of food products	Manufacture of beverages
8111 'Food, drink and tobacco process operatives'	8111 'Food, drink and tobacco process operatives'	8111 'Food, drink and tobacco process operatives'
9134 'Packers, bottlers, canners and fillers'	9134 'Packers, bottlers, canners and fillers'	1121 'Production managers and directors in manufacturing'
9260 'Elementary storage occupations'	1121 'Production managers and directors in manufacturing'	3545 'Sales accounts and business development managers'
5431 'Butchers'	9260 'Elementary storage occupations'	9260 'Elementary storage occupations'
8222 'Fork-lift truck drivers'	5432 'Bakers and flour confectioners'	2129 'Engineering professionals n.e.c.'

Source Labour Force Survey April-June 2016

2.1.2.2 Working patterns

Within the sector 89% of the workforce is employed on a full-time basis. This is much greater than all economy, where 73% of individuals work full-time.

Table 8 Employment status in the food and drink manufacture sector

	% Full-time	% Part-time	Permanent Job	Temporary Job
Processing and preserving of meat and production of meat products	91%	9%	98%	2%
Processing and preserving of fish, crustaceans and molluscs	88%	12%	100%	0
Processing and preserving of fruit and vegetables	91%	9%	85%	15%
Manufacture of vegetable and animal oils and fats	*	*	*	*
Manufacture of dairy products	92%	8%	89%	11%
Manufacture of grain mill products, starches and starch products	89%	11%	95%	5%
Manufacture of bakery and farinaceous products	85%	15%	88%	12%
Manufacture of other food products	91%	9%	91%	9%
Manufacture of prepared animal feeds	90%	10%	87%	13%
Manufacture of beverages	90%	10%	95%	5%
Food and Drink Manufacture	89%	11%	92%	8%
All economy	73%	27%	94%	6%

Source: (ONS, 2015) & Office for National Statistics, et al., 2016 * sample too small

2.1.2.3 *Workforce characteristics*

The sector employs more male workers than female (65% v 35%).

There are some variations across the subsectors. For example seven in ten workers in the manufacture of animal feeds, beverages and processing of meat are male.

A greater proportion of female workers is seen in the subsector of bakeries (40%) and processing of fruit and vegetables (39%), but this still remains less than economy average of 47%.

Table 9 Employment by gender in the food manufacture

	% Male	% Female
Processing and preserving of meat and production of meat products	71%	29%
Processing and preserving of fish, crustaceans and molluscs	62%	38%
Processing and preserving of fruit and vegetables	61%	39%
Manufacture of vegetable and animal oils and fats	*	*
Manufacture of dairy products	67%	33%
Manufacture of grain mill products, starches and starch products	70%	30%
Manufacture of bakery and farinaceous products	60%	40%
Manufacture of other food products	61%	39%
Manufacture of prepared animal feeds	72%	28%
Manufacture of beverages	71%	29%
Food and Drink Manufacture	65%	35%
All economy	**53%**	**47%**

Source: Office for National Statistics, et al., 2016 * sample too small

If we also consider gender within the occupational groups we can then see further variations (Table 10).

Women are significantly underrepresented in managerial and senior official positions (26%).

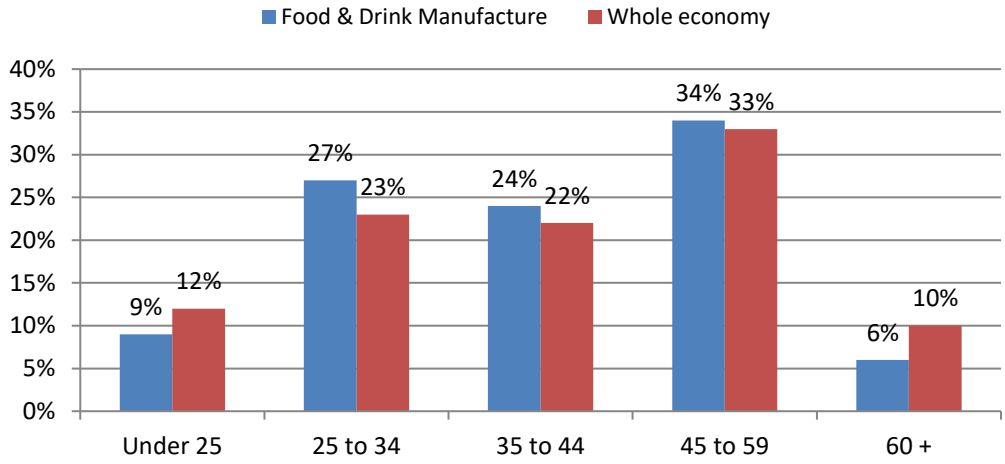
Table 10 Gender profile by broad occupational group

	Food Manufacture		Whole economy	
	% Male	% Female	% Male	% Female
Managers, Directors And Senior Officials	74%	26%	65%	35%
Professional Occupations	55%	45%	51%	49%
Associate Professional And Technical Occupations	66%	34%	56%	44%
Administrative And Secretarial Occupations	29%	71%	24%	76%
Skilled Trades Occupations	77%	23%	90%	10%
Caring, Leisure And Other Service Occupations	*	*	17%	83%
Sales And Customer Service Occupations	43%	57%	38%	62%
Process, Plant And Machine Operatives	73%	27%	88%	12%
Elementary Occupations	59%	41%	54%	46%

Source: Office for National Statistics, et al., 2016 * sample too small

The age profile of the sector is fairly similar to that found across the whole economy.

Figure 7 Age profile of the food and drink manufacture economy



Source: Office for National Statistics, et al., 2016

Two in five (39%) of the food and drink manufacturing workforce was born outside of the UK. This is greater than the all economy where only 17% were born overseas (Table 11). There is some variation across the sector, with 51% of processing and preserving employees born outside the UK compared to just 12% in the manufacture of beverages.

Table 11 Employment by country of birth in the food and drink manufacture sector

	UK Born	Overseas
Processing and preserving of meat and production of meat products	54%	46%
Processing and preserving of fish, crustaceans and molluscs	45%	55%
Processing and preserving of fruit and vegetables	45%	55%
Manufacture of vegetable and animal oils and fats	*	*
Manufacture of dairy products	75%	25%
Manufacture of grain mill products, starches and starch products	83%	17%
Manufacture of bakery and farinaceous products	57%	43%
Manufacture of other food products	49%	51%
Manufacture of prepared animal feeds	65%	35%
Manufacture of beverages	88%	12%
Food and Drink Manufacture	**61%**	**39%**
All economy	**83%**	**17%**

Source: Office for National Statistics, et al., 2016 * sample too small

2.1.3 Skills

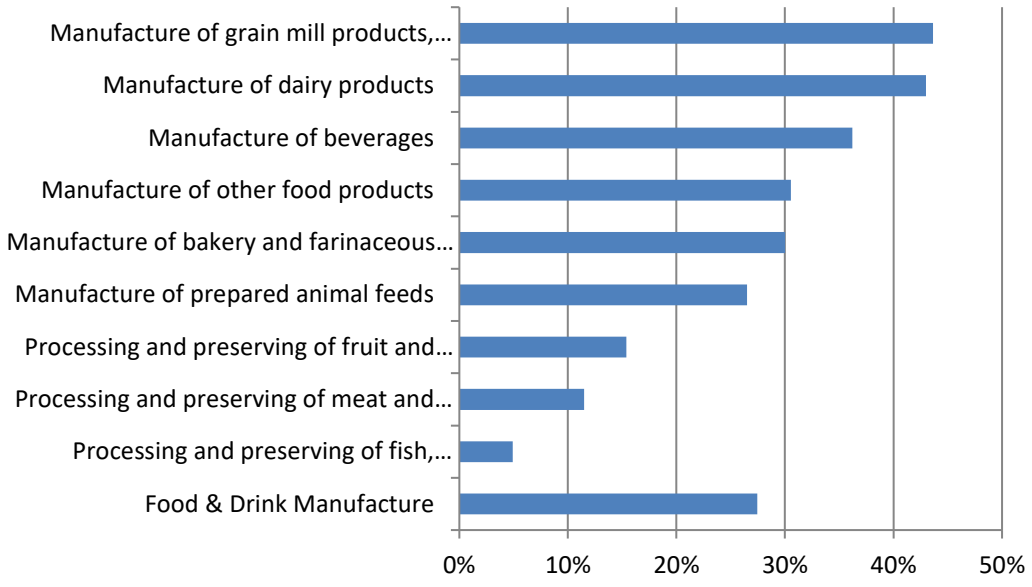
To assess the nature and scale of skills issues within a sector, we must consider the distribution of skills and skill levels of its workforce. While there is no perfect indicator for skills or skills levels, qualifications are generally used as a proxy.

Compared to the whole economy, the food and drink manufacturing sector has a lower proportion qualified at level 4 and above (27% compared to 43%). 8% of the sector has no qualifications and a further 31% hold level 1 or other qualifications (Table 12).

Looking at the subsectors, there are some notable differences in skills levels:

- 76% of those in the manufacture of dairy products have a level 3 or above qualification - greater than whole economy figure of 60%.
- 31% of workers in processing and preserving of fish have no qualifications - this is a subsector in which lower skilled occupations dominate.
- The sector has a high proportion of 'other qualifications' (21%), which is perhaps unsurprising given the number of overseas born workers. This group captures foreign qualifications and some professional qualifications (i.e. driving) that are not defined in the other levels.

Figure 8 Proportion of workforce qualified to level 4 and above by subsector



Source: Office for National Statistics, et al., 2016

Table 12 Qualification profile of sector workforce

	No qualifications	Other qualifications	Level 1	Level 2	Trade App	Level 3	Level 4+
Processing and preserving of meat and production of meat products	15%	37%	10%	14%	3%	9%	11%
Processing and preserving of fish, crustaceans and molluscs	31%	22%	19%	6%	17%	<1%	5%
Processing and preserving of fruit and vegetables	17%	32%	7%	11%	<1%	18%	15%
Manufacture of vegetable and animal oils and fats	*	*	*	*	*	*	*
Manufacture of dairy products	1%	6%	6%	11%	*%	33%	43%
Manufacture of grain mill products, starches and starch products	5%	9%	16%	<1%	21%	6%	44%
Manufacture of bakery and farinaceous products	8%	21%	10%	12%	7%	11%	30%
Manufacture of other food products	7%	20%	11%	15%	4%	12%	31%
Manufacture of prepared animal feeds	5%	18%	9%	17%	7%	18%	27%
Manufacture of beverages	2%	9%	12%	17%	7%	17%	36%
Food and Drink Manufacture	**8%**	**21%**	**11%**	**14%**	**5%**	**14%**	**27%**
All economy	**5%**	**7%**	**10%**	**15%**	**4%**	**17%**	**43%**

Source: Office for National Statistics, et al., 2016 * sample too small

2.1.3.1 *Research and Development skills*

The manufacture of attractive and competitive products depends fundamentally on the effective use of science and technology. This is because both the products themselves, and the production processes for manufacturing them, are centrally dependent on the cost effective harnessing of science and technology.

Research and development is thereby key in the manufacturing environment. The UK Business Enterprise Research and Development data provides details on employment by UK businesses on performing R&D.

From this we can see that the food and drink manufacturing sector employs 4,000 individuals in Research and Development – 2,000 scientists and engineers, 1,000 technicians and lab assistances and 1,000 'other staff'.

Table 13 Employment In R&D Performed In UK Businesses:

Sector	R&D Employment	Scientists and Engineers	Technicians, laboratory assistants and draughtsmen	Administrative clerical and others
Food products and beverages; Tobacco products	4,000	2,000	1,000	1,000
Total Economy	206,000	106,000	64,000	36,000

Source (ONS, 2016)

2.1.4 Skills mismatch

Where employers struggle to fill their vacancies, this may be due to a lack of skills, qualifications or experience amongst applicants. Collectively these are known as 'skill-shortage vacancies'. Vacancies can also prove 'hard-to-fill' for other, non-skills-related reasons. Such reasons principally include a lack of applicants for the role, or specific issues related to the job role (e.g. poor terms and conditions or unsociable hours) or the recruiting organisation (e.g. remote location or poor transport links).

The UKCES Employer Skills Survey (2015) provides insight into vacancies and skills shortages for the sector:

- The food and drink manufacturing sector had 9,500 vacancies, with 22% of firms reporting at least one vacancy; greater than UK findings (19%).
- In the previous 12 months, 59% of firms in the sector had recruited someone, greater than UK finding of 50%.
- A fifth (20%) of vacancies were considered to be hard-to-fill.
- 13% of firms in the sector report retention issues (UK findings was 8%) – particularly in process, plant and machine operative positions and elementary occupations.

The key technical or practical skills lacking among applicants in the sector included:

- Specialist skills or knowledge needed to perform the role.
- Knowledge of how the organisation works.
- Knowledge of products and services.
- Solving complex problems.
- More complex numerical or statistical skills.

The key soft skills lacking among applicants in the sector included (Vivian, et al., 2016):

- Ability to manage own time and prioritise own tasks.
- Team working.
- Instructing, teaching or training people.
- Customer handling skills.

The most common impacts of hard to fill vacancies were (Vivian, et al., 2016):

- Increased workload for other staff.
- Increased operating costs.
- Difficulties introducing new working practices.
- Difficulties meeting customer service objectives.

2.1.5 Internal Skills Challenge

2.1.5.1 Skill gaps, reason and impact

25% of all firms in the sector report having skills gaps, with 7.3% of all workers not considered fully proficient in their role. (UK finding 14% of firms and 5% of employees) (Vivian, et al., 2016).

The main causes of skills gaps in the sector are:

- The individual is new to the role.
- Their training is currently only partially completed.
- They have been on training but their performance has not improved sufficiently.

The skills lacking in the workforce mirror those that are found to be lacking in applicants.

17% of firms report that skills gaps have a major impact on their business, 60% a minor impact and 23% no impact (Vivian, et al., 2016). Some of the implications of skills gaps include:

- Increased workload for other staff.
- Higher operating costs.
- Difficulties meeting quality standards.

To overcome skills gaps employers in the sector undertook the following actions (Vivian, et al., 2016):

- Increased training activity.
- More supervision.
- More appraisals / performance reviews.
- Changing work practices.

2.1.5.2 Investment in training

70% of firms in the sector provided some form of training in 2015. This is greater than the UK average where 66% provided some form of training (Vivian, et al., 2016).

- 52% provided off-the job training and 57% on-the-job training.
- Overall, 57% of staff in the sector received training.

Types of training provided included:

- Job specific.
- Health & Safety.
- Basic Induction.
- More extensive induction training for new staff.

55% of firms would have liked to have provided more training but were unable to do so, mainly as they lacked the funds or could not spare the time for employees to be trained (Vivian, et al., 2016).

2.1.6 Apprenticeships in sector

The government has made a clear commitment to delivering employer-led apprenticeships.

There are two different types of apprenticeship schemes; frameworks and standards. Apprenticeship frameworks are being progressively phased out and replaced by the newer apprenticeship standards. Both operate under different models of government funding.

Apprenticeship standards show what an apprentice will be doing and the skills required of them by job role. Standards are developed by employer groups known as 'trailblazers'.

Currently available frameworks and standards for the industry are:

Framework	Level
Food and Drink (England)	2,3
Food and Drink - Non Statutory (Wales)	2,3,4

Latest data (2015/16) on apprenticeships reveals that there were 3,500 starts on frameworks relating to the food and drink manufacturing sector. This is a slight increase on the previous year when 2,700 frameworks were started (Table 14).

62% of apprenticeship starts in the sector were by individuals over the age of 25. Only 13% were by those under 19. This is in contrast to all apprenticeship starts where 44% are by those over 25 years of age and 26% under 19 (DfE, et al., 2017).

Table 14 Food Manufacture Apprenticeship Starts by level and age (national)

		Level (%)			Age (%)		
Year	Total	Intermediate	Advanced	Higher	Under 19	19-24	25+
2013/14	3,010	80%	20%	-	12%	33%	54%
2014/15	2,700	72%	28%	-	13%	24%	62%
2015/16	3,500	76%	24%	-	10%	23%	67%

Source (DfE, et al., 2017)

The Food and Drink framework has a number of specialist pathways and individual can undertake (Table 15). The most popular framework pathways in 2014/15 were:

- Food Industry Skills (26% of all starts)
- Food Manufacturing Excellence (17%)
- Meat and Poultry Industry Skills (16%)
- Baking Industry Skills (16%)
- Food Industry Skills and Technical Management (13%)

Table 15 Apprenticeship Programme Starts by Pathway

Food Manufacture pathways	2013/14	2014/15
Baking Industry Skills	500	420
Brewing Industry Skills	10	20
Dairy Industry Skills	20	-
Fish and Shellfish Industry Skills	250	220
Food Industry Skills	710	710
Food Industry Skills and Technical Management	140	350
Food Industry Team Leading	50	20
Food Manufacturing Excellence	470	460
Fresh Produce Industry Skills	190	70
Meat and Poultry Industry Skills	600	430
No Pathway Assignment	70	-

Source (DfE, et al., 2017)

Apprenticeship Standards

To date the sector has five apprenticeship standards published and approved for delivery.

Table 16 Apprenticeship standards relating to manufacture of food and drink

Framework Title: Engineering and Manufacturing	Level	Status
Abattoir workers - red meat		In development
Advanced dairy technician (technologist)	5	Approved for delivery
Advanced manufacturing fitter		In development
Food and drink advanced process operator	3	Approved for delivery
Food and drink process operator	2	Approved for delivery
Food technologist	3	Approved for delivery
Food industry technical professional (degree)	6	Standard published
Food and drink maintenance engineer	3	Approved for delivery
Food and drink manufacturing manager		In development
Fork lift truck technician		In development
Manufacturing operative		In development
Manufacturing technology engineer		In development

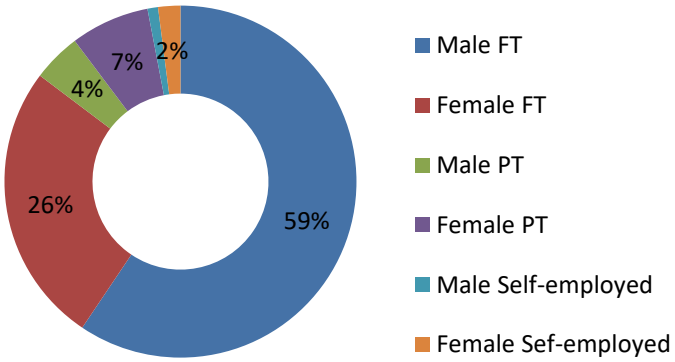
Source (ESFA, 2017)

2.1.7 Future workforce

2.1.7.1 Sector Growth

Employment in the UK Food and Drink manufacture sector[1] is expected to decline by 2% between 2014 and 2024 – a reduction of 9,500. This is in comparison with the whole economy trend where growth of 5.5% is anticipated (UKCES, 2016).

Figure 9 Employment by gender and status in food and drink manufacture, 2024



With an anticipated workforce of 410,000 in 2024, only 12% of the workers will be part-time.

85% will be full-time and 3% self-employed (Figure 9).

This is very similar to proportions seen in 2014.

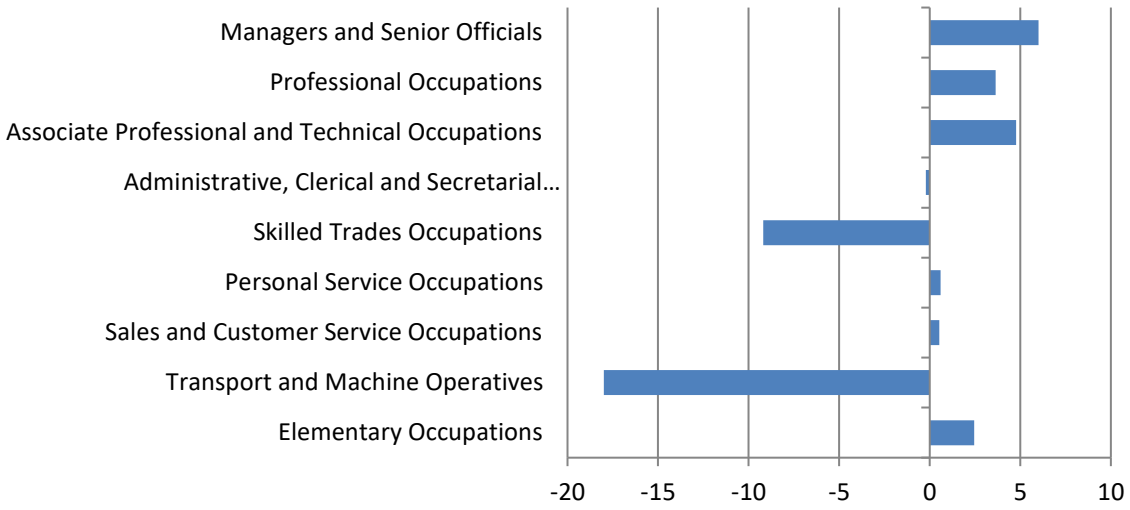
Source: UKCES Working Futures VI

[1] Data also includes manufacture of tobacco

Employment projections by occupation for the sector are shown below. This is clearly useful for people making careers decisions.

We expect to see employment growth for higher level occupations, including managers, professional occupations and associate professionals and technical roles (Figure 10). But net job losses are projected for transport and machine operatives as well as skilled trades.

Figure 10 Occupation change in food and drink manufacture, 2014 -2024 (000s)



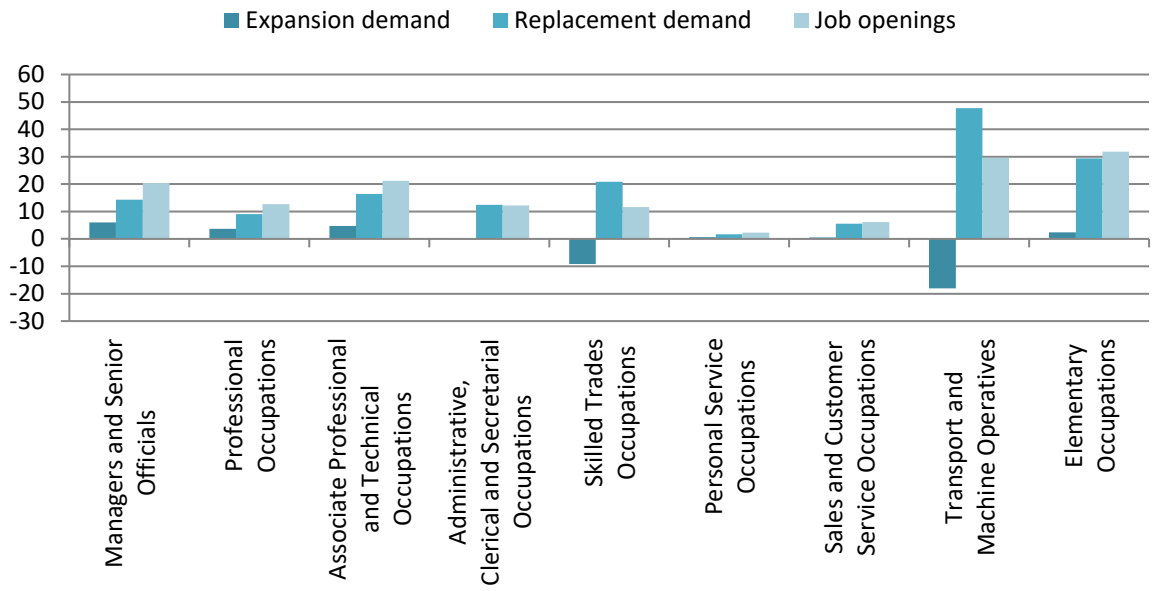
Source: UKCES Working Futures VI

2.1.7.2 Replacement need and total demand

The above occupational change data is a useful indicator of changing patterns of demand for skills. However, it also important to consider the replacement demands – the job openings created by the outflow of workers from the labour market.

Overall, the manufacture of food and drink is expected to have 148,000 job openings between 2014 and 2024: Despite net job losses of 9,000, the sector requires 157,000 replacement demand. Nearly a quarter (22%) of all job openings will be in elementary occupations, 20% in process, plant and machine operative positions and a further 14% in managerial positions.

Figure 11 Job openings in food manufacture by occupation 2014 - 2024 (000s)



Source: UKCES Working Futures VI

2.1.7.3 Qualifications

The latest Working Futures projections also consider the qualification levels of the workforce. It shows that there will be a shift towards more people holding higher qualifications in the sector.

By 2024, 37% of people employed in the visitor economy are expected to be qualified at level 4 and above, whilst the proportion of people with no formal qualifications or level 1 is expected to fall to 22%.

