

WORKING FUTURES 2017-2027
LONG-RUN LABOUR MARKET AND
SKILLS PROJECTIONS FOR THE UK





This article summarises the latest Working Futures outputs – a comprehensive set of employment projections for the period 2017 to 2027.

Working Futures 2017-2027 is the latest in a series of quantitative assessments of the employment prospects in the UK labour market produced by the Warwick Institute for Employment Research (Warwick IER) and Cambridge Econometrics on behalf of the Department for Education.

Its prime objective is to provide useful labour market information that can help to inform policy development and strategy around skills, careers and employment, for both policy makers and a much wider audience. The results are intended to provide a sound statistical foundation for reflection and debate among all those with an interest in the demand for and supply of skills.

The results take account of official data published by the Office for National Statistics (ONS), which allow for a comprehensive and detailed picture of the changing face of the UK labour market to be developed.

It should be borne in mind that the future cannot be predicted with precision or certainty. This is especially difficult at the present time with all the uncertainties associated with Brexit. These forecasts are, therefore, subject to a number of risks and uncertainties (most notable among them is the impact of Brexit on barriers to trade and the movement of people). It should also be noted that these estimates were produced prior to the COVID-19 pandemic – the medium-to-long-term effects of which are unclear at this stage, although many experts believe them to be minimal.

It is important to emphasise that the view presented here is not the only possible future. It represents a benchmark for debate and reflection that can be used to inform policy development and other choices and decisions. The detailed projections present a carefully considered view of what the future might look like, assuming that past patterns of behaviour and performance are continued over the longer term. The results should be regarded as indicative of general trends and orders of magnitude and are not intended to be prescriptive.

Finally, this summary of the **Working Futures** employment projections is provided by Energy & Utility Skills in order to aid the overall understanding of the likely direction of the UK labour market among its member companies. Energy & Utility Skills has had no input into their production and does not necessarily endorse the sector impacts reported in this summary. The sectors own skills strategy and its labour forecasts for 2020-2025 can be seen [here](#).

1. Prospects for overall jobs growth

- ▶ Total employment across the UK is forecast to grow modestly over the period, increasing by 973,000 jobs (+2.8%) over the period (at an average of 0.3% p.a.).
- ▶ Employment growth is expected to be driven mainly by Business & other services and Public administration, education & health.
- ▶ The modest growth rates reflect the uncertainty around Brexit, as businesses delay and defer investment decisions in the short-to-medium term (these estimates were produced prior to the COVID-19 pandemic).
- ▶ Job growth within the energy and utilities sector is expected to be higher than the UK average (at +4.2%), driven by increases in Water & Sewerage (+8.2%) and Waste Management (+5.8%).

- ▶ Important factors behind jobs growth within the energy and utilities sector include:
 - ▶ Rising cost pressures will encourage long-term efficiency savings, dampening employment growth.
 - ▶ Anticipated productivity improvements will also decrease future labour demand.
 - ▶ Long-term increases in national demand for water and electricity are anticipated to stimulate utilities output.
 - ▶ Energy policies and environmental legislation are likely to grow in importance, in particular the pursuit of low-carbon energy and waste reduction in water – providing long-term opportunities and challenges for the sector.
- ▶ The energy and utilities sector will continue to account for 1% of UK employment through to 2027.

Figure 1: Change in the total number of jobs by sector

	2017	2027	Change	
			Number	%
All sectors	34,848,000	35,821,000	973,000	2.8%
Energy & Utilities	352,000	367,000	15,000	4.2%
Electricity & Gas	144,000	145,000	1,000	0.8%
Waste Management	149,000	158,000	9,000	5.8%
Water & Sewerage	59,000	64,000	5,000	8.2%

Source: Working Futures 2017-2027, Warwick IER & Cambridge Econometrics, February 2020.
Note: Values are rounded to the nearest 1,000. Totals may not sum due to rounding.

2. Shift in occupational structure

- ▶ The general trends through to 2027 are in favour of more highly skilled jobs, with some growth in less skilled jobs in areas that are currently difficult to automate.

- ▶ They also indicate a reduction in the numbers of clerical, skilled and semi-skilled manual jobs.

Figure 3: Change in occupational structure of the workforce (n)