Table 17 Change in qualification profile in the manufacture of food and drink

	No qualifications and level 1	Level 2	Level 3	Level 4 – 6	Level 7 – 8
Qualification example	GSCE (grades D – G) BTEC level 1	GCSE (grades A* - C) NVQ Level 2	AS & A level BTEC National	Certificate of higher education (L4) Foundation degree (L5) Bachelor's degree (L6)	Master's degree (L7) Doctorate (L8)
2014 level **2024 level**	142,425 89,227	98,772 91,990	79,353 75,882	84,239 134,212	15,083 19,123
2014 – 2024 % change	-37%	-7%	-4%	59%	27%
2014 % share	34%	24%	19%	20%	4%
2024 % share	22%	22%	18%	33%	5%

Source: UKCES Working Futures VI

2.2 Food Manufacture in the York, North Yorkshire and East Riding LEP

The YNYER LEP area is home to a number of food and drink manufacturing firms. Global corporations such as McCain's in Scarborough and Nestle in York employ large numbers of people. In addition to this locally based manufactures include:

- **R and R Ice Cream**

In 2006, two separate ice cream businesses – Richmond Foods in the UK and Roncadin in Germany joined forces to become Europe's largest private label manufacturer of ice creams and lollies.

They employ over 3,500 people across the R&R Group which has its headquarters in the UK at Leeming Bar, Hambelton. They have three UK manufacturing sites – Leeming Bar, Skelmersdale and Bodmin – as well as factories on mainland Europe at Osnabrück in Germany; Plouéderne, Vayres and Dangé St Romain in France; Terni in Italy and Mielic in Poland.

- **Karro Food Group**

Karro Food Group is one of the United Kingdom's leading meat processors with pork processing plants across the country. Headquartered in Malton, North Yorkshire, they employ circa 3,000 people across seven national food production locations.

They manage the entire production process **"from field to fork"**, breeding their own pigs on farms in Brydock, Scotland, as well as sourcing from local farmers. It processes about 45,000 pigs a week.

- **William Jackson Food Group**

A food company with five businesses and a pub in different but complementary market areas:

- **Aunt Bessie's** is one of the fastest growing food brands in the UK. As well as its famous Yorkshire puddings and roast potatoes, the range also includes a growing selection of family favourites, from traditional stuffing and dumplings, to seasonal vegetables and nostalgic desserts.
- **Jacksons** is the leading UK sandwich bread producer, baking more than one million loaves each week. It is also the home of Yorkshire's Champion Bread, bloomers, Farmhouse loaves, cobs and rolls, all baked in Hull using flour milled in Yorkshire.
- **MyFresh** are specialists in freshly prepared vegetables and salad and source ingredients through their Spanish business, WJFG Europe, when they cannot be sourced in the UK.
- **Abel & Cole** was established 27 years ago and since then has built a reputation for supplying high quality organic vegetable boxes. It now delivers a range of groceries, all ethically sourced, and local wherever possible, to tens of thousands of homes across the country every week.
- **The Food Doctor** was started by nutritionists in 1999 and today sells branded healthy snacking and bread products across major retailers as well as specialist health retail outlets.
- **The Ferguson Fawsitt Arms** is an historic inn in the village of Walkington, East Yorkshire.

- **Betty's and Taylor's**

Betty's & Taylor's is a vibrant and thriving family business with six Bettys Café Tea Rooms, a Craft Bakery, a Cookery School, online shop and one of the country's most respected tea and coffee merchants, Taylor's of Harrogate. Taylor's blends Yorkshire Tea, the third best-selling tea in the UK, as well as Taylor's market leading roast and ground coffees, and a range of speciality teas.

The area is also home to around 60 Breweries including: Aslyum Harbour, Scarborough, Bad Brewing & Distilling, Thirsk, Bad Seed Brewery, Malton, Blag Dog, Whitby, Black Sheep Masham, Brew York, York, Brown Cow, Selby and John Smiths Tadcaster Brewery.

The LEP is also home to Malton Food Enterprise Park – an agri-food park created to support over 500 people. As part of the development, the livestock market will be situated alongside local food and farming-based businesses, with additional space for businesses to develop their new ideas at the nearby National Agri-Food Innovation Campus. The Malton Food Enterprise Zone will have close links to the world-leading work at the Food and Environment Research Agency in Sand Hutton and York's Biorenewables Centre.

2.2.1 Food Manufacture performance in the LEP

The LEP economy contributed over £24 billion in 2015, an increase of 13% since 2010 (ONS, 2015). However GVA growth in the LEP was less than UK growth, with saw an 18% growth in GVA.

Looking specifically at the food and drink manufacture subsectors we can see that it contributed £897m to the North Yorkshire economy – equating to 5% of the total GVA in North Yorkshire in 2015. Across East Yorkshire and Northern Lincolnshire the contribution was slightly lower at 4%.

Table 18 Regional gross value added (income approach) at current basic prices by industry (£m)

	2010		2015	
	East Yorkshire and Northern Lincolnshire	North Yorkshire	East Yorkshire and Northern Lincolnshire	North Yorkshire
Food products, beverages and tobacco	545	664	701	897
All Industries	16,687	16,333	17,802	18,629

Source (ONS, 2015)

Across the LEP, the sector operates 385 businesses (ONS, 2016). While the number of businesses has increased 15% since 2010, this growth has been slightly lower than the UK manufacture sector (19%) but it is greater than LEP growth in general, where the number of local businesses grew by 10%.

The vast majority of establishments employ less than 10 people (60%). This is much lower than the average across the LEP economy (85%).

Table 19 Size of food and drink manufacturing establishments in YNYER LEP (2016)

Subsectors	Micro 0 to 4	Small 10 to 49	Medium 50 to 249	Large 250+	Total
Processing and preserving of meat and production of meat products	35	10	10	5	60
Processing and preserving of fish, crustaceans and molluscs	5	0	0	0	5
Processing and preserving of fruit and vegetables	10	5	5	0	20
Manufacture of vegetable and animal oils and fats	5	0	0	0	5
Manufacture of dairy products	20	10	5	0	30
Manufacture of grain mill products, starches and starch products	5	5	0	0	15
Manufacture of bakery and farinaceous products	55	25	10	5	90
Manufacture of other food products	30	10	10	5	55
Manufacture of prepared animal feeds	20	10	10	0	40
Manufacture of beverages	45	15	5	0	65
Food and Drink Manufacture	**230**	**95**	**55**	**10**	**385**
%	60%	25%	14%	3%	

Source (ONS, 2016)

2.2.2 Workforce

Over 15,500 individuals work across the YNYER LEP food and drink manufacturing sector (3% of the total LEP employment). Employment in the sector increased by 12% between 2010 and 2015, greater than national sector growth of 6%.

Similar to the national profile, processing and preserving food accounts for 35% of sector's employment, the manufacturing of food 50% and the manufacture of beverages 14%.

Table 20 Food manufacture employment by subsector in the YNYER LEP (2015)

	Number	%
Processing and preserving of meat and production of meat products	4,000	26%
Processing and preserving of fish, crustaceans and molluscs	250	2%
Processing and preserving of fruit and vegetables	1,250	8%
Manufacture of vegetable and animal oils and fats	50	0%
Manufacture of dairy products	1,500	10%
Manufacture of grain mill products, starches and starch products	250	2%
Manufacture of bakery and farinaceous products	1,500	10%
Manufacture of other food products	3,500	23%
Manufacture of prepared animal feeds	1,000	6%
Manufacture of beverages	2,250	14%
Food and Drink Manufacture	**15,550**	**100%**

Source (ONS, 2015)

As with the national sector workforce, the sector in the LEP is dominated by full-time workers.

Table 21 Food and drink manufacturing employment by subsector in the YNYER LEP (2015)

	Full-time	Part-time
Processing and preserving food	95%	5%
Manufacture of food products	88%	12%
Manufacture of beverages	88%	12%
Food and Drink Manufacture	91%	9%

Source (ONS, 2015)

The most common job roles in the food and drink manufacturing sector across the Yorkshire and Humber regions are shown below. The top three roles are the same as the national picture.

Table 22 Top 5 occupations in food and drink manufacture, Yorkshire and Humber

Rank	Occupation	Number employed
1	8111 Food, drink and tobacco process operatives	8,000
2	9134 Packers, bottlers, canners and fillers	5,000
3	1121 Production managers and directors in manufacturing	2,200
4	2129 Engineering professionals n.e.c*.	2,000
5	8114 Chemical and related process operatives	1,500

Source Labour Force Survey April-June 2016 * not elsewhere classified

Other significant roles include:

- Bakers and flour confectioners.
- Fork-lift truck drivers.
- Elementary process plant occupations.
- Science, engineering and production technicians.

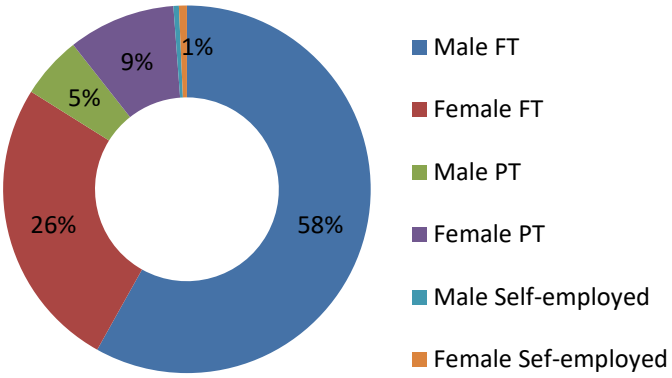
2.2.3 Future workforce in the visitor economy in Yorkshire and Humber

Future workforce projection for the sector are available at the wider region of Yorkshire and Humber rather than the LEP area but this still provides a useful indication of changes in the workforce moving forward.

2.2.3.1 Sector Growth

Employment in the Yorkshire and Humber food and drink manufacturing sector[2] is expected to decline by 10% between 2014 and 2024 – or by 5,500 jobs. This rate of decline is much greater than the UK food and drink sector rate of 2%. It also bucks the Yorkshire and Humber trend, where growth of 4% is anticipated across all industries.

Figure 12 Employment by gender and status in food and drink manufacture, 2024, Yorkshire and Humber



With an anticipated workforce of 48,000 in 2024, 84% of the workers will be full-time in the sector – much greater than the region all economy where only 57% are anticipated to be full time.

Only 1% are anticipated to be self-employed (Figure 12).

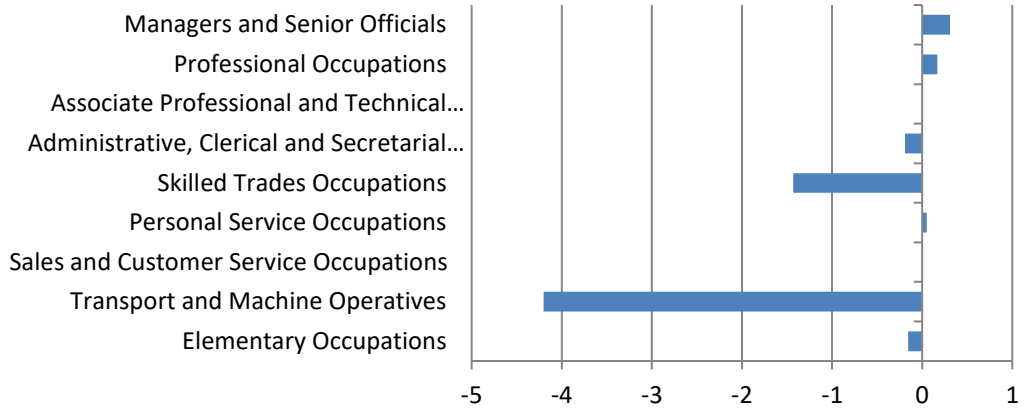
This is very similar to proportions seen in 2014.

Source: UKCES Working Futures VI

We expect to see employment growth for higher level occupations, including managers and professional occupations. But net job losses are projected for process, plant and machine operatives, skilled trades and administrative occupations (Figure 13).

[2] Working Future – 22 Industry data, includes the manufacture of tobacco

Figure 13 Occupation change in food and drink manufacture, 2014 -2024 (000s) Yorkshire and Humber



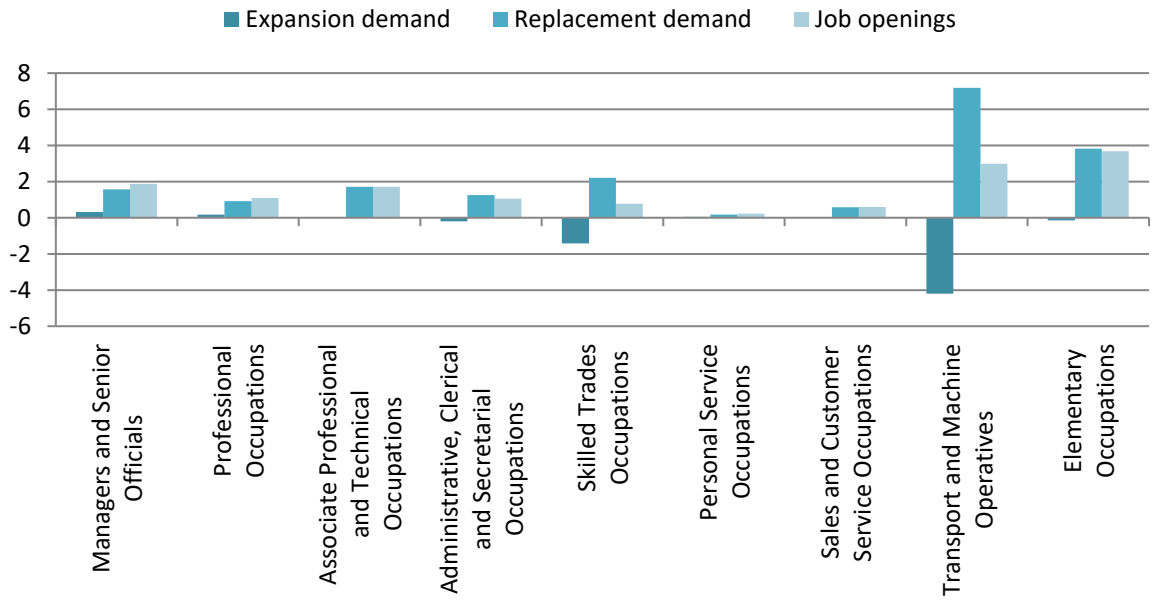
Source: UKCES Working Futures VI

2.2.3.2 Replacement need and total demand

The above occupational change data is a useful indicator of changing patterns of demand for skills. However, it also important to consider the replacement demands – the job openings created by the outflow of workers from the labour market.

Overall, the food and drink manufacturing sector is expected to have 14,000 job openings between 2014 and 2024: Despite the sector expecting total employment to decline by 5,000, it is anticipated that 19,000 individuals are required as replacement demand. A quarter (26%) of all job openings will be in elementary occupations, 21% in process, plant and machine operatives and a further 13% in managerial positions.

Figure 14 Job openings in food manufacture by occupation 2014 - 2024 (000s) Yorkshire and Humber



Source: UKCES Working Futures VI

2.2.3.3 *Qualifications*

The latest Working Futures projections also consider the qualification levels of the workforce. It shows that there will be a shift towards more people holding higher qualifications in the sector.

By 2024, 32% of people employed in the manufacture of food and drink are expected to be qualified at level 4 and above, whilst the proportion of people with no formal qualifications or level 1 is expected to fall to 25%.

Table 23 Change in qualification profile of food and drink manufacture, Yorkshire and Humber

	No qualifications and level 1	Level 2	Level 3	Level 4 – 6	Level 7 – 8
Qualification example	GSCE (grades D – G) BTEC level 1	GCSE (grades A* - C) NVQ Level 2	AS & A level BTEC National	Certificate of higher education (L4) Foundation degree (L5) Bachelor's degree (L6)	Master's degree (L7) Doctorate (L8)
2014 level **2024 level**	20,189 11,927	12,938 11,173	10,384 9,401	8,602 13,838	1,335 1,666
2014 – 2024 % change	-41%	-14%	-9%	61%	25%
2014 % share	38%	24%	19%	16%	2%
2024 % share	25%	23%	20%	29%	3%

Source: UKCES Working Futures VI

SKILLS SUPPORT FOR THE WORKFORCE

ENTERPRISE PARTNERSHIP York / North Yorkshire / East Riding — Business Inspired Growth

More Developed Area: York and North Yorkshire

European Union
European Social Fund

Co-financed by
Education & Skills Funding Agency

CALDERDALE COLLEGE
INSPIRING LEARNERS TO SUCCEED IN LIFE & IN WORK

3 Introduction to More Developed Area of York and North Yorkshire

The EU's Cohesion policy aims to reduce economic and social disparities at regional level across the EU. Consequently, the European Commission has three categories of regional funding:

- ***Less Developed regions***, whose GDP per capita is below 75% of the EU average.
- ***Transition regions***, whose GDP per capita is between 75% and 90% of the EU average.
- ***More Developed regions***, whose GDP per capita is above 90% of the EU average.

Within the YNYER LEP, York and North Yorkshire at nearly 98% GDP per capita is considered a More Developed Area (MDA), while East Riding at 83% is considered a Transition Area (TA) (Eurostat, 2016).

3.1 York and North Yorkshire MDA

North Yorkshire covers an area of 8,654 square kilometres (3,341 sq mi), making it the largest county in England. The majority of the Yorkshire Dales and the North York Moors lie within North Yorkshire's boundaries, and around 40% of the county is covered by National Parks.

York and North Yorkshire is divided into a number of local government districts: Craven, Hambleton, Harrogate, Richmondshire, Ryedale, Scarborough, Selby and the City of York.

It has a resident population of 809,200, which equates to 71% of the LEPs resident population (ONS, 2017). Nearly 380,000 individuals are employed in the area. Employment rates stand at 81.9% for North Yorkshire and 78% in York compared to LEP average of 79.9% (Table 24).

Using YNYER LEP as the standard, we can see various differences in the productivity, skills and employment across North Yorkshire and York. Table 24 highlights where the area performs better (green) or worse (red). For example, self-employment in North Yorkshire stands at 14.1% - greater than within York, the LEP as a whole and the English average. However, the number of individuals qualified to level 4 or above is lower and the proportion with no qualifications is greater in North Yorkshire.

Table 24 Productivity, skills and jobs:

Measure	North Yorkshire	York	YNYER LEP	England
Gross Weekly pay full time (£)	£475.40	£505.40	£481.30	£544.20
Job density (the ratio of total jobs to population aged 16-64.	0.96	0.85	0.86	0.84
Employment Rate	81.9%	78.0%	79.9%	75.0%
Self-Employment	14.1%	9.6%	12.2%	10.6%
Full-time workers	63.1%	62.7%	63.8%	69.1%
Unemployment Rate	2.3%	3.2%	3.0%	4.7%
Economically Inactive	16.1%	18.8%	17.6%	21.2%
Level 4+	35.9%	42.7%	37.5%	37.9%
No Qualifications	6.5%	6.2%	6.3%	7.8%

Source: Office for National Statistics: LEP and National Labour Market Profiles; GVA for Local Enterprise Partnerships

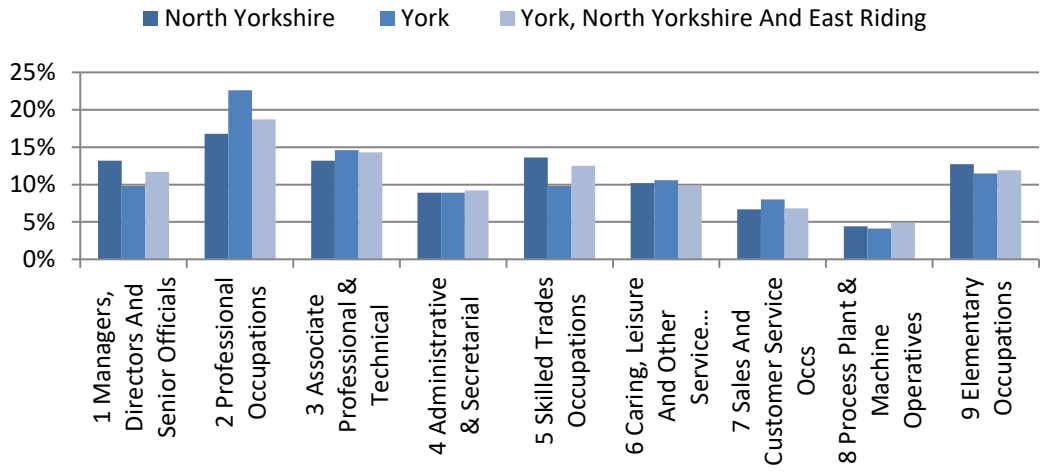
As previously mentioned nearly 380,000 individuals work across the York and North Yorkshire area. The largest employment sectors are (ONS, 2015):

- Health and Social work, employing 13% of all workers.
- Accommodation and food services, employing 11% of all workers.
- Retail, employing 10% of the workforce.

The occupational profile across York and North Yorkshire has some variations compared to the LEP and national data (Figure 15). For example:

- There are more managers in North Yorkshire - 13% compared to 10% in York and 12% at a YNYER LEP level.
- Nearly a quarter (23%) of the workforce are professional occupations in York, compared to 17% in North Yorkshire.
- North Yorkshire has more skilled trade personal than York (14% compared to 10%).

Figure 15 Employment by broad occupation (Jan 2016 - Dec 2016)



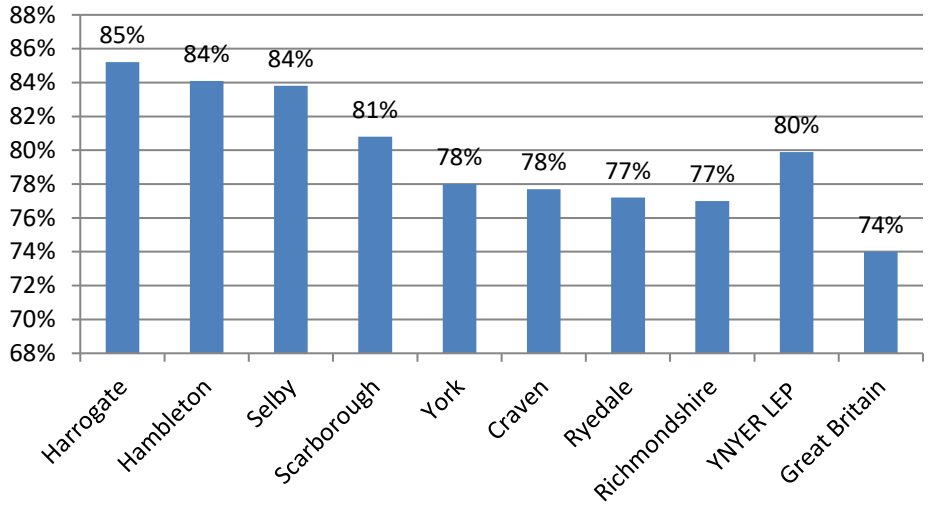
Source (ONS, 2017)

3.2 Local Authorities

The York and North Yorkshire MDA is made up by a number of local government districts: Craven, Hambleton, Harrogate, Richmondshire, Ryedale, Scarborough, Selby and the City of York.

Looking in more detail at Local Authority level, we can see that there are variations in the employment rate: Harrogate has the highest at 85% while Richmondshire has the lowest at 77%. However the employment rate in all local authorities is greater than the national average (Figure 16).

Figure 16 Employment rate across the LEP and North Yorkshire Local authorities



Source (ONS, 2017)

Using YNYER LEP as the standard, additional variations in the job, skills and productivity levels of each of the local authorities are highlighted in the table below. Where the area performs better, we have highlighted this in green with relatively poor performance being highlighted in red in Table 25. In summary:

- Four authorities have a lower weekly wage than the LEP average (Craven, Hambleton, Ryedale and Scarborough).
- In three authorities the job density is above one - meaning that there is more than one job for every resident aged 16-64. These are Craven, Harrogate, and Ryedale. However Craven and Ryedale employment rate is lower than the LEP average.
- Self-employment is particularly high in Harrogate and Scarborough and also in Scarborough, the proportion of full-time workers is low.
- The proportion of workers with a level four qualification ranges from 23.5% in Hambleton to 50.4% in Craven.

Where the local authority area performs better than the YNYER standard we have highlighted this in green or worse in red in the table below.

Table 25 Productivity, skills and jobs by local authorities in York and North Yorkshire MDA

	Craven	Hambleton	Harrogate	Richmondshire	Ryedale	Scarborough	Selby	York	YNYER LEP	England
Gross Weekly pay full time (£)	£413.10	£496.80	£535.50	£507.20	£443.10	£460.30	£549.40	£509.60	£504.70	£544.70
Job density (the ratio of total jobs to population aged 16-64.	1.16	0.98	1.06	0.8	1.02	0.93	0.73	0.85	0.86	0.84
Employment Rate	77.7%	84.1%	85.2%	77.0%	77.2%	80.8%	83.8%	78.0%	79.9%	75.0%
Self-Employment	*	14.7%	19.2%	*	12.7%	18.0%	*	9.6%	12.2%	10.6%
Full-time workers	60%	65%	61.5%	62.5%	69.9%	58.5%	68.6%	62.7%	63.8%	69.1%
Unemployment Rate	3.2%	2.8%	2.7%	2.8%	3.3%	3.7%	3.8%	3.2%	3.0%	4.7%
Level 4+	50.4%	23.5%	42.9%	25.3%	36.8%	37.5%	31.0%	42.7%	37.5%	37.9%
No Qualifications	*	9.1%	*	*	*	7.4	8.9%	6.2%	6.3%	7.8%

(ONS, 2017) * data not available, sample too small

3.3 Emerging developments in York and North Yorkshire MDA

The York and North Yorkshire area is not standing still. Improvements in transport, infrastructure, and housing continue to attract employers and business opportunities. Speaking with stakeholders we understand that each local authority has or is in the process of updating Local Plans and Investment Strategies. For example, Hambleton Inward Investment Strategy and Action Plan has just been published, with the aims to attract quality jobs to the district by looking at its unique selling qualities and how they can be recognised nationally. The initial focus will be on potential employment sites around Leeming Bar. The plan will look at the land, skills, support and opportunity the area has to offer investors, ensure a sufficient supply of good quality sites over the next five years, and encourage links between existing and potential new businesses in the area. It will also promote the creations of centres of excellence in some sectors.

Examples of growth, investment and development in the area includes:

The Fitzwilliam Malton Estate has received planning to change a vacant unit in Malton to form a gin or vodka distillery. This will include a retail area and office space. In addition the Estate is seeking permission for a new restaurant in Malton, an area which is being marketed as the 'Food and Drink' capital of Yorkshire,

Al Khaleej International is looking at a site next to the Allerton Park waste incinerator, near the A1/ A59 junction for a new sugar beet processing plant. The company has asked Harrogate Council planners for environmental opinions before it puts in a full planning application. If the new plant goes ahead, the company claims it would create employment for 200 to 300 jobs, and would buy sugar beet from 3500 farmers mainly across the North East of England (Prest, 2017).

Sirius Minerals PLC is seeking to become a leading producer of multi-nutrient fertilizer and current focus is the development of North Yorkshire Polyhalite project. Located 3.5km South of Whitby, the project will involve the extraction and granulation of the mineral. The project involves the construction of an underground mine, along with the necessary infrastructure above and below grounds that will be necessary for transporting processing and distributing the minerals. The project is expected to deliver 2,500 direct and indirect jobs (Sirius Minerials PLC, 2017)

Covance, a global drug development business, currently based in Harrogate where more than 1,000 people are employed, are expanding on the National Agri-Food Innovation Campus, at Sand Hutton near York. Opening in late 2017, the laboratory extension in York will employ up to 30 scientists (Knowlson, 2017).

ACM Global Laboratories, a medical diagnostic testing company, has added a second specialised building to its laboratory block in Hospital Fields Road, York. The jobs generated will be high tech and include laboratory scientists, life sciences project managers, quality assurance professionals and data managers (York Press, 2017).

Furthermore in York, York Central - a 72 hectare site formed mainly of former railway land behind the station - could see the development of thousands of new homes and enough office space for 7,000 new jobs (City of York Council, 2017)

Near Whitby, a new 60-lodge holiday could be built on a hotel estate. The Classic Lodges hotel group has submitted an application to build a holiday park on its estate at Grinkle Park, following two years of extensive planning and consultation with the relevant authorities (Copeland, 2017). The development would see the restoration of the hotel's Grade II listed stable block, the re-introduction of a derelict caravan site, and the formation of two new lakes to complement the existing water feature. The lodges would be created in an environmentally considerate way and are aimed at the 'staycation' market of families who prefer to holiday in England than abroad. In addition to the construction jobs, once fully operational, the lodge park would create 25 jobs.

Discussions with Selby District Council highlighted a number of planning applications, including housing applications, the construction and operation of a combined cycle gas turbine (CCGT) power station, While Harworth Group Plc has recently secured the resolution to grant planning consent from Selby District Council to redevelop Kellingley Colliery, 151 acre site into a major new manufacturing and distribution centre, which could create 2,900 new jobs and bring investment into the region of £200m (Bean, 2017).

Newby Wiske Hall, formerly the North Yorkshire Police's Headquarters has been sold to PGL, a company that runs educational activities for schools and young people in March 2017. PGL plan to open the site in Spring 2018 and reported that they will create more than 100 jobs, not only in instructing activities, but in catering, housekeeping, site maintenance and management roles.

The above demonstrates some of the opportunities in the area where new firms are entering and currently resident employers are expanding. These developments will have multiplier effects across the supply chains and wherever consumption occurs.

4 Processing and Preserving Foods in North Yorkshire

4.1 Introduction

Food processing is a way or technique implemented to convert raw ingredients into consumer-ready products with the objective of stabilising food products by preventing or reducing negative changes in quality. Examples of food processing methods include: chopping, mixing, homogenizing, cooking, pasteurising, emulsifying, and spray-drying.

Food preservation is the process of treating and handling food in such a way as to stop or greatly slow down spoilage to prevent foodborne illness and extend its shelf-life.

Some techniques and methods used to convert raw materials into processed or preserved food include:

- **Preservation process**: this includes heating or boiling to destroy micro-organisms, oxidation, toxic inhibition, dehydration or drying, osmotic inhibition, freezing, and cold pasteurization which destroys pathogens and various combinations of all these methods.
- **Drying**: this is probably the most ancient method used to preserve or process food. Drying reduces the water content in the product and lack of water delays bacterial growth. Drying is the most common technique to preserve or process cereal grains like wheat, maize, oats, rice, barley, grams and rye etc.
- **Smoking:** many foods such as meat, fish and others are processed, preserved and flavoured by the use of smoke mostly in big smoke houses. This process is very simple as the combination of smoke to preserve food without actually cooking it and the aroma of hydro-carbons generated from the smoke processes the food and makes it even tastier to eat.
- **Freezing:** probably, the most common technique used in the modern world to preserve or process the food both on a commercial and domestic basis. This freezing is conducted in big cold storages which can stockpile huge amounts of food stuffs which can be further used in some natural emergencies.
- **Vacuum packs**: in this method, food is packed in airtight bags and bottles in a vacuum area. This method is used in processing the food as the air-tight environment does not allow oxygen needed by bacteria.
- **Salting:** the method of salting is used in food processing as it sucks out the moisture from the food. This is done through the process of osmosis. Meat is the best example of the food processed by salting as nitrates are used very frequently to treat meat.
- **Sugaring:** the method of using sugar to preserve or process food is very frequent where it comes to preserve fruits. In this method fruits such as apples, peaches and plums are cooked with sugar until they are crystallized and then it is stored dry.
- **Pickling:** in this method of preserving or processing food, food is cooked in chemicals and materials which destroy micro-organisms.

Without these processes, we would not be able to store food from time of plenty to time of need nor to transport food over long distances.

For the following report, data has been analysed using the following Standard Industrial Codes:

SIC	Description
10.1	Processing and preserving of meat and production of meat products
10.2	Processing and preserving of fish, crustaceans and molluscs
10.3	Processing and preserving of fruit and vegetables

Across York and North Yorkshire there are a number of processing and preserving food establishments, with a number planning growth:

Malton has been remoulded as the 'food and drink capital' of Yorkshire, and subsequently is home to a number of processes, manufacturers and breweries.

Malton's Navigation Wharf, an area of former riverside warehouses, is being developed by Fitzwilliam Estate as a second phase of food production units with the first phase at Talbot Yard almost fully let. Costello's will be one of the first producers to arrive, with its new production unit allowing more space to produce their craft baking products for Costello's shops in Malton and Driffield. The new facility is anticipated to create 20 new jobs.

McCain employs almost 1,000 people in the Scarborough area, with roles ranging from engineering, finance, and product innovation. In March 2017, McCain's announced that they are looking to invest more than £100m in its Scarborough factory. The investment is expected to help meet increased demand for its products, upgrade equipment and increase sustainability at the factory. The plans include installing odour reduction technology, landscaping around the perimeter of the factory and implementing renewable technology to reduce the company's environmental impact.

Holmesterne is a highly successful, privately owned food company, established since 1994, operating from two processing /manufacturing plants based in North Yorkshire.

- Brompton on Swale (Richmondshire): Here in-house butchers operate from licensed meat cutting plant processing raw, chilled and frozen red meat and poultry. In addition they also manufacture stuffings, meatballs and BBQ products at this site.
- Leeming Bar: This cooking facility produces cooked meat products, roast and steamed vegetables either chilled, frozen, or ambient stable.

As previously mentioned a new sugar beet processing facility is planned for Allerton, by Al Khaleej International. The proposed developed will generate the site and provide employment at the plant for up to 300 people. In addition the facility would involve a supply chain of about 3,500 British farmers in sourcing of sugar beet.

4.2 Processing and Preserving Foods economy and employment

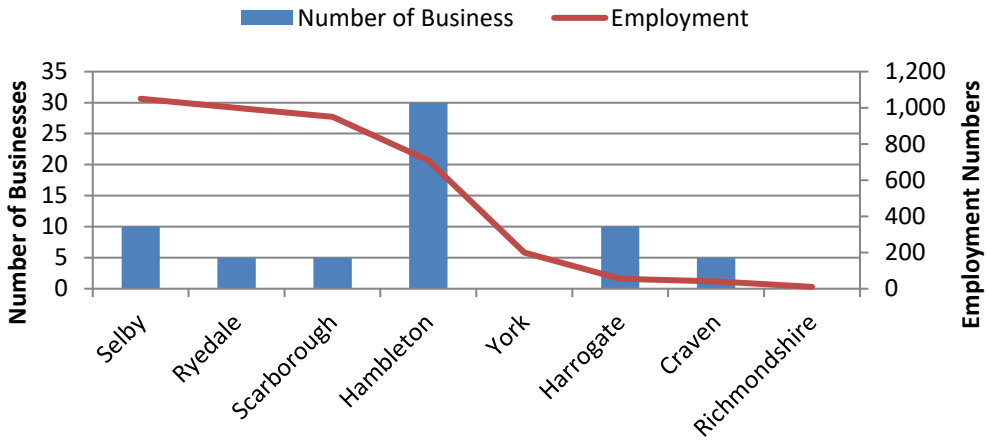
In total the York and North Yorkshire MDA has 85 businesses operating in the food processing and preservation subsector, employing 5,500 individuals. The greatest employment is found within Selby district accounting for 26% of the workforce. A further 25% are employed in Ryedale district.

Hambleton has the greatest number of businesses in the district, but only accounts for 18% of employment.

Three in five (59%) businesses employ less than 10 individuals and 6% employ more than 250.

69% of the businesses in the North Yorkshire area are involved in the processing and preserving of meat products, 23% in fruit and vegetables and just 8% in the processing and preserving of fish, crustaceans and molluscs.

Figure 17 Distribution of food processing and preservation businesses and employment in North Yorkshire



Source (ONS, 2015) & (ONS, 2016)

The job roles which have the greatest number employed in processing and preservation of food subsector across Yorkshire and Humber are:

- Packers, bottlers, canners and fillers.
- Food, drink and tobacco process operatives (See Annex for more details of role).
- Fork lift truck drivers.

Other skilled positions such as include fishmongers and poultry dressers, butchers and process engineers.

4.3 Skills needs – Primary research testing the data

4.3.1 Planning for the future

Data tells us that across the LEP economy 58% of firms have a Business Plan which specifies objectives for the coming year, which is slightly lower than national findings of 62% (UKCES, 2016). 39% of firms had a training plan, again less than national average of 42%.

Our primary research highlights that employers in the subsector in the MDA frequently do not have either of the above, particularly the smaller firms. Smaller establishments are clearly focussing on operational matters, and whilst there is some understanding of the need to plan this is clearly a gap.

4.3.2 Recruitment and retention

There is a high level of recruitment demand across the food and drink manufacturing sector and this is mirrored in the processing and preserving subsector. Nationally we have seen that 22% of firms in the food and drink sector reporting at least one vacancy; greater than UK findings (19%) (UKCES, 2016).

The subsector has struggled to attract, recruit and retain qualified engineers and technicians. This is partly linked to the fact that nationally there is a shortage of engineers but also engineers are more attracted to sectors such as automotive and aerospace.

Firms also reported the need for food technologists to identifying/create new food recipes, supervisors, financial positions and general production and warehouse staff.

Skilled Butchers are also in demand with several companies including Taste Tradition Ltd, R&J Finest Farmers & Butchers, Langthorne's Buffalo Produce, and Herb Fed amongst the firms seeking workers in this area.

Recruitment of migrants is also common in this subsector – 51% of the workforce in the subsector was born overseas. Reasons cited for the recruitment of migrants include a lack of local labour and unwillingness of local labour to perform roles.

But it is not just recruitment; many firms also report retention issues and these appear to be worsening. In 2015, 13% of firms in the sector reported retention issues particularly for process, plant and machine operative positions – the main employment occupational in this subsector (UKCES, 2016).

R&J Finest Farmers & Butchers, Kirkby

In May 2017 the firm was recruiting for several positions including Butchers, Packing Assistants, Weigh Scale Operatives, Sausage Manufacturers and Night Shift Operatives.

- Catering Butcher: High skill level with particular emphasis on portion control. Work as a key part of the team to ensure products are compliant with food safety and high quality standards
- Night Operative: Picking orders according to customer requests and specifications, Acting as Quality Control, Responsible for scanning each product based on traceability and the cut of meat, Working as a team, Working safely in the factory environment following company rules and regulations
- Production Operative: Operate machinery in order to package meat to a high quality for customer delivery, Good team player and keen to get involved, Excellent attention to detail, Highly organised with a sense of responsibility, Enthusiastic and Motivated

4.3.3 What are the current skills needs and skills gaps?

Skills levels

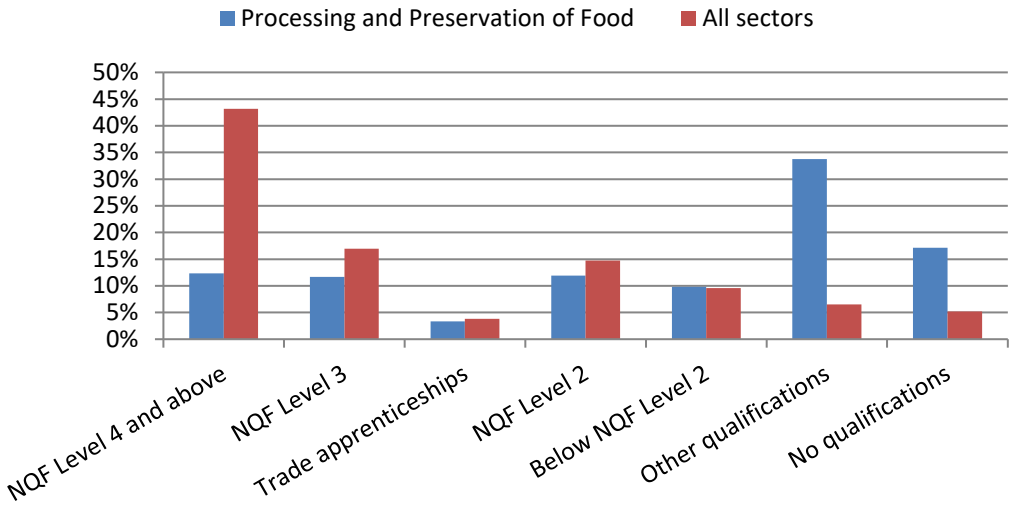
At a national level the food processing and preservation subsector has a very different qualification profile to the all sector average (Figure 18). It is much lower skilled.

Only 12% of the workforce hold a level 4 qualification or above compared to all sectors in which 43% have this qualification. 17% having no qualifications at all and 34% other qualifications.

There is some variation within the subsector. For example 31% of those working in the processing of fish, crustaceans and mollusc have no qualifications, compared to 15% in the processing of meat products. However a greater proportion of workers have a trade apprenticeship in processing of fish (17%).

The largest occupational group in the subsector is process, plant and machine operatives (accounting for 43%) and elementary occupations (23%) and these roles traditionally require lower levels of qualifications.

Figure 18 Qualifications levels of food processing and preservation subsector (UK)



Source (Office for National Statistics, et al., 2016)

Skills gaps

Across all sectors in the LEP, 15% of firms report having a skills gap - i.e. where an employee is deemed by their employer to be not fully proficient, i.e. is not able to do their job to the required level (UKCES, 2016). Overall is has been calculated that over 21,200 individuals in the LEP are not proficient in their job.

From our primary research firms that report skills gaps confirmed that main causes are generally due to individual's being new to the role and their training is currently only partially completed.

These two factors are both predominantly transient: that is to say one would expect skills gaps resulting from these causes to be eliminated when staff are settled into their new roles and/or existing training has been completed.

From our primary work we can suggest that the following skills are particularly needed and valued by employers:

- Health and safety training is a necessity for many roles working in the subsector.
- For lower level positions, employers seek practical skills such as manual dexterity and a certain level of hand-eye coordination.
- Skilled trades such as meat processing skills (butchery and boning) and knife- and fishmongery skills.
- Engineering and technical skills.

4.3.4 Training

Across all sectors in the LEP, 65% of firms had funded or arranged training for staff in the previous 12 months, while across the UK food and drink manufacturing sector 70% of firms had done so (UKCES, 2016). The vast majority of training and development is targeted at initial training and development and statutory areas such as health and safety.

Our primary research found similar findings in this area. Key areas of training for employers in the processing and preserving sector are health and safety – particularly food hygiene.

Cost and time were the main drag factors on engaging non mandatory training,

McCain

McCain supports education and training not only within their workforce but also looking forwards to the next generation of workers.

They have the 'McCain Engineering Apprenticeship Scheme'. This scheme forms part of an industry-wide approach to help develop future engineers and inspire young people to join the food manufacturing sector. As well as Government required modules, apprentices receive bespoke training in a range of topics specific to McCain and the food manufacturing industry.

But they also backed the development of the University Technical College in Scarborough. A number of roles within the company require skills in STEM subjects and the UTC will play a huge part in training student that might in the future work for the company.

4.3.5 Apprenticeships

Across York and North Yorkshire there has been a steady number of individuals starting an apprenticeship. In 2011/12, just over 11,400 individuals started one, while by 2015/16 this had risen slightly to 11,570(Table 26). Two in five (39%) of all starts have been within Richmondshire and 15% in York and 12% in Scarborough (DfE, et al., 2017).

The majority (70%) of apprenticeship starts were at an intermediate level. 4% were at a higher level. A quarter of all starts were by individuals under the age of 19 and 35% over the age of 25.

Table 26 Apprenticeship Programme Starts by level and age, York and North Yorkshire

		Level (%)			Age (%)		
Year	Total	Intermediate	Advanced	Higher	Under 19	19-24	25+
2011/12	11,400	75%	25%	*	31%	36%	33%
2012/13	11,520	72%	27%	1%	29%	38%	34%
2013/14	9,770	76%	22%	1%	27%	44%	28%
2014/15	12,920	76%	22%	2%	23%	45%	32%
2015/16	11,570	70%	27%	4%	25%	40%	35%

Source (DfE, et al., 2017) Apprenticeships geography data tool: starts 2011/12 to 2016/17

The most popular frameworks across the area were across the subject area of health, public services and care (49% of all starts). Business, administration and law accounted for a further 17% starts and Retail and commercial enterprise contributing 15% (Table 29Table 35).

The Food and Drink apprenticeship framework is one of 37 frameworks classified under the sector subject area of 'Engineering and manufacturing technologies'. So while we can see that 1,140 starts have been on engineering and manufacturing technologies frameworks in the MDA, it is important to note that not all of these will be on frameworks relating to this subsector.

Nationally, data reveals that there were 2,700 starts on a Food Manufacture apprenticeship in 2014/15 with the most popular pathway being Food Industry Skills, followed by Food Manufacturing Excellence (Table 27). 72% were at an intermediate level and 28% at advanced level.

In contrast to the York and North Yorkshire all sector data in which we see 35% of starts by those over 25 years of age, 62% of food manufacture apprenticeship starts are by those over 25 (Table 28).

Table 27 Apprenticeship Programme Starts by Pathway (national)

Food Manufacture pathways	2013/14	2014/15
Baking Industry Skills	500	420
Brewing Industry Skills	10	20
Dairy Industry Skills	20	-
Fish and Shellfish Industry Skills	250	220
Food Industry Skills	710	710
Food Industry Skills and Technical Management	140	350
Food Industry Team Leading	50	20
Food Manufacturing Excellence	470	460
Fresh Produce Industry Skills	190	70
Meat and Poultry Industry Skills	600	430
No Pathway Assignment	70	-

Source (DfE, et al., 2017)

Table 28 Food Manufacture Apprenticeship Starts by level and age (national)

		Level (%)			Age (%)		
Year	Total	Intermediate	Advanced	Higher	Under 19	19-24	25+
2013/14	3,010	80%	20%		12%	33%	54%
2014/15	2,700	72%	28%	-	13%	24%	62%

Source (DfE, et al., 2017)

In our primary work we explored this and the reasons will be familiar to people working in the skills sector. Whilst there is a general support for the principle of Apprenticeship, it was felt that they were often too large an intervention for this subsector. 59% of firms in this subsector employ less 10 individuals.

The sector has apprenticeships ranging from level 2 (i.e. Food & Drink process Operator) which is mainly where take-up is. However the need for higher level skills has been recognised. Consequently more advance standards have recently been developed. For example there is now a level 5 Dairy Technologist and level 6 Food Industry Technical Professional and Food & Drink Manufacturing Manager which are seen as relevant and valuable in the subsector.

From our primary work we can see that the challenge, particularly for SMEs, in hiring apprenticeships continue to be significant. There are issues around awareness, relevance and perceived bureaucracy.

Table 29 Apprenticeship Programme Starts by district and Sector Subject Area (2014/15)

Sector Area	Craven	Hambleton	Harrogate	Richmondshire	Ryedale	Scarborough	Selby	York	North Yorkshire	MDA Area
Agriculture, Horticulture and Animal Care	20	50	30	30	40	10	20	10	200	**220**
Arts, Media and Publishing	-	-	-	-	-	-	-	10	10	**-**
Business, Administration and Law	110	200	370	160	100	300	290	460	1,520	**1,810**
Construction, Planning and the Built Environment	50	60	50	50	40	50	70	160	370	**440**
Education and Training	10	-	30	-	10	20	10	10	80	**90**
Engineering and Manufacturing Technologies	80	120	180	100	90	170	150	230	910	**1,060**
Health, Public Services and Care	70	200	380	4,000	100	330	190	410	5,270	**5,460**
Information and Communication Technology	-	20	30	10	10	20	10	60	100	**110**
Languages, Literature and Culture	-	-	-	-	-	-	-	-	-	**-**
Leisure, Travel and Tourism	10	20	30	10	20	40	20	30	160	**180**
Preparation for Life and Work	-	-	-	-	-	-	-	-	-	**-**
Retail and Commercial Enterprise	90	170	310	180	80	250	150	340	1,220	**1,370**
Science and Mathematics	-	-	-	-	-	-	-	-	10	**-**
Unknown	-	-	-	-	-	-	-	-	-	**-**
Total	**440**	**850**	**1,420**	**4,540**	**490**	**1,190**	**920**	**1,720**	**9,850**	**10,770**

Source (DfE, et al., 2017) Apprenticeships by parliamentary constituency 2011/12 to 2014/15

4.4 Future requirements

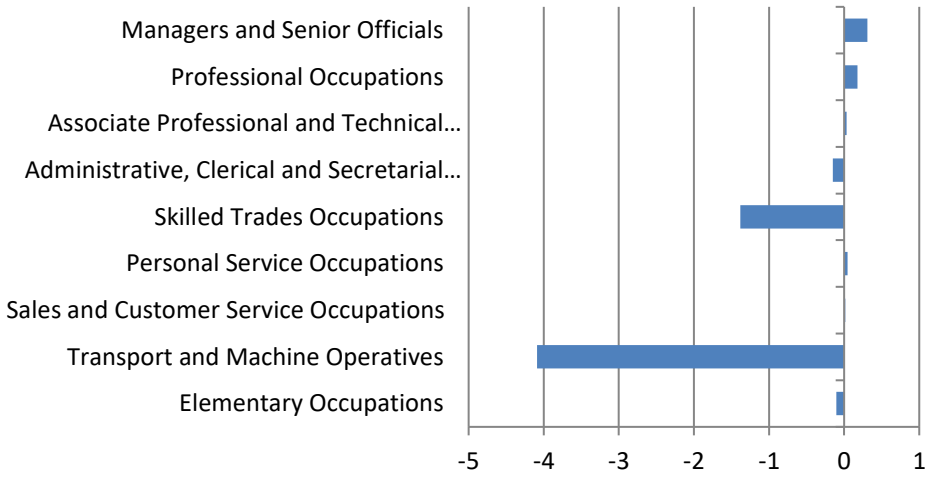
4.4.1 Sector growth

Future workforce projections for the subsector are available at the wider region of Yorkshire and Humber rather than the North Yorkshire area but this still provides a useful indication of changes in the workforce moving forward.

Employment in the Yorkshire and Humber food products manufacturing[3] subsector is expected to decline 10% between 2014 and 2024 – or by 5,000. This is in contrast to the region's all sector economy where growth of 5.5% is anticipated (UKCES, 2016).

We expect to see small employment growth for higher level occupations, including managers, professional occupations and associate professionals and technical roles (Figure 19). However, the overall number employed in plant, process and machine operative roles and skilled trades is expected to decrease.