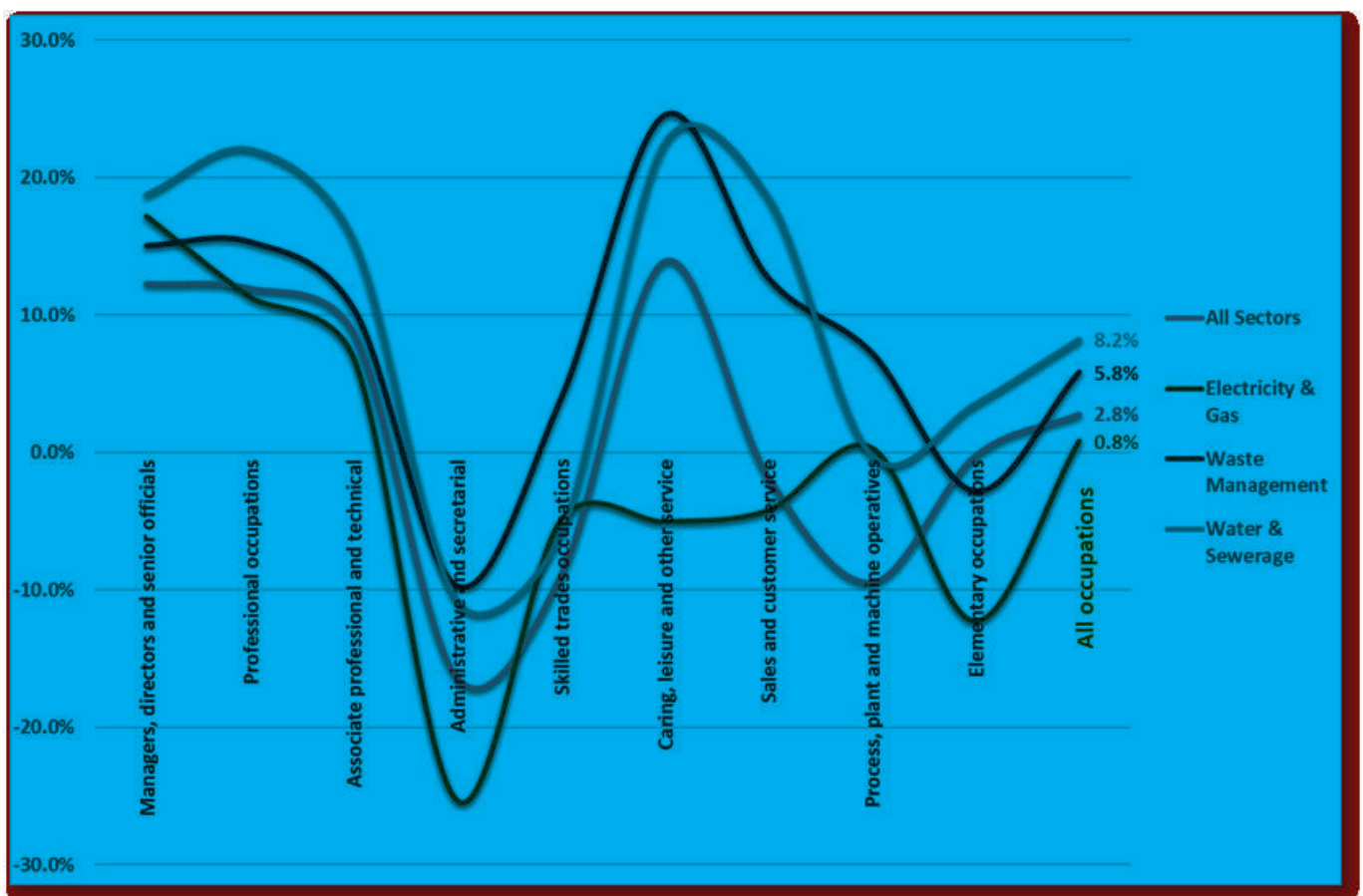
Occupation	All Sectors	Electricity & Gas	Waste Management	Water & Sewerage
Total	973,000	1,000	9,000	5,000
Managers, directors and senior officials	439,000	3,000	2,000	1,000
Professional occupations	821,000	3,000	2,000	2,000
Associate professional and technical	425,000	2,000	2,000	2,000
Administrative and secretarial	-604,000	-4,000	-1,000	-1,000
Skilled trades occupations	-307,000	-1,000	1,000	0,000
Caring, leisure and other service	466,000	0,000	1,000	0,000
Sales and customer service	-52,000	-1,000	1,000	1,000
Process, plant and machine operatives	-206,000	0,000	3,000	0,000
Elementary occupations	-9,000	0,000	-1,000	0,000

Source: Working Futures 2017-2027, Warwick IER & Cambridge Econometrics, February 2020.
Note: Values are rounded to the nearest 1,000. Totals may not sum due to rounding.

- ▶ These trends can largely be attributed to the continuing process of technological change, particularly related to ICT¹.
- ▶ On balance, the evidence suggests that this has become increasingly important and is causing greater occupational shifts than we have seen in previous decades.
- ▶ The impacts of IT and other related organisational changes are likely to:
 - ▶ Reduce further the demand for clerical and basic secretarial skills across all industries;
 - ▶ Will tend to displace many skilled workers within manufacturing;
 - ▶ Require greater shares in employment for managerial, professional and associate professional occupations, including technicians of various kinds.

- ▶ Within the energy and utilities sector, jobs within **Admin & Secretarial** will reduce in number across the board.
- ▶ It is reported that **Sales & Customer Service** jobs will reduce slightly within Electricity & Gas but increase slightly within **Waste Management** and **Water & Sewerage**. However, as the values are rounded to the nearest 1,000, it should be assumed that any expected change is likely to be small.
- ▶ The figure below shows the percentage change in the number of jobs between 2017 and 2027 for each occupation.