Figure 19 Food products manufacturing occupational change, 2014 -2024 (000s), Yorkshire and Humber



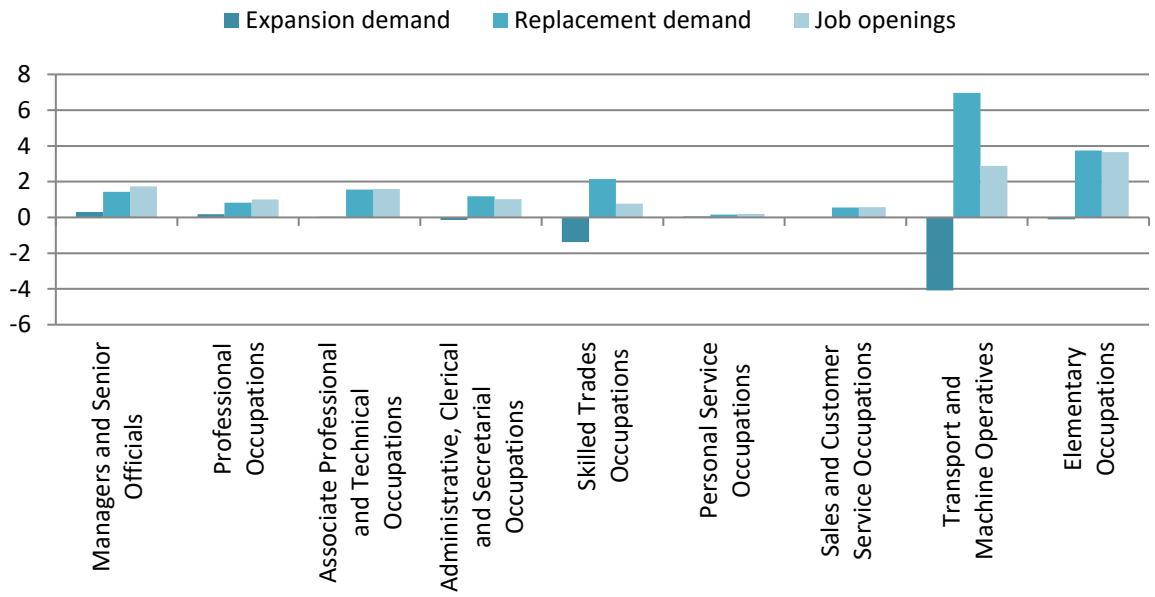
Source: UKCES Working Futures VI

4.4.2 Replacement need and total demand

Overall the subsector in Yorkshire and Humber is expected to have approximately 13,500 job openings between 2014 and 2024: 18,500 will be replacement demand, but there will be a net sector decline of 5,000. A quarter (26%) of all job openings will be within elementary occupations and a further 21% in process, plant and machine operatives (Figure 20).

[3] The whole of SIC 10 Manufacture of food products

Figure 20 Job openings in the Food products manufacturing by occupation 2014 - 2024 (000s) in Y&H



Source: UKCES Working Futures VI

19,000 of the new staff needed to replace existing employees is largely a consequence of its older workforce. 33% of the subsector workforce are over 50 years of age.

4.4.3 Qualifications

The change in qualification levels of the workforce shows that there will be a shift towards more people holding higher qualifications (Table 30).

By 2024, 32% of people employed in the food products manufacturing subsector are expected to be qualified at level 4 and above (Lower than Yorkshire and Humber region all sector proportion of 47%), whilst the proportion of people with no formal qualifications or level 1 is expected to fall to 6%.

Table 30 Change in qualification profile food products manufacturing subsector, Yorkshire and Humber

	No qualifications and level 1	Level 2	Level 3	Level 4 – 6	Level 7 – 8
Qualification example	GSCE (grades D – G) BTEC level 1	GCSE (grades A* - C) NVQ Level 2	AS & A level BTEC National	Certificate of higher education (L4) Foundation degree (L5) Bachelor's degree (L6)	Master's degree (L7) Doctorate (L8)
2014 level **2024 level**	19,469 11,469	12,415 10,812	9,854 8,997	7,966 12,960	1,251 1,569
2014 – 2024 % change	-41%	-13%	-9%	63%	25%
2014 % share	38%	24%	19%	16%	2%
2024 % share	25%	24%	20%	28%	3%

Source: UKCES Working Futures VI

4.4.4 Future roles and skills

The above Working Future projections demonstrate that there will be limited growth across the higher occupational groups and a decline in lower skilled roles, but there will be replacement need for all positions.

Employers have not necessarily identified any new roles developing in the next 6 years; rather they expect to be recruiting for the same sorts of positions as they currently exist.

4.5 Drivers of change

4.5.1 Political

Election and Leaving the European Union

The result of the British General Election has left food and drink companies facing an uncertain immediate future, with a weak pound already increasing costs.

Uncertainty over the political situation of the UK may have an impact on the sector. It is only once the future regarding leaving the EU is clearer that companies will feel comfortable committing to long term investment programmes. Equipment suppliers are likely to the biggest losers of this, as companies will push existing machinery to work longer and wait to see if consumer confidence remains at a level where investing in upgrades or expansions is worthwhile.

The effect on inward migration particularly from EU countries could affect the sector's ability to recruit and retain skilled staff and is by far the biggest issue employers have raised with us. This is perhaps not surprising given that 51% of the national workforce in this subsector was born overseas.

Legislation / Regulations

As with other industries which provide a service, this is a subsector which is heavily regulated, particularly in terms of food safety, quality and traceability and nutrition labelling.

Employers are not expecting there to be significant new legislation in the next few years, rather they are anticipating many current standards to simply move from EU legislation into UK law.

4.5.2 Economic

Rising Costs

The whole subsector is affected by rising operating costs. For example the increasing cost of raw products impacts on the whole sector. Consequently, resource management and budgetary controls are important.

Wage levels

The National Minimum Wage (NMW) was first introduced in the UK in April 1999 at a rate of £3.60 per hour for over 21-year-olds. Prior to that there was no statutory minimum. In April 2016 the government introduced the National Living Wage (NLW) at a level of £7.20 per hour for those over 25 years old, increasing to £7.50 in April 2017. It is expected to rise to at least £9 per hour by 2020. The impact of this is likely to be significant on this subsector.

Firms will undoubtedly face higher payroll costs and this is challenge they face. The BDO Food and Drink Report (2017) states that 66% of food and drink manufactures were increasing its investment in automation. Many are doing so as a result of, or partly liked to the national living wage increases.

Labour availability

Following the recession, the economic situation across the UK and North Yorkshire has been improving. Unemployment rates in the area have declined from a high of 7.5% in 2011 to 2.3% at the end of 2016. Of those claiming JSA, 43% have been out of work for six months or more (ONS, 2017) and are therefore more of a challenge to get back into work. Consequently it is becoming harder to recruit.

Demographic changes mean that there are fewer younger people entering the job market, which has an adverse effect. Employers need to find ways to attract and then retain staff. Recruitment and retention are two important issues.

4.5.3 Social

Consumer needs

Consumers are not only concerned about the sensory characteristics of foods products (e.g. texture, flavour, aroma, shape, colour and after taste) they also pay attention to the nutritional value. In general, consumers are demanding less processed and additive-free food products than before. Thereby food processors/manufactures are seeking to develop and employ processing technologies that retain or create the desired sensory and nutritional qualities.

New product development is a massive opportunity for businesses in the near future. There are several consumer trends shaping product development, including 'free-from', health foods, vegan and plant-based foods, and niche specialities such as snacks and craft beers.

4.5.4 Technological

Driven by new knowledge and new techniques developed through research findings and by market demand, the food industry is very active in technological innovations with a track record of developing new ways of processing foods.

Alternative or novel food processing technologies continue to be explored and implemented to provide safe, fresh tasting, nutritional foods without using heat or chemical preservatives. One such process is the application of high-pressure processing (HPP), which is seen as an alternative to thermal treatments. Here food material is subjected to elevated pressures with or without the addition of heat to achieve microbial inactivation with minimal damage to the food.

Automation

Automation has one of the highest impacts on the food industry with 63% having some level of automation (BDO, 2017). Some companies have been slow to adopt automation and upgrade production lines due to the downtime and retraining period needed. However 51% of food and drink manufacturers were looking to increasing its investment. This is important as we think of the future skills profiles of the sector. Increasingly manufacturers will rely on engineers and technical skills to keep a factory working rather than filling it with lots of low skilled workers.

The types of automation equipment include: refrigeration, handling and filling, automated packing and packaging, weighing, mixing, machine controls, software and remote centralised SCADA monitoring and control.

However, with automation also comes the risk of cyber-attacks. Companies embracing automation should pay close attention to cyber risk governance. Focus needs to be on security controls for both operational technology and information technology systems. User education is essential.

4.5.5 Environmental

Many processing plants consume vast amounts of water during the cleaning stages of products.

Firms are thereby increasingly seeking methods of production which are both resource efficient and environmentally considerate..

Newby Foods, based in Newby Wiske, North Yorkshire

As part of their commitment to the environment, Newby Foods Limited has utilised the reed beds spread along the east of the site as its primary water treatment source.

Reed beds, or constructed wetlands, are a now well proven, sustainable, low energy, low maintenance solution for wastewater treatment.

With this system Newby convert waste water, using natural ecological processes, into a non-polluting high quality effluent suitable for discharge into our rivers and streams.

http://www.newbyfoods.com/responsibility/

4.6 Key Points

What follows is a presentation of the key findings from the above.

- 85 businesses operate in the food processing and preservation subsector across the MDA area, employing 5,500 individuals. The greatest employment is found within Selby district accounting for 26% of the workforce. A further 25% are employed in Ryedale district.
- 69% of the businesses in the North Yorkshire area are involved in the processing and preserving of meat products.
- The subsector has struggled to attract, recruit and retain qualified engineers and technicians. This is partly linked to the fact that nationally there is a shortage of engineers but also engineers are more attracted to sectors such as automotive and aerospace.
- There is need for food technologists to identifying/create new food recipes, supervisors, financial positions and general production and warehouse staff.
- 51% of the workforce in the subsector was born overseas. Reasons cited for the recruitment of migrants include a lack of local labour and unwillingness of local labour to perform roles.
- At a national level the food processing and preservation subsector has a very different qualification profile to the all sector average (Figure 4). It is much lower skilled.
- Overall employment in the Yorkshire and Humber food products manufacturing subsector is expected to decline 10% between 2014 and 2024. However there are still expected to be 13,000 job openings, mainly in lower skilled occupations.
- In the medium term future automation is likely. Increasingly manufacturers will rely on engineers and technical skills to keep a factory working rather than filling it with lots of low skilled workers.

5 Manufacture of Foods in North Yorkshire

5.1 Introduction

The food manufacturing sector is very broad but can be defined as the preparation of food products ready for sale and consumption. It involves the sourcing of ingredients, processing, preservation and packaging. It also includes product research and design, taste testing and marketing.

The manufacture of food subsector can be further disaggregated into six distinct areas: oils and fats, dairy products, grain, bakery, animal feeds and other food products.

For the following report, data has been analysed using the following Standard Industrial Codes:

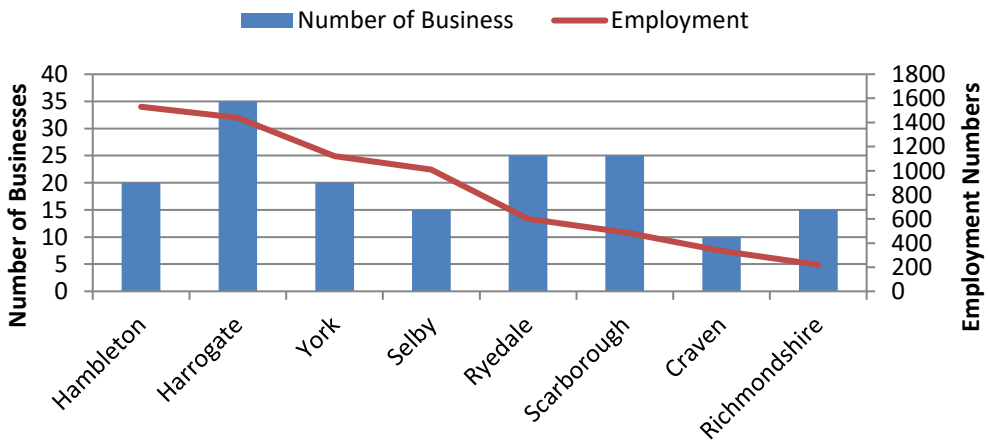
SIC	Description
10.4	Manufacture of vegetable and animal oils and fats
10.5	Manufacture of dairy products
10.6	Manufacture of grain mill products, starches and starch products
10.7	Manufacture of bakery and farinaceous products
10.8	Manufacture of other food products
10.9	Manufacture of prepared animal feeds

5.2 Manufacture of Food economy and employment

In total the York and North Yorkshire MDA has 165 businesses operating in the manufacture of food subsector, employing 6,700 individuals. The greatest employment is found within the Hambleton district, accounting for 23% of the workforce. A further 21% are employed in the Harrogate district.

Three in five (57%) businesses employ less than 10 individuals and only 4% employ more than 250.

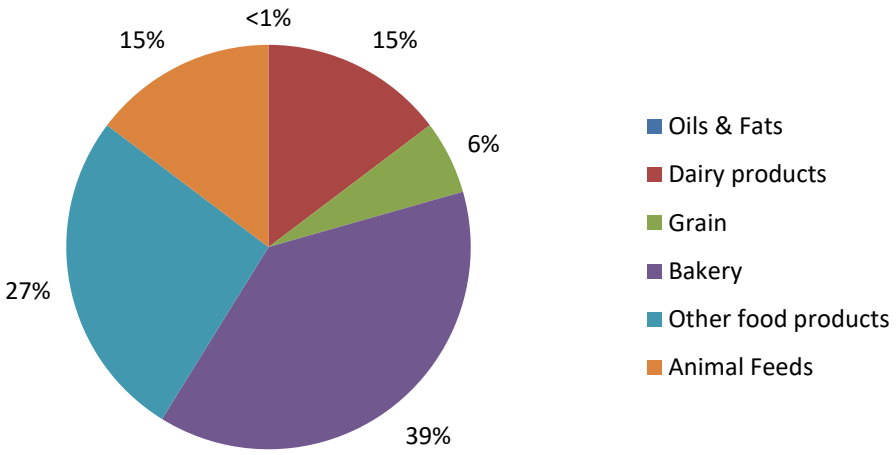
Figure 21 Distribution of food manufacturing businesses and employment in North Yorkshire



Source (ONS, 2015) & (ONS, 2016)

39% of the businesses in the North Yorkshire area are involved in the manufacture of bakery products, 27% in manufacture of other food products, such as manufacture of cocoa, processing of tea and coffee and prepared meals. The manufacture of oils and fats accounts for less than 1% of the workplaces.

Figure 22 Workplaces in the manufacture of food subsector by speciality in MDA:



Source (ONS, 2016)

Examples of establishments in each of the six industries include:

Manufacture of vegetable and animal oils and fats

- Yorkshire Rapeseed Oil, Malton www.yorkshirerapeseedoil.co.uk

Manufacture of dairy products

- The Swaledale Cheese Company, Richmond, http://www.swaledalecheese.co.uk/
- R and R Ice Cream, Leeming Bar, Hambleton http://www.rr-icecream.co.uk/
- Dales Dairies, Skipton, http://www.dalesdairies.co.uk/

Manufacture of grain mill products, starches and starch products

- Brecks, Selby http://www.brecksfood.com
- Allmet http://www.allmet-dryers.co.uk
- Ripon Select Foods Ltd, Ripon www.rsf.co.uk

Manufacture of bakery and farinaceous products

- The Angel's Share, Richmodshire http://theangelssharebakery.com/
- Auntie Anne's Castlegate Bakery, Helmsley http://www.auntieannescastlegatebakery.co.uk/bakery
- Stonehouse Bakery, Danby http://www.stonehousebakery.co.uk/
- Thomas the Baker, https://www.thomasthebaker.co.uk

Manufacture of other food products

- Cargill, York http://www.cargill.co.uk/en/locations/york/index.jsp
- Bracken Hill Fine Foods, Elvington https://www.brackenhillfinefoods.co.uk/
- Raisthorpe Manor Fine Foods Ltd, Malton www.raisethorpemanor.com
- Pro-Pak Foods, Malton http://www.pro-pakfoods.co.uk
- Malton Foods, Malton http://www.maltonfoods.com/
- Sarina, Leeming Bar, http://www.sarniafoods.co.uk
- Greencore Group, Selby https://www.greencore.com/selby/

Manufacture of prepared animal feeds

- I'Anson Brothers Ltd, Ripon http://www.ianson.co.uk/
- BATA, Amotherby Malton http://www.bataltd.co.uk/

The job roles which have the greatest numbers employed in the processing and preservation of food subsectors across Yorkshire and Humber are:

- Food, drink and tobacco process operatives (See Annex for more details of role)
- Packers, bottlers, canners and fillers
- Production managers and directors in manufacturing
- Chemical and related process operatives
- Sales and retail assistants
- Bakers and flour confectioners

Each industry employs a variety of roles, and from our research we have highlighted some of those found in the table below:

Table 31 Job roles found across food manufacture subsector

Oil & Fat	Dairy products	Grain	Bakery	Other food products	Animal Feeds
Head of Production	Quality Auditor	Shift Maintenance Operative	Production Director	Engineer – Electrical Multi-skilled	Nutritionist
Head of Retail Sales	Engineer stores Assistant	Laboratory Technician	Financial Director	Kitchen Assistant	Sales Manager
Market Sales	Multi skilled engineers		Sales Manager Designate	Product Development Manager	
Brand Design	Herdsman		Senior Engineering Manager	Supply Chain Assistant	
Recipe Developer			IT Manager		
			Quality Assurance Manager		
			Area Sales Manager		

5.3 Skills needs – Primary research testing the data

5.3.1 Planning for the future

Data tells us that across the LEP economy 58% of firms have a Business Plan which specifies objectives for the coming year, which is slightly lower than national findings of 62% (UKCES, 2016). 39% of firms had a training plan, again less than national average of 42%.

Our primary research highlights that employers in the subsector in the MDA frequently do not have either of the above, particularly the smaller firms. Smaller establishments are clearly focussing on operational matters, and whilst there is some understanding of the need to plan this is clearly a gap.

5.3.2 Recruitment and retention

There is a high level of recruitment demand across the food and drink manufacturing sector and this is mirrored in the manufacture of food subsector. Nationally we have seen that 22% of firms in the food and drink sector reporting at least one vacancy; greater than UK findings (19%) (UKCES, 2016).

The subsector has struggled to attract, recruit and retain qualified engineers and technicians. This is partly linked to the fact that nationally there is a shortage of engineers but also engineers are more attracted to sectors such as automotive and aerospace.

Roles being recruited were in some instances specific to the area of manufacture. For example for some firms the manufacturing processing was part of wider operations, and roles were sought across the supply chain. For example a dairy manufacturer required a herdsman as well as a maintenance engineer.

Recruitment of migrants is also common in this subsector – 41% of the workforce in the subsector was born overseas. Reasons cited for the recruitment of migrants include a lack of local labour and unwillingness of local labour to perform roles.

But it is not just recruitment; many firms also report retention issues and these appear to be worsening. In 2015, 13% of firms in the sector reported retention issues particularly for process, plant and machine operative positions – the main employment occupational in this subsector (UKCES, 2016).

R and R Ice Cream, Leeming Bar, Hambleton Vacancy

Ice Cream manufacture had several positions available in June 2017 including:

Multi-skilled Engineer; the individual would be responsible for:

- Carrying out fault finding diagnosis and repairs on mechanical, electrical, pneumatic and hydraulic equipment.
- Planned and unplanned maintenance of high-speed production machinery such as servo controlled P&P systems, filling machines, flow wrappers, check weighers, shrink and stretch wrappers etc.
- Completing all R&R maintenance tasks in house where possible.

To be considered for the Multi-skilled Engineer role the individual required engineering experience ideally from within the Food, Dairy or Beverage manufacturing industry.

Supply Chain and Packaging Administrator with responsibility for change management and administration of all site packaging, from initial artwork generation to site delivery. The individual will need to be customer service focused and operate at a high level of accuracy, with responsibility for the change management of all packaging updates. The individual will liaise with suppliers, supply chain and technical teams, co-ordinate the change process from artwork generation to factory delivery. Setting up article codes, checking BOM costings and ensuring all internal systems and work instructions are updated accurately and on time.

Production Operatives: working on ice cream production lines helping to achieve daily planned output. Duties include preparing and packing products, and general cleaning of the work area to maintain high standards of hygiene and cleanliness. Good attention to detail and a can do and will do attitude.

Quality Auditor: fully conversant with quality systems so that you can provide the technical support needed to all departments, to ensure food safety, quality, legislative standards and customer requirements are consistently met and managed. Possess excellent written and verbal communication skills, have a positive approach and a commitment to providing a first class customer service.

Dales Dairies

Dales Dairies also had positions available, including:

Maintenance Engineer

This role, along with the two other engineers already in place, is to oversee the general maintenance of the plant. Skills required to fulfil this role by the applicant will include pneumatic, electrical & mechanical knowledge. Specific duties will include:

- Maintain process/filling/packing equipment.
- Maintain holding tanks and ancillary equipment.
- Complete maintenance job sheets when they have been requested, sign that the work is complete and equipment safe to use.
- Adhere to on-going regular maintenance schedule.

The firm are also seeking a:

- Herdsman: a physically demanding role with a variety of duties.
- Dairy Operative: the role is physically demanding & the successful candidate will need to be conscientious & work to a high standard. Tasks include: loading/unloading vehicles, working on filling lines, wash down of dairy plant, load picking.

5.3.3 What are the current skills needs and skills gaps?

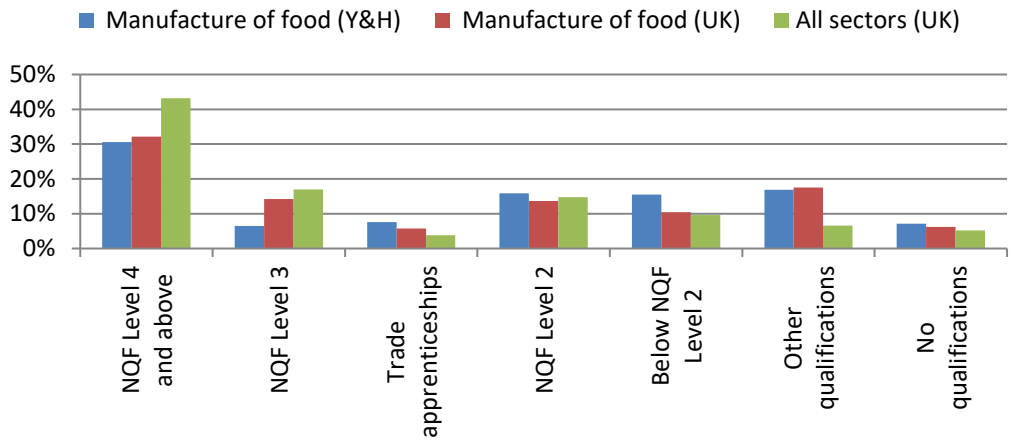
Skills levels

At a regional and national level the manufacture of food subsector has a very similar qualification profile (Figure 23).

However, the subsector does have a skill profile lower than all sector average. For example over 60% of the UK workforce has a level 3 or above qualification, while this stands at 46% across the UK food manufacture subsector.

The subsector has a much greater proportion of 'other qualifications', with nearly two in five workers classified at this level. This group captures foreign qualifications and some professional qualifications (i.e. driving) that are not defined in the other levels. The fact that this subsector has a relatively high proportion of other qualifications is most likely linked to the fact that 41% of the UK subsector workforce was born overseas (in Yorkshire and Humber region this is slightly lower at 34%).

Figure 23 Qualification levels of manufacture of food subsector



(Office for National Statistics, et al., 2016)

There is some variation of skill level within the UK subsector.

- The manufacture of dairy products is the most highly skilled area, with 76% holding a level 3 or above, with only 1% with no qualifications.
- One five (21%) hold a trade apprenticeship in the manufacture of grain – a much greater proportion than UK all sector where only 4% hold one.
- Less than 1% in the manufacture of dairy hold a trade apprenticeship
- The manufacture of bakery and other food has a greater proportion of elementary workers (24% and 22% respectively) than the other areas.

The largest occupational group in the subsector is process, plant and machine operatives (accounting for 36%). Both managerial positions and skilled trade occupations account for 11% each of the workforce.

Skills gaps

Across all sectors in the LEP, 15% of firms report having a skills gap - i.e. where an employee is deemed by their employer to be not fully proficient, i.e. is not able to do their job to the required level (UKCES, 2016). Overall is has been calculated that over 21,200 individuals in the LEP are not proficient in their job.

Overall 25% of firms in the national food and drink sector report having skills gaps. From our primary research, firms that report skills gaps confirmed that main causes are generally due to individual's being new to the role and their training is currently only partially completed.

These two factors are both predominantly transient: that is to say one would expect skills gaps resulting from these causes to be eliminated when staff are settled into their new roles and/or existing training has been completed.

From our primary work we can suggest that the following skills are particularly needed and valued by employers:

- Health and safety training is a necessity for many roles working in the subsector.
- Engineering and mechanical skills.
- Production operatives.
- For lower level positions, employers seek practical skills such as manual dexterity and a certain level of hand-eye coordination.
- Some roles are physically demanding.

5.3.4 Training

Across all sectors in the LEP, 65% of firms had funded or arranged training for staff in the previous 12 months, while across the UK food and drink manufacturing sector 70% of firms had done so (UKCES, 2016). The vast majority of training and development is targeted at initial induction training and development and statutory areas such as health and safety, and food hygiene.

Our primary research found similar findings in this area. Cost and time were the main drag factors on engaging non mandatory training,

5.3.5 Apprenticeships

Across York and North Yorkshire there has been a steady number of individuals starting an apprenticeship. In 2011/12, just over 11,400 individuals started one, while by 2015/16 this had risen slightly to 11,570 (Table 32). Two in five (39%) of all starts have been within Richmondshire and 15% in York and 12% in Scarborough (DfE, et al., 2017).

The majority (70%) of apprenticeship starts were at an intermediate level. 4% were at a higher level. A quarter of all starts were by individuals under the age of 19 and 35% over the age of 25.

Table 32 Apprenticeship Programme Starts by level and age, York and North Yorkshire

		Level (%)			Age (%)		
Year	Total	Intermediate	Advanced	Higher	Under 19	19-24	25+
2011/12	11,400	75%	25%	*	31%	36%	33%
2012/13	11,520	72%	27%	1%	29%	38%	34%
2013/14	9,770	76%	22%	1%	27%	44%	28%
2014/15	12,920	76%	22%	2%	23%	45%	32%
2015/16	11,570	70%	27%	4%	25%	40%	35%

Source (DfE, et al., 2017) Apprenticeships geography data tool: starts 2011/12 to 2016/17

The most popular frameworks across the area were across the subject area of health, public services and care (49% of all starts). Business, administration and law accounted for a further 17% starts and Retail and commercial enterprise contributing 15% (Table 35).

The Food and Drink apprenticeship framework is one of 37 frameworks classified under the sector subject area of 'Engineering and manufacturing technologies'. So while we can see that 1,140 starts have been on engineering and manufacturing technologies frameworks in the MDA, it is important to note that not all of these will be on frameworks relating to this subsector.

Nationally, data reveals that there were 2,700 starts on a Food Manufacture apprenticeship in 2014/15 with the most popular pathway being Food Industry Skills, followed by Food Manufacturing Excellence (Table 33). 72% were at an intermediate level and 28% at advanced level.

In contrast to the York and North Yorkshire all sector data in which we see 35% of starts by those over 25 years of age, 62% of food manufacture apprenticeship starts are by those over 25 (Table 34).

Table 33 Apprenticeship Programme Starts by Pathway (national)

Food Manufacture pathways	2013/14	2014/15
Baking Industry Skills	500	420
Brewing Industry Skills	10	20
Dairy Industry Skills	20	-
Fish and Shellfish Industry Skills	250	220
Food Industry Skills	710	710
Food Industry Skills and Technical Management	140	350
Food Industry Team Leading	50	20
Food Manufacturing Excellence	470	460
Fresh Produce Industry Skills	190	70
Meat and Poultry Industry Skills	600	430
No Pathway Assignment	70	-

Source (DfE, et al., 2017)

Table 34 Food Manufacture Apprenticeship Starts by level and age (national)

		Level (%)			Age (%)		
Year	Total	Intermediate	Advanced	Higher	Under 19	19-24	25+
2013/14	3,010	80%	20%		12%	33%	54%
2014/15	2,700	72%	28%	-	13%	24%	62%

Source (DfE, et al., 2017)

In our primary work we explored this and the reasons will be familiar to people working in the skills sector. Whilst there is a general support for the principle of Apprenticeship, it was felt that they were often too large an intervention for this subsector. 57% of firms in this subsector employ less 10 individuals.

The sector has apprenticeships ranging from level 2 (i.e. Food & Drink process operator) which is mainly where take-up is. However the need for higher level skills has been recognised. Consequently more advance standards have recently been developed. For example there is now a level 5 Dairy Technologist and level 6 Food Industry Technical Professional and Food & Drink Manufacturing Manager which are seen as relevant and valuable in the subsector.

From our primary work we can see that the challenge, particularly for SMEs, in hiring apprenticeships continue to be significant. There are issues around awareness, relevance and perceived bureaucracy.

Table 35 Apprenticeship Programme Starts by district and Sector Subject Area (2015/16)

Sector Area	Craven	Hambleton	Harrogate	Richmondshire	Ryedale	Scarborough	Selby	York	North Yorkshire	MDA Area
Agriculture, Horticulture and Animal Care	20	50	30	30	40	10	20	10	200	**220**
Arts, Media and Publishing	-	-	-	-	-	-	-	10	10	**-**
Business, Administration and Law	110	200	370	160	100	300	290	460	1,520	**1,810**
Construction, Planning and the Built Environment	50	60	50	50	40	50	70	160	370	**440**
Education and Training	10	-	30	-	10	20	10	10	80	**90**
Engineering and Manufacturing Technologies	80	120	180	100	90	170	150	230	910	**1,060**
Health, Public Services and Care	70	200	380	4,000	100	330	190	410	5,270	**5,460**
Information and Communication Technology	-	20	30	10	10	20	10	60	100	**110**
Languages, Literature and Culture	-	-	-	-	-	-	-	-	-	**-**
Leisure, Travel and Tourism	10	20	30	10	20	40	20	30	160	**180**
Preparation for Life and Work	-	-	-	-	-	-	-	-	-	**-**
Retail and Commercial Enterprise	90	170	310	180	80	250	150	340	1,220	**1,370**
Science and Mathematics	-	-	-	-	-	-	-	-	10	**-**
Unknown	-	-	-	-	-	-	-	-	-	**-**
Total	**440**	**850**	**1,420**	**4,540**	**490**	**1,190**	**920**	**1,720**	**9,850**	**10,770**

Source (DfE, et al., 2017) Apprenticeships geography data tool: starts 2011/12 to 2016/17

5.4 Future requirements

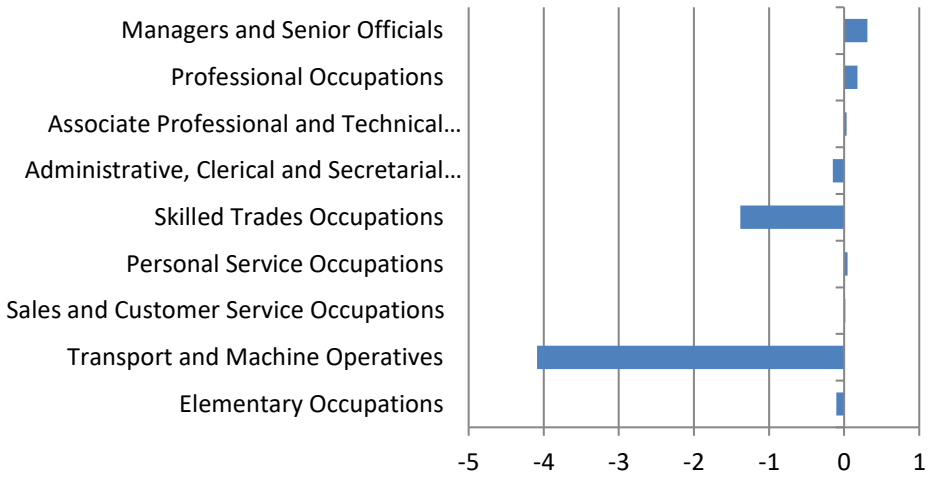
5.4.1 Sector growth

Future workforce projections for the subsector are available at the wider region of Yorkshire and Humber rather than the North Yorkshire area but this still provides a useful indication of changes in the workforce moving forward.

Employment in the Yorkshire and Humber food products manufacturing[4] subsector is expected to decline 10% between 2014 and 2024 – or by 5,000. This is in contrast to the region's all sector economy where growth of 5.5% is anticipated (UKCES, 2016).

We expect to see small employment growth for higher level occupations, including managers, professional occupations and associate professionals and technical roles (Figure 24). However, the overall number employed in plant, process and machine operative roles and skilled trades is expected to decrease.

Figure 24 Food products manufacturing occupational change, 2014 -2024 (000s), Yorkshire and Humber



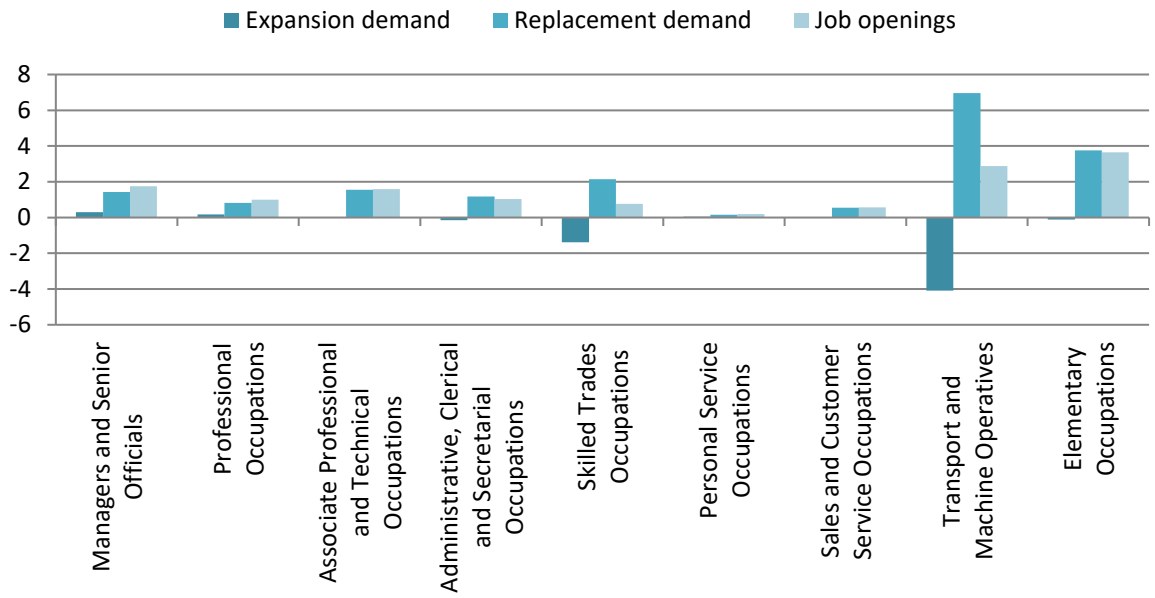
Source: UKCES Working Futures VI

5.4.2 Replacement need and total demand

Overall, the subsector in Yorkshire and Humber is expected to have approximately 13,500 job openings between 2014 and 2024: 18,500 will be replacement demand, but there will be a net sector decline of 5,000. A quarter (26%) of all job openings will be within elementary occupations and a further 21% in process, plant and machine operatives (**Figure 20**).

[4] The whole of SIC 10 Manufacture of food products

Figure 25 Job openings in the Food products manufacturing by occupation 2014 - 2024 (000s) in Y&H



Source: UKCES Working Futures VI

19,000 of the new staff needed to replace existing employees is largely a consequence of its older workforce. 33% of the subsector workforce are over 50 years of age.

5.4.3 Qualifications

The change in qualification levels of the workforce shows that there will be a shift towards more people holding higher qualifications (Table 36).

By 2024, 32% of people employed in the food products manufacturing subsector are expected to be qualified at level 4 and above (lower than Yorkshire and Humber region all sector proportion of 47%), whilst the proportion of people with no formal qualifications or level 1 is expected to fall to 6%.

Table 36 Change in qualification profile in the food products manufacturing subsector, Yorkshire and Humber

	No qualifications and level 1	Level 2	Level 3	Level 4 – 6	Level 7 – 8
Qualification example	GSCE (grades D – G) BTEC level 1	GCSE (grades A* - C) NVQ Level 2	AS & A level BTEC National	Certificate of higher education (L4) Foundation degree (L5) Bachelor's degree (L6)	Master's degree (L7) Doctorate (L8)
2014 level **2024 level**	19,469 11,469	12,415 10,812	9,854 8,997	7,966 12,960	1,251 1,569
2014 – 2024 % change	-41%	-13%	-9%	63%	25%
2014 % share	38%	24%	19%	16%	2%
2024 % share	25%	24%	20%	28%	3%

Source: UKCES Working Futures VI

5.4.4 Future roles and skills

The above Working Future projections demonstrate that there will be limited growth across the higher occupational groups and a decline in lower skilled roles, but there will be replacement need for all positions.

Employers have not necessarily identified any new roles developing in the next 6 years; rather they expect to be recruiting for the same sorts of positions that currently exist. What is key however is that the nature of the subsector is expected to change. There is a clear expectation that this will be a sector with fewer 'pairs of hands', relying more on automation and management.

5.5 Drivers of change

5.5.1 Political

Election and Leaving the European Union

The result of the British General Election has left food and drink companies facing an uncertain immediate future, with a weak pound already increasing costs.

Uncertainty over the political situation of the UK may have an impact on the sector. It is only once the future regarding leaving the EU is clearer that companies will feel comfortable committing to long term investment programmes. Equipment suppliers are likely to the biggest losers of this, as companies will push existing machinery to work longer and wait to see if consumer confidence remains at a level where investing in upgrades or expansions is worthwhile.

The effect on inward migration particularly from EU countries could affect the sector's ability to recruit and retain skilled staff and is by far the biggest issue employers have raised with us. This is perhaps not surprising given that 41% of the national workforce in this subsector was born overseas.

Legislation / Regulations

As with other food industries, this is a subsector which is heavily regulated, particularly in terms of food safety, quality and traceability and nutrition labelling.

Employers are not expecting there to be significant new legislation in the next few years, rather they are anticipating many current standards to simply move from EU legislation into UK law.

5.5.2 Economic

Rising Costs

The whole subsector is affected by rising operating costs. For example the increasing cost of raw products impacts on the whole sector. Consequently, resource management and budgetary controls are important.

Wage levels

The National Minimum Wage (NMW) was first introduced in the UK in April 1999 at a rate of £3.60 per hour for over 21-year-olds. Prior to that there was no statutory minimum. In April 2016 the government introduced the National Living Wage (NLW) at a level of £7.20 per hour for those over 25 years old, increasing to £7.50 in April 2017. It is expected to rise to at least £9 per hour by 2020. The impact of this is likely to be significant on this subsector.

Firms will undoubtedly face higher payroll costs and this is a significant challenge they face. The BDO Food and Drink Report (2017) states that 66% of food and drink manufactures were increasing its investment in automation. Many are doing so as a result of, or partly liked to the national living wage increases.

Labour availability

Following the recession, the economic situation across the UK and North Yorkshire has been improving. Unemployment rates in the area have declined from a high of 7.5% in 2011 to 2.3% at the end of 2016. Of those claiming JSA, 43% have been out of work for six months or more (ONS, 2017) and are therefore more of a challenge to get back into work. Consequently it is becoming harder to recruit.

Demographic changes mean that there are fewer younger people entering the job market, which has an adverse effect. Employers need to find ways to attract and then retain staff. Recruitment and retention are two important issues.

5.5.3 Social

Consumer needs

Consumers are not only concerned about the sensory characteristics of foods products (e.g. texture, flavour, aroma, shape, colour and after taste) they also pay attention to the nutritional value. In general, consumers are demanding less processed and additive-free food products than before. Thereby food processors/manufactures are seeking to develop and employ processing technologies that retain or create the desired sensory and nutritional qualities.

New product development is a massive opportunity for businesses in the near future. There are several consumer trends shaping product development, including 'free-from', health foods, vegan and plant-based foods, and niche specialities such as snacks and craft beers.

5.5.4 Technological

Driven by new knowledge and new techniques developed through research findings and by market demand, the food industry is very active in technological innovations with a track record of developing new ways of processing foods.

Alternative or novel food processing technologies continue to be explored and implemented to provide safe, fresh tasting, nutritional foods without using heat or chemical preservatives.

Automation

Automation has one of the highest impacts on the food industry with 63% having some level of automation (BDO, 2017). Some companies have been slow to adopt automation and upgrade production lines due to the downtime and retraining period needed. However, 51% of food and drink manufacturers were looking to increasing investment. This is important as we think of the future skills profiles of the sector. Increasingly manufacturers will rely on engineers and technical skills to keep a factory working rather than filling it with lots of low skilled workers.

The types of automation equipment include: refrigeration, handling and filling, automated packing and packaging, weighing, mixing, machine controls, software and remote centralised SCADA monitoring and control.

However, with automation also comes the risk of cyber-attacks. Companies embracing automation should pay close attention to cyber risk governance. Focus needs to be on security controls for both operational technology and information technology systems. User education is essential.

5.6 Key Points

What follows is a presentation of the key findings from the above.

- The subsector has 165 businesses operating in the manufacture of food subsector, employing 6,700 individuals.
- Three in five (57%) businesses employ less than 10 individuals and only 4% employ more than 250.
- The subsector has struggled to attract, recruit and retain qualified engineers and technicians
- Recruitment of migrants is also common in this subsector – 41% of the workforce in the subsector was born overseas.

- In 2015, 13% of firms in the sector reported retention issues.
- The manufacture of dairy products is the most highly skilled area, with 76% holding a level 3 or above, but less than 1% has an apprenticeship.
- One five (21%) hold a trade apprenticeship in the manufacture of grain – a much greater proportion than UK all sector where only 4% hold one.
- The sector is a hands on sector, with more than a third (36%) of the workforce working in a process, plant or machine operative position.
- But the sector is moving towards automisation.
- Overall 25% of firms in the national food and drink sector report having skills gaps.
- 62% of food manufacture apprenticeship starts are by those over 25
- Employment in the Yorkshire and Humber food products manufacturing subsector is expected to decline 10% between 2014 and 2024. This is a priority sector, yet it is not expected to be a growth sector.
- The nature of production is going to change, more automation, means less hands on jobs in the lower skilled roles.
- Leaving the European Union and the effect on inward migration could affect the sector's ability to recruit and retain skilled staff and is by far the biggest issue employers have raised with us. This is perhaps not surprising given that 41% of the national workforce in this subsector was born overseas.

6 Manufacture of Beverages in North Yorkshire

6.1 Introduction

The manufacture of beverages has two distinct areas - the production of soft drinks and alcoholic drinks.

Soft drinks can be further segmented into: carbonated drinks, fruit drinks, bottled water, sports drinks and others such as energy drinks, ready-to-drink teas and coffees and diary-based or soya-based drinks.

Similarly, alcoholic drinks can be further classified - distilling of spirits, manufacture of wine, cider, beer or malts.

For the following report, data has been analysed using the following Standard Industrial Codes:

SIC	Description
11.0	Manufacture of beverages

Across York and North Yorkshire there are a number of drinks manufacturers – mainly breweries. Some do not just produce beverages but have tours/taster sessions and food facilities:

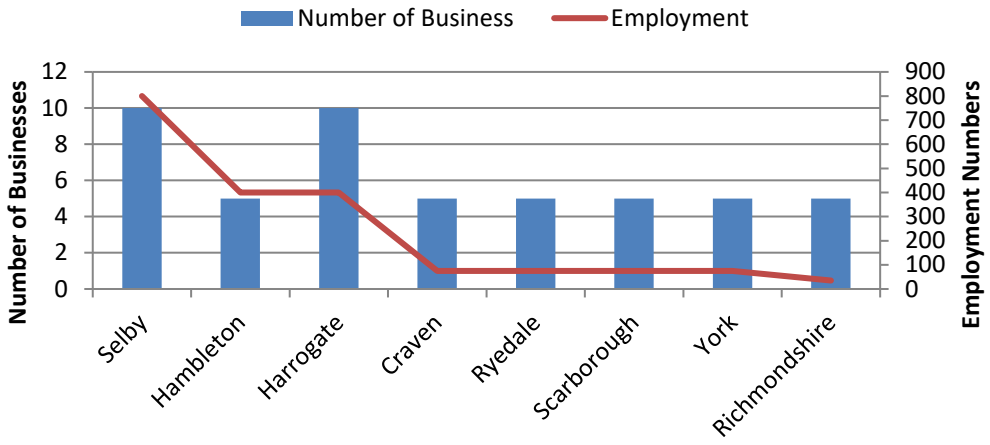
- **Black Sheep Brewery, Masham.** http://www.blacksheepbrewery.com/
- **Scarborough Brewery** http://www.scarboroughbrewery.co.uk/
- **Theakston Brewery, Masham, Ripon** https://www.theakstons.co.uk/
- **York Brewery , York** http://www.york-brewery.co.uk/About
- **Brass Castle Brewery, Malton** http://brasscastle.co.uk/
- **Rudgate Brewery, Tockwith York** http://www.rudgatebrewery.co.uk/
- **Great Heck Brewery**, http://greatheck.siba.co.uk/
- **Yorkshire Heart Vineyard and Brewery,** www.yorkshireheart.com
- **Ryedale Vineyards,** https://www.ryedalevineyards.co.uk/
- **Raisthorpe Manor Fine Foods,** www.raisethorpemanor.com
- **Yorkshire Brewing Company Ltd,** www.yorkshirebrewing.co.uk
- **Cawingredients Ltd - Northallerton**
- **Sarnia Food & Drink Manufacturers,** http://www.sarniafoods.co.uk/
- **Yorkshire Wolds Apple Juice,** www.yorkshirewoldsapplejuice.co.uk

6.2 Manufacture of Beverages economy and employment

In total the York and North Yorkshire MDA has approximately 50 businesses operating in the manufacture of drinks subsector, employing around 2,000 individuals. Greatest employment is found within the Selby district accounting for 41% of the workforce. A further 21% are employed in then Hambleton district and 21% across Harrogate.

Seven in ten (69%) businesses employ less than 10 individuals and 23% employ 10 to 49 individuals. There are no large (250+) drink manufacturing businesses in the area.

Figure 26 Distribution of beverage manufactures' businesses and employment in North Yorkshire



Source (ONS, 2015) & (ONS, 2016)

The job roles which have the greatest number employed the manufacture of beverages across Yorkshire and Humber are:

- Food, drink and tobacco process operatives.
- Engineering professionals.
- Production managers and directors in manufacturing.

Other positions prominent in this subsector nationally include sales and business development managers, elementary storage occupations and marketing and sales directors.

6.3 Skills needs – Primary Research testing the data

6.3.1 Planning for the future

Data tells us that across the LEP economy 58% of firms have a Business Plan which specifies objectives for the coming year, which is slightly lower than national findings of 62% (UKCES, 2016). 39% of firms had a training plan, again less than national average of 42%.

Our primary research highlights that employers in the subsector in the MDA frequently do not have either of the above, particularly the smaller firms. Smaller establishments are clearly focussing on operational matters, and whilst there is some understanding of the need to plan this is clearly a gap.

6.3.2 Recruitment and retention

There is generally a high level of recruitment demand across the food and drink manufacturing sector with 22% of firms in the food and drink sector nationally reporting at least one vacancy but within the manufacture of drinks this appears to be lower.

From our primary research many firms did not have any recruitment needs within the manufacture of the drinks. Some had positions in the associated bars, bistros, restaurants that are run alongside.

Black Sheep Brewery, Masham

Forecasting & Planning Scheduler

Reporting to the Head Brewer, the brewery are looking for someone with a minimum of 1-2 years' experience in a planning / forecasting role.

The Scheduler will support our Production and Sales functions, planning external and internal production schedules in line with forecasts obtained from our sales teams. All required raw materials will be ordered to ensure that agreed stock levels are maintained and final product stocks are kept at agreed levels.

6.3.3 What are your current skills needs and skills gaps?

Skills levels

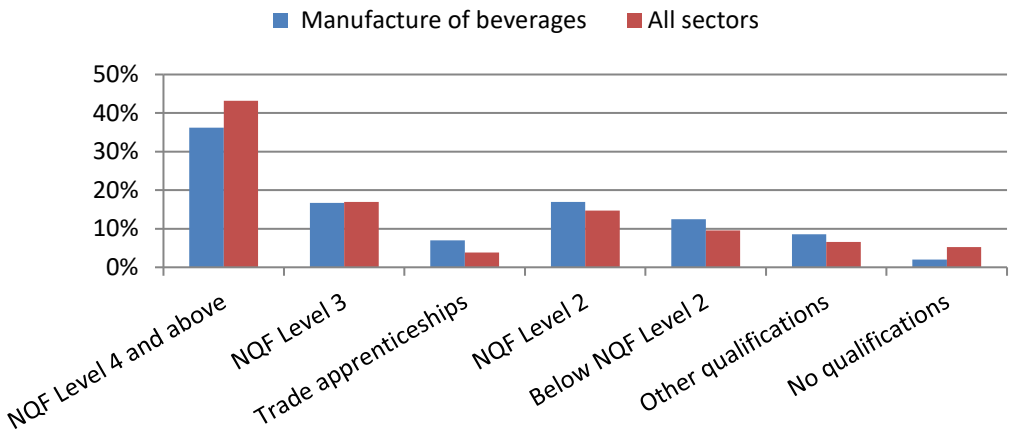
At a national level the manufacture of beverages subsector has a similar qualification profile to the all sector average (Figure 27).

36% of the workforce hold a level 4 or above qualification, compared to all sectors in which 43% have this qualification. Only 2% have no qualifications.

The qualification profile reflects the occupational profile in which 45% of the workforce are in skilled positions (i.e. managers, professional and technical positions).

The subsector is much less reliant on migrant workers than the wider food and drink sector. Only 12% of the national subsector workforce was born overseas and this is reflected in the lower proportion of 'other qualifications'.

Figure 27 Qualifications levels of manufacture of beverages subsector (UK)



(Office for National Statistics, et al., 2016)

Skills gaps

Across all sectors in the LEP, 15% of firms report having a skills gap - i.e. where an employee is deemed by their employer to be not fully proficient, i.e. is not able to do their job to the required level (UKCES, 2016). Overall is has been calculated that over 21,200 individuals in the LEP are not proficient in their job.

From our primary research firms that do report skills gaps confirmed that main causes are generally due to individual's being new to the role and their training is currently only partially completed.

These two factors are both predominantly transient: that is to say one would expect skills gaps resulting from these causes to be eliminated once staff have settled into their new roles and/or existing training has been completed.

From our primary work we can suggest that the following skills are particularly needed and valued by employers:

- Health and safety training is a necessity for many roles working in the subsector.
- Sales and Marketing.

Within brewery, the skills required are:

- A background in science (chemistry or microbiology) for brewing positions.
- Flexible, and prepared to work long hours.
- Tasting skills come with practice, so most brewers go through some form of taste training.

6.3.4 Training

Across all sectors in the LEP, 65% of firms had funded or arranged training for staff in the previous 12 months (UKCES, 2016). The vast majority of training and development is targeted at initial training and development and perceived statutory areas such as health and safety.

Our primary research found similar findings in this area. Key areas of training for employers in the subsector are mandatory requirements.

Cost and time were the main drag factors on engaging non mandatory training.

The British Soft Drinks Association (BSDA) offers training specific to the needs of the industry and supports the British Soft Drinks Industry Foundation in its work to provide funding for apprentices working within the soft drinks industry.

6.3.5 Apprenticeships

Across York and North Yorkshire there has been a steady number of individuals starting an apprenticeship. In 2011/12, just over 11,400 individuals started one, while by 2015/16 this had risen slightly to 11,570(Table 37Table 35). Two in five (39%) of all starts have been within Richmondshire and 15% in York and 12% in Scarborough (DfE, et al., 2017).

The majority (70%) of apprenticeship starts were at an intermediate level. 4% were at a higher level. A quarter of all starts were by individuals under the age of 19 and 35% over the age of 25.

Table 37 Apprenticeship Programme Starts by level and age, York and North Yorkshire

		Level (%)			Age (%)		
Year	Total	Intermediate	Advanced	Higher	Under 19	19-24	25+
2011/12	11,400	75%	25%	*	31%	36%	33%
2012/13	11,520	72%	27%	1%	29%	38%	34%
2013/14	9,770	76%	22%	1%	27%	44%	28%
2014/15	12,920	76%	22%	2%	23%	45%	32%
2015/16	11,570	70%	27%	4%	25%	40%	35%

Source (DfE, et al., 2017) Apprenticeships geography data tool: starts 2011/12 to 2016/17

The most popular frameworks across the area were across the subject area of health, public services and care (49% of all starts). Business, administration and law accounted for a further 17% starts and Retail and commercial enterprise contributing 15% (Table 40Table 35).

The Food and Drink apprenticeship framework is one of 37 frameworks classified under the sector subject area of 'Engineering and manufacturing technologies'. So while we can see that 1,140 starts have been on engineering and manufacturing technologies frameworks in the MDA, it is important to note that not all of these will be on frameworks relating to this subsector.

Nationally, data reveals that there were 2,700 starts on a Food Manufacture apprenticeship in 2014/15. 72% were at an intermediate level and 28% at advanced level. Specifically there is a Brewing Industry Skills pathway within the Food Manufacture apprenticeship framework, yet nationally only 20 individuals began one in 2014/15.

In contrast to the York and North Yorkshire all sector data in which we see 35% of starts by those over 25 years of age, 62% of food manufacture apprenticeship starts are by those over 25 (Table 39).

Table 38 Apprenticeship Programme Starts by Pathway (national)

Food Manufacture pathways	2013/14	2014/15
Baking Industry Skills	500	420
Brewing Industry Skills	10	20
Dairy Industry Skills	20	-
Fish and Shellfish Industry Skills	250	220
Food Industry Skills	710	710
Food Industry Skills and Technical Management	140	350
Food Industry Team Leading	50	20
Food Manufacturing Excellence	470	460
Fresh Produce Industry Skills	190	70
Meat and Poultry Industry Skills	600	430
No Pathway Assignment	70	-

Source (DfE, et al., 2017)

Table 39 Food Manufacture Apprenticeship Starts by level and age (national)

		Level (%)			Age (%)		
Year	Total	Intermediate	Advanced	Higher	Under 19	19-24	25+
2013/14	3,010	80%	20%		12%	33%	54%
2014/15	2,700	72%	28%	-	13%	24%	62%

Source (DfE, et al., 2017)

In our primary work we found there is a general support for the principle of Apprenticeship, it was felt that they were often too large an intervention for this subsector. In our primary research, employers were simply unaware of the brewing pathway, but did support in principle an apprenticeship in this area.

From our primary work we can see that the challenge, particularly for SMEs, in hiring apprenticeships continue to be significant and this is very important in the MDA and the subsector, given as we have shown, that there are many micro employers and no large ones. There are issues around awareness, relevance and perceived bureaucracy, and we were unable to decide whether the pathway was the answer. Certainly smaller employers still require support to encourage them to engage with apprenticeships.

Table 40 Apprenticeship Programme Starts by District and Sector Subject Area (2015/16)

Sector Area	Craven	Hambleton	Harrogate	Richmondshire	Ryedale	Scarborough	Selby	York	North Yorkshire	MDA Area
Agriculture, Horticulture and Animal Care	20	50	30	30	40	10	20	10	200	**220**
Arts, Media and Publishing	-	-	-	-	-	-	-	10	10	**-**
Business, Administration and Law	110	200	370	160	100	300	290	460	1,520	**1,810**
Construction, Planning and the Built Environment	50	60	50	50	40	50	70	160	370	**440**
Education and Training	10	-	30	-	10	20	10	10	80	**90**
Engineering and Manufacturing Technologies	80	120	180	100	90	170	150	230	910	**1,060**
Health, Public Services and Care	70	200	380	4,000	100	330	190	410	5,270	**5,460**
Information and Communication Technology	-	20	30	10	10	20	10	60	100	**110**
Languages, Literature and Culture	-	-	-	-	-	-	-	-	-	**-**
Leisure, Travel and Tourism	10	20	30	10	20	40	20	30	160	**180**
Preparation for Life and Work	-	-	-	-	-	-	-	-	-	**-**
Retail and Commercial Enterprise	90	170	310	180	80	250	150	340	1,220	**1,370**
Science and Mathematics	-	-	-	-	-	-	-	-	10	**-**
Unknown	-	-	-	-	-	-	-	-	-	**-**
Total	**440**	**850**	**1,420**	**4,540**	**490**	**1,190**	**920**	**1,720**	**9,850**	**10,770**

Source (DfE, et al., 2017) Apprenticeships geography data tool: starts 2011/12 to 2016/17

6.4 Future requirements

6.4.1 Sector growth and replacement demand

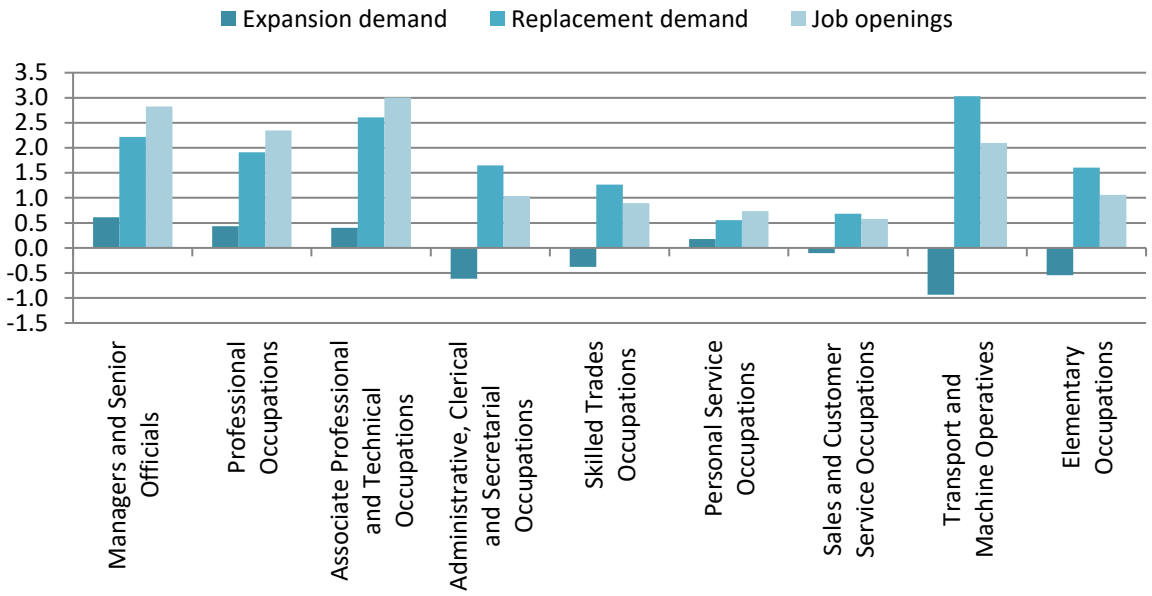
Future workforce projections for the subsector are available at a UK level – data for Yorkshire and Humber region is considered too small to be reliable - but this still provides a useful indication of changes in the workforce moving forward.

Nationally the beverage and tobacco subsector employs around 40,000 individuals, of which 2,000 are located in Yorkshire and Humber. Nationally the subsector employment will decline 2% between 2014 and 2024, with employment levels in the Yorkshire and Humber anticipated to be remaining the same (UKCES, 2016).

Overall the UK subsector is expected to have 15,000 job openings between 2014 and 2024. Very few (less than 1,000) job openings will be across Yorkshire and Humber.

Most openings will be seen across higher skilled positions – associate professionals and technical occupations and managers (Figure 28).

Figure 28 Job openings in the beverage and tobacco subsector by occupation 2014 - 2024 (000s), UK



Source: UKCES Working Futures VI

6.4.2 Qualifications

The change in qualification levels of the workforce shows that there will be a shift towards more people holding higher qualifications (Table 41).

By 2024, 48% of people employed in the UK beverage and tobacco manufacturing subsector are expected to be qualified at level 4 and above, whilst the proportion of people with no formal qualifications or level 1 is expected to fall to 17%.

Table 41 Change in qualification profile in the beverage and tobacco manufacturing subsector, UK

	No qualifications and level 1	Level 2	Level 3	Level 4 – 6	Level 7 – 8
Qualification example	GSCE (grades D – G) BTEC level 1	GCSE (grades A* - C) NVQ Level 2	AS & A level BTEC National	Certificate of higher education (L4) Foundation degree (L5) Bachelor's degree (L6)	Master's degree (L7) Doctorate (L8)
2014 level **2024 level**	10,777 7,035	8,445 6,948	8,394 7,211	12,100 17,209	1,982 2,344
2014 – 2024 % change	-35%	-18%	-14%	42%	18%
2014 % share	26%	20%	20%	29%	5%
2024 % share	17%	17%	18%	42%	6%

Source: UKCES Working Futures VI

6.4.3 Future roles and skills

The above Working Future projections demonstrate that there will be a small decline in employment numbers moving forwards but there will be replacement need for all positions, particularly for higher skilled roles.

Employers have not identified any new roles developing in the next 6 years, rather where they expect to be recruiting it will be in relation to already existing positions.

6.5 Drivers of change

6.5.1 Political

Leaving the European Union

The result of the British general election has left food and drink companies facing an uncertain immediate future, with a weak pound guaranteed to increase costs and make British companies more susceptible to foreign takeovers.

However, the medium-to-long-term result may be more positive, increasing the probability of a soft Brexit.

Uncertainty over the stability of a minority Conservative government also means food and drinks companies will delay making significant investments in British facilities or staff. The months ahead will determine the strength of the British government and its Brexit negotiating position. It is only once this is more apparent that companies will feel comfortable committing to long term investment programmes. Equipment suppliers will be the biggest losers of this, as companies will push existing machinery to work longer and wait to see if consumer confidence remains at a level where investing in upgrades or expansions is worthwhile.

Legislation / Regulations

Employers are not expecting there to be significant new legislation in the next few years other than the Soft Drinks Industry Levy (Sugar Tax)

This is a new levy that applies to the production and importation of soft drinks containing added sugar.

Sugar filled soft drinks will see a tax increase in April 2018. Tax on drinks with more than five grams of sugar per 100ml will be levied by 18p per litre, while those with eight grams or more of sugar per 100ml will have an extra tax of 24p per litre. Alcoholic drinks with an alcohol by volume of up to 1.2% are included in the levy.

The levy will encourage producers to:

- Reformulate their products to reduce the sugar content.
- Reduce portion sizes for added sugar drinks and importers to import reformulated drinks with low added sugar to encourage consumers of soft drinks to move to healthier choices.

In this way the levy is expected to impact on the sector in that it will likely change its output rather than passing the price rise on to consumers. Consequently, there is already work being done on recipes and changes to production to reduce sugar content and there will be more work on marketing and packaging changes. The levy is expected to be a significant driver of change across consumption and this is likely to be mirrored in the production and marketing of drinks and beverages. Where there may be a particular change, is as we have already seen, more producers are looking for sugar substitutes, either in terms of organic alternatives or developed chemicals with similar properties. In this way the levy is expected to have an impact on consumption and production.

6.5.2 Economic

Rising Costs

The whole subsector is affected by rising operating costs. For example increasing energy prices impacts on the whole sector as does the cost of raw products. Consequently, resource management and budgetary controls are important.

Wage levels

The National Minimum Wage (NMW) was first introduced in the UK in April 1999 at a rate of £3.60 per hour for over 21-year-olds. Prior to that there was no statutory minimum. In April 2016 the government introduced the National Living Wage (NLW) at a level of £7.20 per hour for those over 25 years old, increasing to £7.50 in April 2017. It is expected to rise to at least £9 per hour by 2020. The impact of this is likely to be significant on this subsector.

The BDO Food and Drink report (2017) found in a recent survey that 66% of food and drink manufactures were increasing investment in automation, at least in part as a result of pressures of wage increases linked to the NMW.

Labour availability

Following the recession, the economic situation across the UK and North Yorkshire has been improving. Unemployment rates in the area have declined from a high of 7.5% in 2011 to 2.3% at the end of 2016. Of those claiming JSA, 43% have been out of work for six months or more (ONS, 2017) and are therefore statistically more of a challenge to get back into work.

Demographic changes mean that there are fewer younger people entering the job market in the MDA, which has an effect. Employers need to find ways to attract and then retain staff.

6.5.3 Social

Consumer needs

The beverage subsector has been characterised by changing consumer tastes and increased product innovation. Those in the industry have altered traditional products and introduced new soft drinks that appeal to increasingly health conscious consumers. Health campaigns, particularly about sugar content have shaped the subsector in recent years and encouraged the proliferation of low-calorie and low-sugar alternatives and have clearly been the driving factor behind production and marketing changes in recent years.

6.5.4 Technological

Technology is expected to play an ever-increasing role in the subsector, meaning that digital skills are going to be important across all job roles.

Social media, in its various forms, present businesses with a direct way of reaching customers as well as communicating key information about the accommodation and any promotional offers they are running . But this presents a challenge, especially for the smaller businesses: expertise and time is required. Social media skills in a business context are required and they need to have the time to use it effectively while also running the business.

6.6 Key Points

What follows is a presentation of the key findings from the above.

- 50 businesses operating in the manufacture of drinks subsector in the MDA of York and North Yorskshire, employing around 2,000 individuals.
- There are no large (250+) drink manufacturing businesses in the area. This is a subsector dominated by small and micro firms.
- Many firms did not have any recruitment needs within the manufacture of the drinks.
- This subsector does not rely on migrant labour compared to the wider food manufacture sector. Only 12% of the subsector workforce was born overseas.
- An educational background in science is important in the sector, particularly in the brewery area.
- The brewery sector does have a specific pathway within the Food Manufacture apprenticeship framework yet take up nationally is low.
- In the future there will not necessarily be new roles, rather there will be same changes.
- The sugar levy is going to have an impact on the consumption of drinks. In turn firms will need to consider the drink production and also sales and marketing.

Transitional Area: East Riding

7 Introduction to the Transition Area of East Riding

The EU's Cohesion policy aims to reduce economic and social disparities at regional level across the EU. Consequently, the European Commission has three categories of regional funding:

- ***Less Developed regions***, whose GDP per capita is below 75% of the EU average.
- ***Transition regions***, whose GDP per capita is between 75% and 90% of the EU average.
- ***More Developed regions***, whose GDP per capita is above 90% of the EU average.

Within the YNYER LEP, York and North Yorkshire at nearly 98% GDP per capita is consider a More Developed Area (MDA), while East Riding at 83% is considered a Transition Area (TA) (Eurostat, 2016).

This report considers the processing and manufacture of food subsector within the Transitional Area (TA) of East Riding.

7.1 East Riding TA

East Riding is located in the region of Yorkshire and Humber. It borders North Yorkshire, South Yorkshire and Lincolnshire and covers over 900 square miles. The Humber Estuary and North Sea mark its southern and eastern limits. There are a few large settlements, such as Beverley, Bridlington and Goole. Around half of the population live in rural communities.

The economy is mainly based on agriculture and this, along with tourism, has contributed to the rural and seaside character of East Riding. The area has a number of historic buildings, nature reserves and the Yorkshire Wolds Way long-distance footpath.

The open and maritime aspects and lack of major urban developments have led to the county being allocated relatively high targets for the generation of energy from renewable sources. Easington, on the coast, is the site of a natural gas terminal, Easington Gas Terminal, owned and operated by Centrica Storage is one of three main terminals that process gas from the UK Continental Shelf.

Goole is a significant dock area which serves as a significant employer in logistics and related sectors.

Bishop Burton is home to Bishop Burton College, a further education and higher education college specialising in agriculture and equine studies.

East Riding has a resident population of 336,700, which equates to 29% of the LEP's total resident population (ONS, 2017). Nearly 162.400 individuals are employed in the area. Employment rates stand at 77.5% (Table 42). The area has a growing and increasingly ageing population and whilst the majority of the communities enjoy a high quality of life, deprivation is evident in some areas (East Riding Council, 2016).

Using YNYER LEP as the standard, we can see various differences in the productivity, skills and employment across East Riding. Table 42 highlights where the area performs better (green) or worse (red). For example, the job density is much lower in East Riding, as is the employment rate compared to the YNYER LEP area.

The economic inactivity rate is also much higher in East Riding (19.4%). While many of these are either retired, students, or looking after the home/family, it is worth noting that 23% (nearly 9,000) would like employment (ONS, 2017).

Table 42 Productivity, skills and jobs:

Measure	East Riding	North Yorkshire	York	YNYER LEP	England
Gross Weekly pay full time (£)	£526.30	£489.10	£509.60	£504.70	£544.70
Job density (the ratio of total jobs to population aged 16-64.	0.69	0.96	0.85	0.86	0.84
Employment Rate	77.5%	81.9%	78.0%	79.9%	75.0%
Self-Employment	10.6%	14.1%	9.6%	12.2%	10.6%
Full-time workers	66.1%	63.1%	62.7%	63.8%	69.1%
Workless Households	13.5%	10.9%	12.5%	11.9%	15.3%
Unemployment Rate	3.8%	2.3%	3.2%	3.0%	4.7%
Economically Inactive	19.4%	16.1%	18.8%	17.6%	21.2%
Level 4+	36.5%	35.9%	42.7%	37.5%	37.9%
No Qualifications	6.2%	6.5%	6.2%	6.3%	7.8%

Source: Office for National Statistics: LEP and National Labour Market Profiles; GVA for Local Enterprise Partnerships

Nearly 162,400 individuals work across the East Riding area. The largest employment sectors (excluding agriculture) are (ONS, 2015):

- Health and social work and manufacturing, both employing 14% of all workers.
- Retail and education, both employing 10% of the workforce.

Agriculture is a further sector of importance in the area. In terms of agriculture, the area has 1,856 holdings, with a total farming area of 204,191 hectares. 52% of the farmed area is for cereals, 21% arable crops, 4% fruit and vegetables and the 15% grassland (DEFRA, 2016). Total labour in agriculture stands at nearly 6,000 a slight decline from 2007 when 6,150 where employed. Nearly three in five (57%) of workers are full time, 32% are part time and one in ten (11%) are casual workers (Table 43).

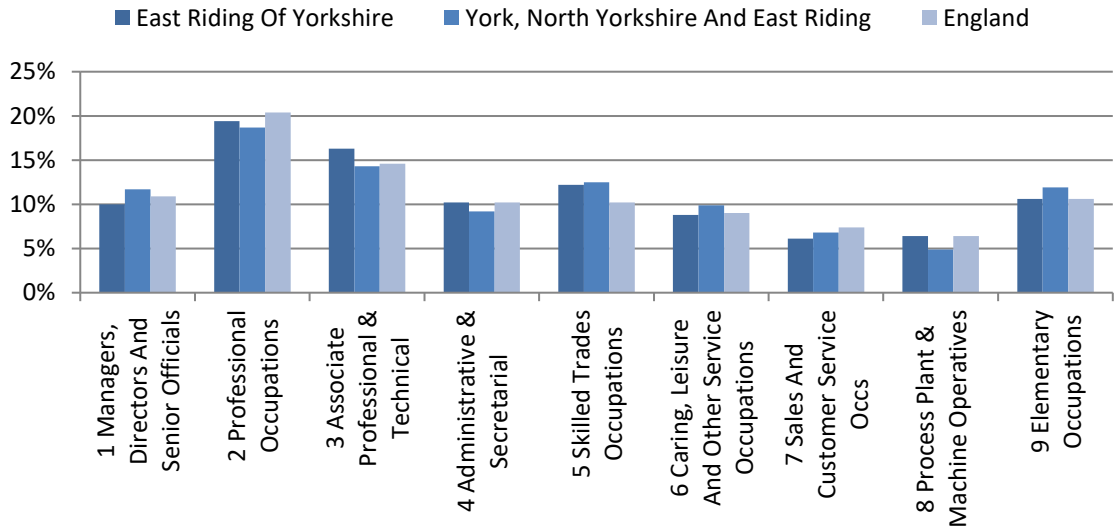
Table 43 Agricultural labour force on commercial holdings in East Riding of Yorkshire & Kingston upon Hull, 2013

	Number of people	%
Farmers, partners, directors and spouses full time	1,846	31%
Farmers, partners, directors and spouses part time	1,367	23%
Salaried managers	250	4%
Regular workers full time	1,271	21%
Regular workers part time	530	9%
Casual workers	661	11%
Total labour	5,924	100%

Source (DEFRA, 2016)

The occupational profile across East Riding is very similar to the LEP and national data (Figure 29).

Figure 29 Employment by broad occupation (Jan 2016 - Dec 2016)



Source (ONS, 2017)

7.2 Emerging developments in East Riding TA

Investment in transport, infrastructure, and housing continues to attract employers and business opportunities in the region. In 2015, the area saw 1,405 new businesses open, up from 1,100 in 2010 (ONS, 2016). Overall the number of business has increased 3% since 2010, from 12,335 to 12,665.

The East Riding Local Plan sets out its plans for development up to 2029 (East Riding Council, 2016).

East Riding have identified key sectors of renewable energy; manufacturing and engineering (including chemicals); agriculture/food and drink; tourism; ports and logistics (it is worth noting that the LEP has not identified ports and logistics as a priority sector); transport equipment; digital and creative industries; finance and business services; construction; public administration, defence, health and education; and retail.

Current key employment sites have been identified as Hedon Haven, Humber Bridgehead (Hessle), Melton and Capitol Park (Goole) and they will be safeguarded from alternative forms of development.

In addition, five sites in East Riding have Enterprise Zone status. These are at Elloughton-cum-Brough, Melton, Goole, Salt End and Hedon Haven. A series of financial incentives have been put in place alongside simplified planning approaches that will attract and support businesses in the renewable and low carbon energy sector.

Further examples of growth, investment, and development in the area include:

Outline planning application for the Yorkshire Energy Park, on a former aerodrome field in Preston, near Hull has recently been submitted and includes a data centre, education campus and power station. Developers Sewell Group said the scheme could create more than 1,000 jobs.

South Cliff Caravan Park in Bridlington, which currently has nearly 800 permanent static caravan pitches, 160 touring pitches, 20 tent pitches and 12 fleet hire caravans for holiday letting are seeking to extend and develop. Plans have been submitted for 31 additional pitches for tents; 15 new units for 'glamping' (or 'glamorous camping'); 48 additional touring pitches; 132 additional static pitches; and 19 additional lodges. There would also be new toilet blocks and new office accommodation for the staff at the site (with up to five new jobs created), and a new area for meeting and greeting arriving customers.

Beverley Parkland Care Home has recently opened. With its own pub, shop, cinema and hair and beauty spa it is expected to create 100 jobs as well as meet a growing demand for care.

8 Processing and Manufacturing of food in East Riding

8.1 Introduction

The processing and manufacturing of food subsector is very broad but can be defined as the preparation of food products ready for sale and consumption. It involves the sourcing of ingredients, processing, preservation and packaging. It also includes product research and design, taste testing and marketing.

For the following report, data has been analysed using the following Standard Industrial Codes:

SIC	Description
10.1	Processing and preserving of meat and production of meat products
10.2	Processing and preserving of fish, crustaceans and molluscs
10.3	Processing and preserving of fruit and vegetables
10.4	Manufacture of vegetable and animal oils and fats
10.5	Manufacture of dairy products
10.6	Manufacture of grain mill products, starches and starch products
10.7	Manufacture of bakery and farinaceous products
10.8	Manufacture of other food products
10.9	Manufacture of prepared animal feeds

8.2 Processing and manufacturing of food subsector economy and employment

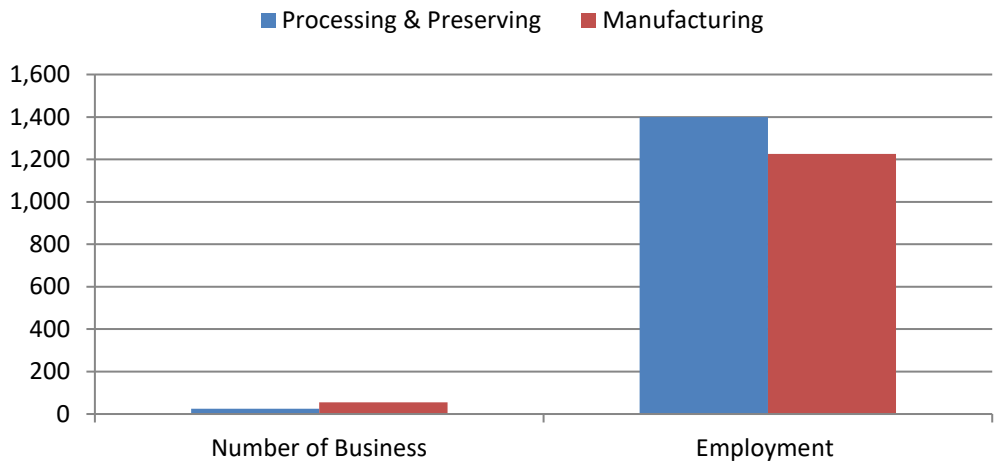
The East Riding area has approximately 80 businesses operating in this subsector, employing around 2,600 individuals.

There are 25 firms that operate within the processing and preserving of meat, fruit and vegetables and fish and a further 55 in the manufacture of food, such as dairy products, bakery, oils and fats.

Even though there are fewer businesses, more people are employed in the processing and preservation area. Here 1,400 people are employed compared to 1,200 in the manufacturing industries.

The number of businesses operating in the area has decreased by 6% between 2010 and 2016.

Figure 30 Manufacture of food businesses and employment in East Riding



Source (ONS, 2015) & (ONS, 2016)

Firms operating in this subsector in the area include:

Processing and preserving

- East Riding Country Pork, Halsham, http://www.eastridingcountrypork.co.uk/contact-east-riding-country-pork/
- Dawn Meats (Carnaby), Bridlington, http://source-www.dawnmeats.com/
- Fields of Anlaby, Anlaby, http://www.fieldsofanlaby.co.uk
- Derwent Preserves, Newton on Derwent
- Rose Cottage Pantry, Garton-On-The-Wolds, http://www.rosecottagepantry.co.uk/

Manufacture of vegetable and animal oils and fats

- Gold From The Wold Ltd, Bridlington www.goldfromthewold.co.uk

Manufacture of dairy products

- St Quintin's Creamery Ltd, Driffield www.stquintinscreamery.co.uk
- Mr Moo's Real Dairy Ice Cream, Driffield www.mrmoos.co.uk
- Primepak Foods, Driffield, http://www.primepakfoods.co.uk

Manufacture of grain mill products, starches and starch products

- Skidby Windmill, Cottingham
- Bradshaw, EB & Son, Driffield

Manufacture of bakery and farinaceous products

- Side Oven Bakery, Driffield www.sideoven.com
- The Bread Shed, Beverley, http://www.breadshed.co.uk/

Manufacture of other food products

- Shepcote, Driffield http://www.shepcote.co.uk/home/
- Butterflies Chocolates, Pocklington www.butterflieschocolates.co.uk
- Sam Brown, Driffield http://www.sambrownefoods.co.uk/about.php

Manufacture of prepared animal feeds

- Yorkshire Feedstffs Ltd, Goole, http://www.yorkshirefeedstuffs.co.uk/index.php/manufacturing

The job roles which have the greatest number employed in the manufacture of beverages across Yorkshire and Humber are:

- Food, drink and tobacco process operatives.
- Engineering professionals.
- Production managers and directors in manufacturing.

From our research other positions within firms across the subsector includes:

- Production operative.
- Team leaders.
- Factory and production management.
- Telesales.
- Accounts.
- Marketing.
- Van / Delivery.
- Technical.

8.3 Skills needs – Primary research testing the data

8.3.1 Planning for the future

Data tells us that across the LEP economy 58% of firms have a Business Plan which specifies objectives for the coming year, which is slightly lower than national findings of 62% (UKCES, 2016). 39% of firms had a training plan, again less than national average of 42%.

Our primary research with employers in the subsector reveals that many have considered business planning. For most firms it is not just the case of manufacturing, but also promoting sales, either via websites or local craft events as well as distributing the product. However, planning for training is not widespread, as establishments are clearly focussing on operational matters.

8.3.2 Recruitment and retention

There is generally a high level of recruitment demand across the food and drink manufacturing sector with 22% of firms in the food and drink sector nationally reporting at least one vacancy. There appears to be recruitment across East Riding.

For example, Fields of Anlaby report that: "We are always on the lookout for talented butchers or trainees with ambition".

The subsector has struggled to attract, recruit and retain qualified engineers and technicians. This is partly linked to the fact that nationally there is a shortage of engineers but also engineers are more attracted to sectors such as automotive and aerospace.

Firms also reported the need for food technologists to identifying/create new food recipes, supervisors, financial positions and general production and warehouse staff.

Rose Cottage Foods Ltd

Production Bakery Assistant required for busy pie production unit. Duties include all aspects of pie production, cleaning, stock control. Some lifting is required. Successful applicant should preferably have experience and a hygiene certificate.

Events Sales Assistant: part/full time sales assistant to join our existing sales team for seasonal work. The position is to at times drive away to shows and events across the country with an experienced member of the team. The role will involve setting up the stall on arrival, which does require some physical strength, possible camping and selling our product for the duration of the day/weekend.

8.3.3 What are the current skills needs and skills gaps?

Skills levels

At a national level the food processing and preservation subsector has a very different qualification profile to the all sector average (Figure 31), being much lower skilled.

Only 26% of the workforce hold a level 4 qualification or above, compared to all sectors in which 43% have this qualification. 10% having no qualifications at all and 23% other qualifications.

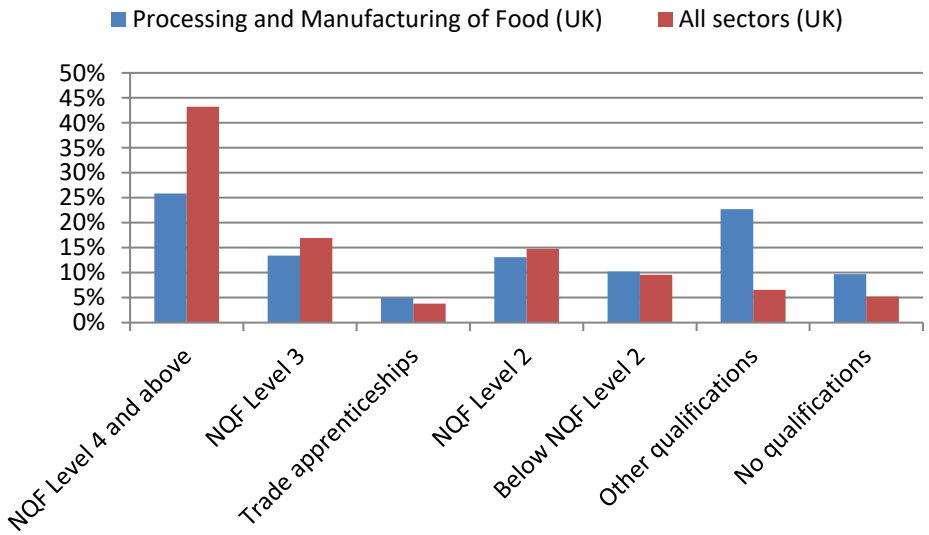
The qualification profile reflects the occupational profile in which 39% of the workforce are in process, plant and machine operative position and a further 20% in elementary roles.

There is some variation within the subsector. For example:

- 31% of those working in the processing of fish, crustaceans and mollusc have no qualifications, compared to 15% in the processing of meat products.
- A greater proportion of workers have an apprenticeship in manufacture of grain (21%) and processing of fish (17%) - a much greater proportion than the UK all sector where only 4% hold one.
- The manufacture of dairy products is the most highly skilled area, with 76% holding a level 3 or above, with only 1% having no qualifications.
- However, less than 1% in the manufacture of dairy hold a trade apprenticeship.

The subsector has a much greater proportion of 'other qualifications', with nearly a quarter (23%) workers classified at this level. This group captures foreign qualifications and some professional qualifications (i.e. driving) that are not defined in the other levels. The fact that this subsector has a relatively high proportion of other qualifications is most likely linked to the fact that 44% of the UK subsector workforce was born overseas (in Yorkshire and Humber region this is slightly lower at 37%).

Figure 31 Qualification levels of the processing and manufacture of food subsector (UK)



Source (Office for National Statistics, et al., 2016)

Skills gaps

Across all sectors in the LEP, 15% of firms report having a skills gap - i.e. where an employee is deemed by their employer to be not fully proficient, i.e. is not able to do their job to the required level (UKCES, 2016). Overall it has been calculated that 21,200 individuals in the LEP are not proficient in their job.

From our primary research, firms that report skills gaps confirmed that main causes are generally due to individuals' being new to the role and their training is currently only partially completed.

These two factors are both predominantly transient: that is to say one would expect skills gaps resulting from these causes to be eliminated when staff become settled into their new roles and/or existing training has been completed.

From our primary work we can suggest that the following skills are particularly needed and valued by employers:

- Health and safety training is a necessity for many roles working in the subsector.
- For lower level positions, employers seek practical skills such as manual dexterity and a certain level of hand-eye coordination.
- Skilled trades such as meat processing skills (butchery and boning) and knife- and fishmongery skills.
- Engineering skills.
- Food technologist.

8.3.4 Training

Across all sectors in the LEP, 65% of firms had funded or arranged training for staff in the previous 12 months (UKCES, 2016). The vast majority of training and development is targeted at initial induction training and development and perceived statutory areas such as health and safety.

Our primary research found similar findings in this area. Key areas of training for employers in the subsector are mandatory requirements - particularly food hygiene.

Cost and time were the main drag factors on engaging non mandatory training.

8.3.5 Apprenticeships

Across East Riding there has been a decline in the number of individuals starting an apprenticeship (Table 44). In 2011/12, over 6,040 individuals began an apprenticeship but by 2015/16 this had declined to 5,070 going against the national trend of growth in take up. Most apprenticeships are at a level 2 (66%) and 39% are undertaken those over 25years of age.

Table 44 Apprenticeship Programme Starts by level and age, East Riding

		Level (%)			Age (%)		
Year	Total	Intermediate	Advanced	Higher	Under 19	19-24	25+
2011/12	6,040	65%	35%	*	21%	35%	43%
2012/13	5,010	63%	35%	1%	25%	33%	43%
2013/14	4,830	73%	25%	1%	24%	39%	36%
2014/15	5,360	67%	31%	2%	24%	38%	38%
2015/16	5,070	66%	31%	4%	25%	36%	39%

Source (DfE, et al., 2017) Apprenticeships geography data tool: starts 2011/12 to 2016/17

Two in three (66%) apprenticeship starts have been within Beverley and Holderness, 20% in East Yorkshire and 14% in, Haltemprice and Howden.

The most popular frameworks were across the subject area of Retail and Commercial Enterprise, accounting for 44% of all starts. Business, Administration and Law accounted for a further 18% and Health, Public services and care 15% (Table 45).

Table 45 Apprenticeship Programme Starts by Sector Subject Area (2015/16)

Sector Area	East Riding
Agriculture, Horticulture and Animal Care	80
Arts, Media and Publishing	10
Business, Administration and Law	890
Construction, Planning and the Built Environment	130
Education and Training	40
Engineering and Manufacturing Technologies	630
Health, Public Services and Care	750
Information and Communication Technology	160
Languages, Literature and Culture	-
Leisure, Travel and Tourism	130
Preparation for Life and Work	-
Retail and Commercial Enterprise	2,240
Science and Mathematics	-
Unknown	-
All	5,070

Source (DfE, et al., 2017)

The Food and Drink apprenticeship framework is one of 37 frameworks classified under the sector subject area of 'Engineering and manufacturing technologies'. So while we can see that 420 starts have been on engineering and manufacturing technologies frameworks, it is important to note that not all of these will be on frameworks relating to this subsector.

Nationally data reveals that there were 2,700 starts on a Food Manufacture apprenticeship in 2014/15 with the most popular pathway being Food Industry Skills, followed by Food Manufacturing Excellence (

Table 46).

In contrast to the East Riding all sector data in which we see 39% of starts by those over 25 years of age, 62% of food manufacture apprenticeship starts are by those over 25.

Table 46 Apprenticeship Programme Starts by Pathway (national)

Food Manufacture pathways	2013/14	2014/15
Baking Industry Skills	500	420
Brewing Industry Skills	10	20
Dairy Industry Skills	20	-
Fish and Shellfish Industry Skills	250	220
Food Industry Skills	710	710
Food Industry Skills and Technical Management	140	350
Food Industry Team Leading	50	20
Food Manufacturing Excellence	470	460
Fresh Produce Industry Skills	190	70
Meat and Poultry Industry Skills	600	430
No Pathway Assignment	70	-

Source (DfE, et al., 2017)

In our primary work we explored this and the reasons will be familiar to people working in the skills sector. Whilst there is a general support for the principle of apprenticeship, it was felt that they were often too large an intervention for this subsector. 57% of firms in this subsector employ fewer than 10 individuals.

The sector has apprenticeships ranging from level 2 (i.e. Food & Drink process operator) which is mainly where take-up is. However the need for higher level skills has been recognised. Consequently more advanced standards have recently been developed. For example there is now a Level 5 Dairy Technologist, a Level 6 Food Industry Technical Professional and a Food & Drink Manufacturing Manager which are seen as relevant and valuable in the subsector.

From our primary work we can see that the challenge, particularly for SMEs, in hiring apprenticeships continues to be significant. There are issues around awareness, relevance and perceived bureaucracy.

8.4 Future requirements

8.4.1 Sector growth

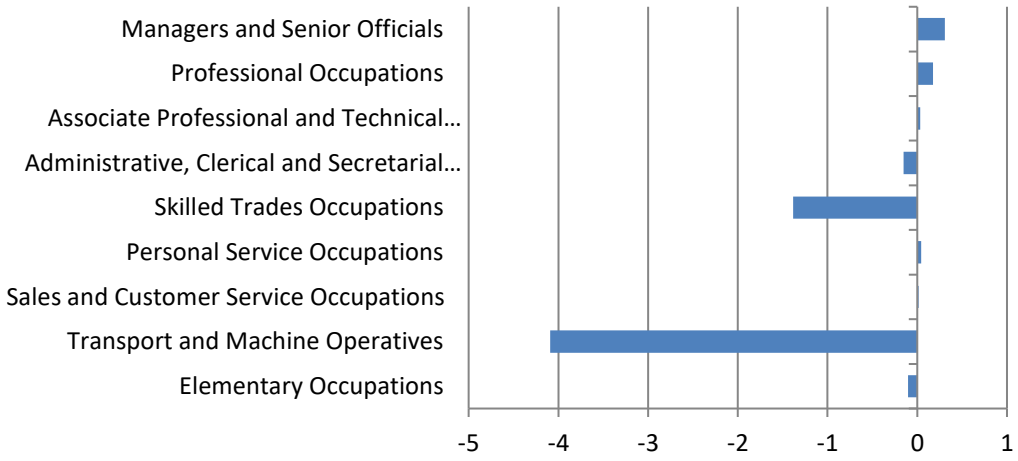
Future workforce projection for the subsector are available at the wider region of Yorkshire and Humber rather than the East Riding area but this still provides a useful indication of changes in the workforce moving forward.

Employment in the Yorkshire and Humber food products manufacturing[5] subsector is expected to decline 10% between 2014 and 2024 – or by 5,000. This is in contrast to the region's all sector economy where growth of 5.5% is anticipated (UKCES, 2016).

[5] The whole of SIC 10 Manufacture of food products

We expect to see small employment growth for higher level occupations, including managers, professional occupations and associate professionals and technical roles (Figure 32). However, the overall number employed in plant, process and machine operative roles and skilled trades is expected to decrease.

Figure 32 Food products manufacturing occupational change, 2014 -2024 (000s), Yorkshire and Humber

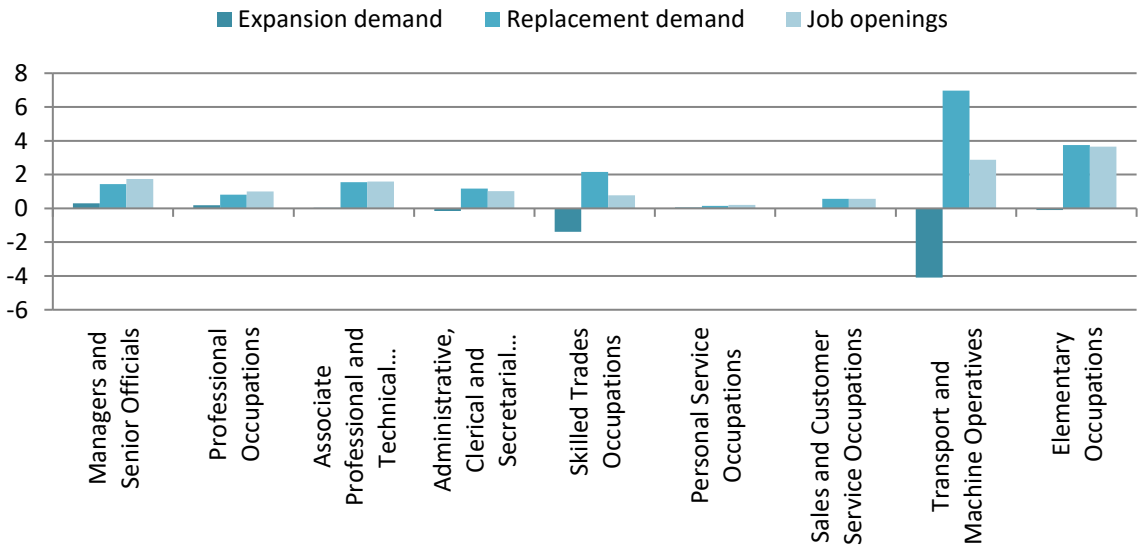


Source: UKCES Working Futures VI

8.4.2 Replacement need and total demand

Overall the subsector in Yorkshire and Humber is expected to have approximately 13,500 job openings between 2014 and 2024: 18,500 will be replacement demand, but there will be a net sector decline of 5,000,. A quarter (26%) of all job openings will be within elementary occupations and a further 21% in process, plant and machine operatives (Figure 33).

Figure 33 Job openings in the beverage and tobacco subsector by occupation, 2014 -2024 (000s), UK



Source: UKCES Working Futures VI

8.4.3 Qualifications

The change in qualification levels of the workforce shows that there will be a shift towards more people holding higher qualifications (Table 47).

By 2024, 32% of people employed in the food products manufacturing subsector are expected to be qualified at level 4 and above (Lower than Yorkshire and Humber region all sector proportion of 47%), whilst the proportion of people with no formal qualifications or level 1 is expected to fall to 6%.

Table 47 Change in qualification profile in the beverage and tobacco manufacturing subsector (UK)

	No qualifications and level 1	Level 2	Level 3	Level 4 – 6	Level 7 – 8
Qualification example	GSCE (grades D – G) BTEC level 1	GCSE (grades A* - C) NVQ Level 2	AS & A level BTEC National	Certificate of higher education (L4) Foundation degree (L5) Bachelor's degree (L6)	Master's degree (L7) Doctorate (L8)
2014 level **2024 level**	19,469 11,469	12,415 10,812	9,854 8,997	7,966 12,960	1,251 1,569
2014 – 2024 % change	-41%	-13%	-9%	63%	25%
2014 % share	38%	24%	19%	16%	2%
2024 % share	25%	24%	20%	28%	3%

Source: UKCES Working Futures VI

8.4.4 Future roles and skills

The above Working Future projections demonstrate that there will be a significant decline(10%) in employment numbers moving forwards but there will be replacement need for all positions, particularly for higher skilled roles.

Employers have not identified any new roles developing in the next 6 years, rather where they expect to be recruiting it will be in relation to already existing positions.

What is key however is that the nature of the sub-sector is expected to change. There is a clear expectation that this will be a sector with fewer 'pairs of hands', relying more on automation and management.

8.5 Drivers of change

8.5.1 Political

Leaving the European Union

The result of the British general election has left food and drink companies facing an uncertain immediate future, with a weak pound guaranteed to increase costs and make British companies more susceptible to foreign takeovers.

Uncertainty over the political situation of the UK may have an impact on the sector. It is only once the future regarding leaving the EU is clearer that companies will feel comfortable committing to long term investment programmes. Equipment suppliers are likely to be the biggest losers of this, as companies will push existing machinery to work longer and wait to see if consumer confidence remains at a level where investing in upgrades or expansions is worthwhile.

The effect on inward migration particularly from EU countries could affect the sector's ability to recruit and retain skilled staff and is by far the biggest issue employers have raised with us. This is perhaps not surprising given that 37% of the Yorkshire and Humber workforce in this subsector was born overseas.

Legislation / Regulations

As with other industries which provide a service, this is a subsector which is heavily regulated, particularly in terms of food safety, quality and traceability and nutrition labelling.

Employers are not expecting there to be significant new legislation in the next few years, rather they are anticipating many current standards to simply move from EU legislation into UK law.

8.5.2 Economic

Rising Costs

The whole subsector is affected by rising operating costs. For example increasing energy prices impact on the whole sector as does the cost of raw products. Consequently, resource management and budgetary controls are important.

Wage levels

The National Minimum Wage (NMW) was first introduced in the UK in April 1999 at a rate of £3.60 per hour for over 21-year-olds. Prior to that there was no statutory minimum. In April 2016 the government introduced the National Living Wage (NLW) at a level of £7.20 per hour for those over 25 years old, increasing to £7.50 in April 2017. It is expected to rise to at least £9 per hour by 2020. The impact of this is likely to be significant on this subsector.

Firms will undoubtedly face higher payroll costs and this is challenge they face. The BDO Food and Drink report (2017) found in a recent survey that 66% of food and drink manufactures were increasing investment in automation, at least in part as a result of pressures of wage increases linked to the NMW.

Labour availability

Following the recession, the economic situation across the UK and East Riding has been improving. Unemployment rates in the East Riding have declined from a high of 7.2% in 2012, to 3.8% at the end of 2016, but they still remain higher than the LEP average of 3%. Of those claiming JSA, 43% have been out of work for six months or more (ONS, 2017) and are therefore more of a challenge to get back into work.

Demographic changes mean that there are fewer younger people entering the job market in the TA, which has an effect. Employers need to find ways to attract and then retain staff.

8.5.3 Social

Consumer needs

Consumers are not only concerned about the sensory characteristics of foods products (e.g. texture, flavour, aroma, shape, colour and after taste) they also pay attention to the nutritional value. In general, consumers are demanding less processed and additive-free food products than before. Thereby food processors/manufactures are seeking to develop and employ processing technologies that retain or create the desired sensory and nutritional qualities.

New product development is a massive opportunity for businesses in the near future. There are several consumer trends shaping product development, including 'free-from', health foods, vegan and plant-based foods, and niche specialities such as snacks and craft beers.

8.5.4 Technological

Driven by new knowledge and new techniques developed through research findings and by market demand, the food industry is very active in technological innovations with a track record of developing new ways of processing and manufacturing foods.

Automation has one of the highest impacts on the food industry with 63% having some level of automation (BDO, 2017). Some companies have been slow to adopt automation and upgrade production lines due to the downtime and retraining period needed. However, 51% of food and drink manufacturers were looking to increasing its investment (BDO, 2017). This is important as we think of the future skills profiles of the sector. Increasingly manufacturers will rely on engineers and technical skills to keep a factory working rather than filling it with lots of low skilled workers.

The types of automation equipment include: refrigeration, handling and filling, automated packing and packaging, weighing, mixing, machine controls, software and remote centralised SCADA monitoring and control.

However, with automation also comes the risk of cyber-attacks. Companies embracing automation should pay close attention to cyber risk governance. Focus needs to be on security controls for both operational technology and information technology systems. User education is essential.

8.6 Key points

What follows is a presentation of the key findings from the above.

- The East Riding area has approximately 80 businesses operating in the processing and manufacture of food, employing around 2,600 individuals.
- There are 25 firms that operate within the processing and preserving of meat, fruit and vegetables and fish and a further 55 in the manufacture of food, such as dairy products, bakery, oils and fats.
- The number of businesses operating in the area has decreased by 6% between 2010 and 2016.
- There is a high reliance on foreign labour, with 37% of the subsector workforce born overseas in Yorkshire and Humber.
- There is generally a high level of recruitment demand across the food and drink manufacturing.
- Engineers are increasingly required in the subsector as it moves towards greater automation.
- The technological side of the manufacturing is becoming more prominent.
- The need for higher level skills has been recognised, with more advanced standards having recently been developed.
- There is a clear expectation that this will be a sector with fewer 'pairs of hands', relying more on automation and management.
- Rising cost of raw products has direct impact on this subsector.
- Pressures of wage increases linked to the NMW is driving investment in automation.
- Unemployment rates in the East Riding have declined from a high of 7.2% in 2012, to 3.8% at the end of 2016, but they still remain higher than the LEP average of 3% and demographic changes mean that there are fewer younger people entering the job market.

9 Manufacture of Beverages in East Riding

9.1 Introduction

The manufacture of beverages has two distinct areas - the production of soft drinks and alcoholic drinks.

Soft drinks can be further segmented into: carbonated drinks, fruit drinks, bottled water, sports drinks and others such as energy drinks, ready-to-drink teas and coffees, and diary-based or soya-based drinks.

Similarly, alcoholic drinks can be further classified - distilling of spirits, manufacture of wine, cider, beer or malts.

For the following report, data has been analysed using the following Standard Industrial Codes:

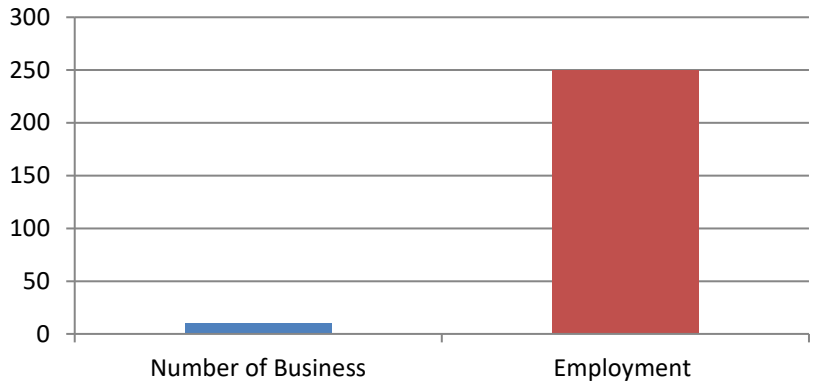
SIC	Description
11.0	Manufacture of beverages

9.2 Manufacture of Beverages subsector economy and employment

The East Riding area has few businesses operating in this subsector. ONS data reports there are 10 firms, employing 250 individuals. In this way the subsector is currently very small, but it is one of those sectors which seems to be likely to grow, particularly in East Riding where there are natural resources lending themselves to artisan production. Current firms include:

- Crystal Brew in Brough http://crystalbrew.co.uk
- Great Newsome Brewery in Winestead, http://www.greatnewsomebrewery.co.uk/
- Wold Top Brewery in Wold Newton, Driffield http://www.woldtopbrewery.co.uk/#
- Old Mill Brewery in Goole, http://www.oldmillbrewery.co.uk/meet-the-brewer.html
- Muntons in Bridlington, https://www.muntons.com/about/locations/bridlington/
- The Butchers Dog in Driffield http://www.thebutchersdog.co.uk/our-beers/
- Colemans Cider Company in Kilham https://colemanscidercompany.com/
- All Hallows Brewery in Goodmanham http://www.goodmanhamarms.co.uk/microbrewery.html
- Half Moon Brewery in Ellerton http://halfmoonbrewery.co.uk/

Figure 34 Manufacture of Beverages businesses and employment in East Riding



Source (ONS, 2015) & (ONS, 2016)

The job roles which have the greatest number employed in the manufacture of beverages across Yorkshire and Humber are:

- Food, drink and tobacco process operatives.
- Engineering professionals.
- Production managers and directors in manufacturing.

From our research other positions within firms across the subsector includes:

- Brewer / brewery supervisor / assistant brewer.
- Quality assurance, technical advisor.
- Secretary / office managers.
- Driver / Drayman.
- Sales / Marketing.

9.3 Skills needs – Primary research testing the data

9.3.1 Planning for the future

Data tells us that across the LEP economy 58% of firms have a Business Plan which specifies objectives for the coming year, which is slightly lower than national findings of 62% (UKCES, 2016). 39% of firms had a training plan, again less than national average of 42%.

Our primary research with employers in the subsector reveals that many have considered business planning. For most firms it is not just the case of manufacturing the drink, but also promoting sales, either via websites or local craft events as well as distributing the product. However, planning for training is not as widespread, as establishments are clearly focussing on operational matters.

9.3.2 Recruitment and retention

There is generally a high level of recruitment demand across the food and drink manufacturing sector with 22% of firms in the food and drink sector nationally reporting at least one vacancy but within the manufacture of drinks this appears to be lower.

However, from our primary research many firms did not have any recruitment needs within the manufacture of the drinks in the TA. Retention also does not appear to be an issue.

9.3.3 What are the current skills needs and skills gaps?

Skills levels

At a national level the manufacture of beverages subsector has a similar qualification profile to the all sector average (Figure 35

Figure 18).

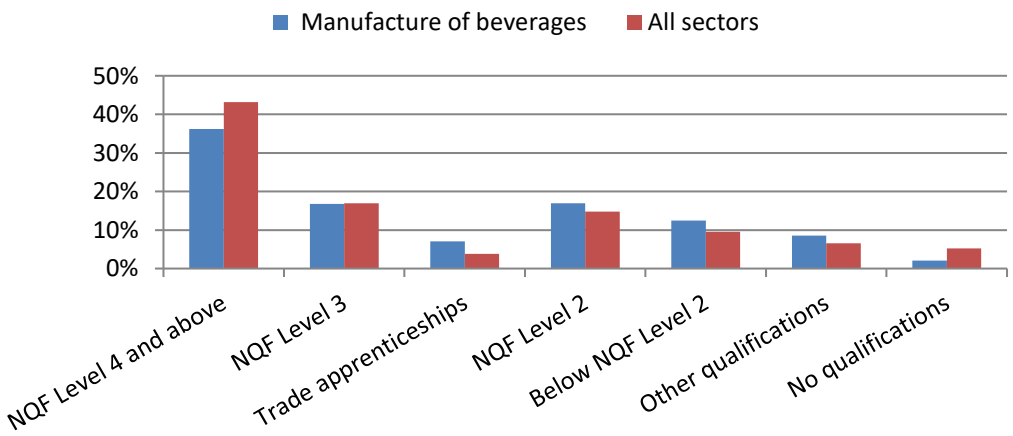
36% of the workforce hold a level 4 or above qualification, compared to all sectors in which 43% have this qualification. Only 2% have no qualifications.

The qualification profile reflects the occupational profile in which 45% of the workforce are in skilled positions (i.e. managers, professional and technical positions).

Our primary research confirms that higher skills levels in the subsector are usual with many brewers holding degrees or postgraduate degrees in this area.

The subsector is much less reliant on migrant workers than the wider food and drink sector. Only 12% of the national subsector workforce was born overseas and this is reflected in the lower proportion of 'other qualifications'.

Figure 35 Qualifications levels of manufacture of beverages subsector (UK)



Source (Office for National Statistics, et al., 2016)

Skills gaps

Across all sectors in the LEP, 15% of firms report having a skills gap - i.e. where an employee is deemed by their employer to be not fully proficient, i.e. is not able to do their job to the required level (UKCES, 2016). Overall, it has been calculated that 21,200 individuals in the LEP are not proficient in their job.

Our research indicates that firms in the subsector have limited skills gaps.

From our primary work we can suggest that the following skills are particularly needed and valued by employers:

- Technical, brewery skills.
- Drayman/Delivery.
- Sales and marketing.

9.3.4 Training

Across all sectors in the LEP, 65% of firms had funded or arranged training for staff in the previous 12 months (UKCES, 2016). The vast majority of training and development is targeted at initial training and development and perceived statutory areas such as health and safety.

Our primary research found similar findings in this area. Key areas of training for employers in the subsector are mandatory requirements.

9.3.5 Apprenticeships

Across East Riding there has been a decline in the number of individuals starting an apprenticeship (Table 48). In 2011/12, 6,040 individuals began an apprenticeship but by 2015/16 this had declined to 5,070 going against the national trend of growth in take up. Most apprenticeship are at a level 2 (66%) and 39% are undertaken those over 25 years of age.

Table 48 Apprenticeship Programme Starts by level and age, East Riding

		Level (%)			Age (%)		
Year	Total	Intermediate	Advanced	Higher	Under 19	19-24	25+
2011/12	6,040	65%	35%	*	21%	35%	43%
2012/13	5,010	63%	35%	1%	25%	33%	43%
2013/14	4,830	73%	25%	1%	24%	39%	36%
2014/15	5,360	67%	31%	2%	24%	38%	38%
2015/16	5,070	66%	31%	4%	25%	36%	39%

Source (DfE, et al., 2017) Apprenticeships geography data tool: starts 2011/12 to 2016/17

Two in three (66%) apprenticeship starts have been within Beverley and Holderness, 20% in East Yorkshire and 14% in, Haltemprice and Howden.

The most popular frameworks were across the subject area of Retail and Commercial Enterprise, accounting for 44% of all starts. Business, Administration and Law accounted for a further 18% and Health, public services and care 15% (Table 49).

Table 49 Apprenticeship Programme Starts by Sector Subject Area (2015/16)

Sector Area	East Riding
Agriculture, Horticulture and Animal Care	80
Arts, Media and Publishing	10
Business, Administration and Law	890
Construction, Planning and the Built Environment	130
Education and Training	40
Engineering and Manufacturing Technologies	630
Health, Public Services and Care	750
Information and Communication Technology	160
Languages, Literature and Culture	-
Leisure, Travel and Tourism	130
Preparation for Life and Work	-
Retail and Commercial Enterprise	2,240
Science and Mathematics	-
Unknown	-
All	5,070

Source (DfE, et al., 2017) Apprenticeships by parliamentary constituency 2011/12 to 2014/15

The Food and Drink apprenticeship framework is one of 37 frameworks classified under the sector subject area of 'Engineering and manufacturing technologies'. So while we can see that 420 starts have been on engineering and manufacturing technologies frameworks, it is important to note that not all of these will be on frameworks relating to this subsector.

Nationally, data reveals that there were 2,700 starts on a Food Manufacture apprenticeship in 2014/15. 72% were at an intermediate level and 28% at advanced level.

Table 50 Food Manufacture Apprenticeship Starts by level and age (national)

		Level (%)			Age (%)		
Year	Total	Intermediate	Advanced	Higher	Under 19	19-24	25+
2013/14	3,010	80%	20%		12%	33%	54%
2014/15	2,700	72%	28%	-	13%	24%	62%

Source (DfE, et al., 2017)

In contrast to the East Riding all sector data in which we see 39% of starts by those over 25 years of age, 62% of food and drink manufacture apprenticeship starts are by those over 25 (Table 50).

Specifically there is a Brewing Industry Skills pathway within the Food Manufacture apprenticeship framework, yet nationally only 20 individuals began one in 2014/15.

Table 51 Apprenticeship Programme Starts by Pathway (national)

Food & Drink Manufacture pathways	2013/14	2014/15
Baking Industry Skills	500	420
Brewing Industry Skills	10	20
Dairy Industry Skills	20	-
Fish and Shellfish Industry Skills	250	220
Food Industry Skills	710	710
Food Industry Skills and Technical Management	140	350
Food Industry Team Leading	50	20
Food Manufacturing Excellence	470	460
Fresh Produce Industry Skills	190	70
Meat and Poultry Industry Skills	600	430
No Pathway Assignment	70	-

Source (DfE, et al., 2017)

In our primary work we explored this and the reasons will be familiar to people working in the skills sector. Whilst there is a general support for the principle of Apprenticeship, it was felt that they were often too large an intervention for this subsector.

From our primary work we can see that the challenge, particularly for SMEs, in hiring apprenticeships continues to be significant. There are issues around awareness, relevance and perceived bureaucracy.

9.4 Future requirements

9.4.1 Sector growth and replacement demand

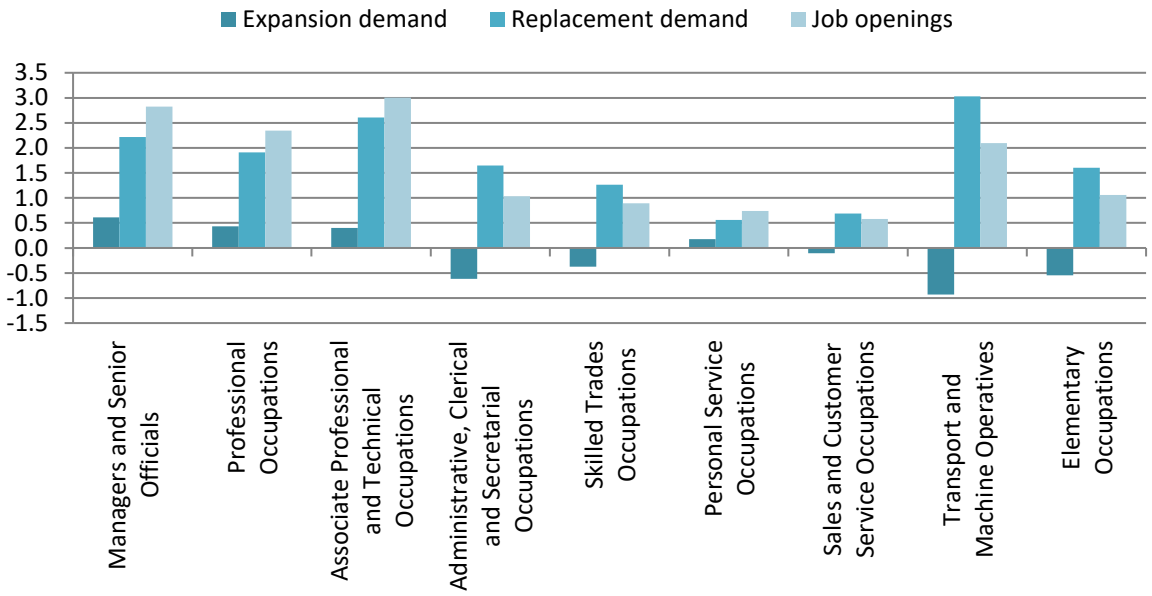
Future workforce projection for the subsector are available at the wider region of Yorkshire and Humber rather than the North Yorkshire area but this still provides a useful indication of changes in the workforce moving forward.

Nationally the beverage and tobacco subsector employs around 40,000 individuals, of which 2,000 are located in Yorkshire and Humber. Nationally the subsector employment will decline 2% between 2014 and 2024, with employment levels in the Yorkshire and Humber anticipated to be remaining the same (UKCES, 2016).

Overall the UK subsector is expected to have 15,000 job openings between 2014 and 2024. Very few (less than 1,000) job openings will be across Yorkshire and Humber.

Most openings will be seen across higher skilled positions – associate professionals and technical occupations and managers (Figure 36).

Figure 36 Job openings in the beverage and tobacco subsector by occupation, 2014 -2024 (000s), UK



Source: UKCES Working Futures VI

9.4.2 Qualifications

The change in qualification levels of the workforce shows that there will be a shift towards more people holding higher qualifications (Table 52).

By 2024, 48% of people employed in the UK beverage and tobacco manufacturing subsector are expected to be qualified at level 4 and above, whilst the proportion of people with no formal qualifications or level 1 is expected to fall to 3%.

Table 52 Change in qualification profile in the beverage and tobacco manufacturing subsector (UK)

	No qualifications and level 1	Level 2	Level 3	Level 4 – 6	Level 7 – 8
Qualification example	GSCE (grades D – G) BTEC level 1	GCSE (grades A* - C) NVQ Level 2	AS & A level BTEC National	Certificate of higher education (L4) Foundation degree (L5) Bachelor's degree (L6)	Master's degree (L7) Doctorate (L8)
2014 level **2024 level**	10,777 7,035	8,445 6,948	8,394 7,211	12,100 17,209	1,982 2,344
2014 – 2024 % change	-35%	-18%	-14%	42%	18%
2014 % share	26%	20%	20%	29%	5%
2024 % share	17%	17%	18%	42%	6%

Source: UKCES Working Futures VI

9.4.3 Future roles and skills

The above Working Future projections demonstrate that there will be a small decline in employment numbers moving forwards but there will be replacement need for all positions, particularly for higher skilled roles.

Employers have not identified any new roles developing in the next 6 years, rather where they expect to be recruiting it will be in relation to already existing positions.

9.5 Drivers of change

9.5.1 Political

Leaving the European Union

The result of the British general election has left food and drink companies facing an uncertain immediate future, with a weak pound guaranteed to increase costs and make British companies more susceptible to foreign takeovers.

Uncertainty over the political situation of the UK may have an impact on the sector. It is only once the future regarding leaving the EU is clearer that companies will feel comfortable committing to long term investment programmes. Equipment suppliers are likely to be the biggest losers of this, as companies will push existing machinery to work longer and wait to see if consumer confidence remains at a level where investing in upgrades or expansions is worthwhile.

Legislation / Regulations

Employers are not expecting there to be significant new legislation in the next few years other than the Soft Drinks Industry Levy (Sugar Tax).

This is a new levy that applies to the production and importation of soft drinks containing added sugar.

Soft drinks with a high sugar value will see a tax increase in April 2018. Tax on drinks with more than five grams of sugar per 100ml will be levied by 18p per litre, while those with eight grams or more of sugar per 100ml will have an extra tax of 24p per litre. Alcoholic drinks with an alcohol by volume of up to 1.2% are included in the levy.

The levy will encourage producers to:

- Reformulate their products to reduce the sugar content.

- Reduce portion sizes for added sugar drinks and importers to import reformulated drinks with low added sugar to encourage consumers of soft drinks to move to healthier choices.

In this way the levy is expected to impact on the sector in that it will likely change its output rather than passing the price rise on to consumers. Consequently, there is already work being done on recipes and changes to production to reduce sugar content and there will be more work on marketing and packaging changes. The levy is expected to be a significant driver of change across consumption and this is likely to be mirrored in the production and marketing of drinks and beverages. Where there may be a particular change, is as we have already seen, more producers are looking for sugar substitutes, either in terms of organic alternatives or developed chemicals with similar properties. In this way the levy is expected to have an impact on consumption and production.

9.5.2 Economic

Rising Costs

The whole subsector is affected by rising operating costs. For example increasing energy prices impacts on the whole sector as does the cost of raw products. Consequently, resource management and budgetary controls are important.

Wage levels

The National Minimum Wage (NMW) was first introduced in the UK in April 1999 at a rate of £3.60 per hour for over 21-year-olds. Prior to that there was no statutory minimum. In April 2016 the government introduced the National Living Wage (NLW) at a level of £7.20 per hour for those over 25 years old, increasing to £7.50 in April 2017. It is expected to rise to at least £9 per hour by 2020. The impact of this is likely to be significant on this subsector.

The BDO Food and Drink report (2017) found in a recent survey that 66% of food and drink manufactures were increasing investment in automation, at least in part as a result of pressures of wage increases linked to the NMW.

Labour availability

Following the recession, the economic situation across the UK and East Riding has been improving. Unemployment rates in the East Riding have declined from a high of 7.2% in 2012 to 3.8% at the end of 2016, but still remains higher than the LEP average of 3%. Of those claiming JSA, 43% have been out of work for six months or more (ONS, 2017) and are therefore more of a challenge to get back into work.

Demographic changes mean that there are fewer younger people entering the job market in the TA, which has an effect. Employers need to find ways to attract and then retain staff.

9.5.3 Social

Consumer needs

The beverage subsector has been characterised by changing consumer tastes and increased product innovation. Those in the industry have altered traditional products and introduced new soft drinks that appeal to increasingly health conscious consumers. Health campaigns, particularly about sugar content have shaped the subsector in recent years and encouraged the proliferation of low-calorie and low-sugar alternatives and have clearly been the driving factor behind production and marketing changes in recent years.

9.5.4 Technological

Technology is expected to play an ever-increasing role in the subsector, meaning that digital skills are going to be important across all job roles.

Social media, in its various forms, present businesses with a direct way of reaching customers as well as communicating key information about the accommodation and any promotional offers they are running. But this presents a challenge, especially for the smaller businesses: expertise and time is required. Social media skills in a business context are required and they need to have the time to use it effectively while also running the business.

9.6 Key points

What follows is a presentation of the key findings from the above.

- The East Riding area has few businesses operating in this subsector. Data indicates there are only 10 firms employing approximately 250 individuals.
- Firms in the subsector had limited recruitment needs and retention does not appear to be an issue.
- The subsector is has a higher skill profile than the wide food and drink sector, with many brewers holding degrees or postgraduate degrees.
- The subsector is much less reliant on migrant workers than the wider food and drink sector.
- Firms in the subsector have limited skills gaps.
- Skills valued include sales and marketing, technical (i.e. brewing skills) and also delivery personnel.
- The Soft Drinks Industry Levy (Sugar Tax) is going to potentially change the subsector. It will change products, so consequently, there is already work being done on recipes and changes to production to reduce sugar content.

- Increases in the cost of raw products consequently means that resource management and budgetary controls are important.
- Digital skills, both in production and advertising and marketing are in demand.

10 Annex

Table 53 Employment by Industry in the LEP and Local Authorities

Industry	Craven	Hambleton	Harrogate	Richmondshire	Ryedale	Scarborough	Selby	York	North Yorkshire	East Riding of Yorkshire	YNYER LEP
2 : Mining, quarrying & utilities	125	500	350	225	200	200	2,000	400	4,000	1,250	5,000
3 : Manufacturing	3,000	6,000	5,000	1,000	5,000	5,000	7,000	4,500	36,000	17,000	53,000
4 : Construction	1,500	2,250	3,000	1,000	1,500	1,500	1,750	4,000	17,000	6,000	23,000
5 : Motor trades	450	900	1,750	350	700	600	500	1,500	7,000	3,000	10,000
6 : Wholesale	1,500	2,250	4,500	700	1,000	1,000	2,000	2,500	15,000	5,000	20,000
7 : Retail	3,000	3,500	8,000	2,000	1,750	5,000	2,250	14,000	39,000	12,000	51,000
8 : Transport & storage (inc postal)	1,000	1,750	3,000	600	600	1,250	3,500	4,500	17,000	6,000	23,000
9 : Accommodation & food services	3,000	3,500	8,000	3,000	3,000	7,000	2,000	11,000	42,000	9,000	51,000
10 : Information & communication	350	600	2,000	150	150	300	800	2,500	7,000	2,250	9,000
11 : Financial & insurance	2,500	450	2,500	150	350	600	300	4,500	12,000	1,250	13,000
12 : Property	450	800	1,500	400	800	1,000	300	2,000	7,000	1,750	9,000
13 : Professional, scientific & technical	1,750	2,250	8,000	1,000	1,500	1,250	3,000	8,000	27,000	7,000	34,000
14 : Business administration & support services	6,000	3,000	6,000	1,000	1,250	2,000	3,500	8,000	30,000	7,000	37,000
15 : Public administration & defence	450	3,500	2,000	800	700	1,250	700	5,000	15,000	10,000	24,000
16 : Education	3,000	3,000	7,000	1,500	2,250	3,500	3,500	12,000	36,000	12,000	48,000
17 : Health	2,250	5,000	12,000	1,500	1,750	8,000	3,000	16,000	50,000	17,000	67,000
18 : Arts, entertainment, recreation & other services	1,000	1,750	3,500	1,250	2,000	2,500	700	5,000	19,000	4,500	23,000
Column Total	31,000	41,000	80,000	17,000	25,000	43,000	36,000	105,000	379,000	122,000	500,000

(ONS, 2015)

10.1 Food, Drink and Tobacco Process Operatives

Food, drink and tobacco process operatives set, operate and attend machinery to bake, freeze, heat, crush, mix, blend and otherwise process foodstuffs, beverages and tobacco leaves.

Typical Entry Routes and Associated Qualifications

There are no formal academic entry requirements, though some GCSEs/S grades can be an advantage. Off- and on-the-job training is available. Vocational qualifications are available.

Tasks

- sets, operates and attends machinery and ovens to mix, bake and otherwise prepare bread and flour confectionery products;
- operates machinery to crush, mix, malt, cook and ferment grains and fruits to produce beer, wines, malt liquors, vinegar, yeast and related products;
- attends equipment to make jam, toffee, cheese, processed cheese, margarine, syrup, ice, pasta, ice-cream, sausages, chocolate, maize starch, edible fats and dextrin;
- operates equipment to cool, heat, dry, roast, blanch, pasteurise, smoke, sterilise, freeze, evaporate and concentrate foodstuffs and liquids used in food processing;
- mixes, pulps, grinds, blends and separates foodstuffs and liquids with churning, pressing, sieving, grinding and filtering equipment;
- processes tobacco leaves by hand or machine to make cigarettes, cigars, pipe and other tobacco products

Related Job Titles

- Bakery assistant
- Brewery worker
- Dairy worker
- Process worker (food products manufacture)