Figure 4: % change in employment by occupation and sector



Source: Working Futures 2017-2027, Warwick IER & Cambridge Econometrics, February 2020.

1. Many other sectors are also being affected by the expansion of international trade, especially with developing economies.

- ▶ The extent of jobs growth in higher-level jobs can clearly be seen, as can the reduction in **Admin & Secretarial** jobs.
- ▶ The figure also highlights the lack of jobs growth across mid-to-low-skilled jobs within the **Electricity & Gas industry**.

The prospects for each of the nine occupational groups are:

- ▶ **Managers, directors & senior officials: Corporate Managers** have been a significant source of employment growth for many years and this is expected to continue over the coming decade. Managers & Proprietors, especially in the service sector, have also experienced steady growth in the past decade and this is expected to continue, partly linked to the rebalancing of the economy towards the private sector. Overall growth is moderated by the restructuring of the distribution and retailing sector, including the shift towards the use of the internet, which is causing the closure of many small businesses as well as some larger retailers.
- ▶ **Professional occupations:** This occupational group has experienced employment growth between 2007 and 2017. This is projected to continue, particularly for **Health professionals, Science, research, engineering and technology professionals and Business, media and public service professionals** are also expected to see significant growth. Professional occupations are projected to increase their share of overall employment.
- ▶ **Associate professional & technical occupations:** Employment has grown most rapidly over the previous decade for associate professionals engaged in the culture, media and sports occupations and for **health and social care associate professionals** (which is projected to experience one of the most rapid rates of increase of all occupations between 2017 and 2027). **Business and public service associate professionals** are also projected to see substantial growth in job numbers. Of all associate professional occupations, growth has been slowest for **science, engineering & technology associate professionals**. This pattern is projected to continue over the next decade.
- ▶ **Administrative & secretarial occupations:** A continuation of the decline in jobs for this group is expected, as Information and Communications Technology (ICT) displaces many jobs, especially amongst the **Secretarial and related occupations** (which includes secretaries, typists and word processing operators, who are especially vulnerable to being displaced by advances in computer technology). Such job losses are projected to continue.
- ▶ **Skilled trades occupations:** The 2008 recession accelerated the already significant loss of jobs in many skilled trades occupations. Job losses in manufacturing and construction have impacted negatively on **skilled metal & electrical trades, textile, printing & other skilled trades and construction & building trades**. Construction trades are not expected to recover over the coming decade due to the relatively poor prospects for the construction sector.
- ▶ **Caring, leisure & other service occupations:** Recent employment growth in these categories is expected to continue over the coming decade. **Caring personal service occupations** were one of the most rapidly growing occupational sub-major groups between 2007 and 2017, a trend that will continue through to 2027 (with an increase of almost half a million jobs projected). A key driver here is the rising demand for services from an ageing population. The majority of these jobs are expected to be taken by women.
- ▶ **Sales & customer service occupations:** This group is dominated numerically by occupations such as sales assistants and check-out operators in retail outlets. This category has seen job losses in recent years, with an increasing concentration of businesses, competition from the internet and technological developments – a trend that is expected to continue. In contrast, the demand for **customer service** (more specialist sales and customer care) occupations represent a much smaller, but rapidly growing category, which is expected to continue to increase in importance over the coming decade. These jobs are probably less vulnerable to the effects of technological change/ automation.
- ▶ **Process, plant & machine operatives:** This group includes a variety of occupations, some operating fixed plant while others drive mobile plant, as well as passenger and goods vehicles. Jobs declined quite rapidly for **process, plant & machine operators** over the last decade, linked to the loss of jobs in manufacturing. However, there were modest job gains in **transport & mobile machine drivers**. Over the coming decade, further substantial job losses are expected amongst process, **plant & machine operators**, whilst there is expected to be a very modest increase in the numbers of jobs for the **transport & mobile machine drivers** category.
- ▶ **Elementary occupations:** These are jobs that require little or no prior training. Employment levels across this group of occupations have been in long-term decline for many years, but there are some offsetting trends. The service sector, in particular, has generated a number of extra jobs in this area. The growth of employment in call centres, and fast food outlets, etc, has helped to offset the long-term trend decline in employment for **elementary occupations** in other areas. Overall, small increases in job numbers are expected, especially in the service category.

3. Shift in female jobs

- ▶ Currently, 47.7% of the UK's workforce is female – this is expected to increase to 48.6% by 2027.
- ▶ This reflects the continued trend of increasing rates of economic activity amongst females.

Figure 5: Shift in the proportion of females by occupation and sector

Sector	2017	2027	% change
All sectors	47.7%	48.6%	0.9%
Energy & Utilities	27.0%	24.9%	-2.0%
Electricity & Gas	27.3%	22.1%	-5.2%
Waste management	25.5%	25.0%	-0.4%
Water & Sewerage	29.9%	30.9%	1.0%

Source: Working Futures 2017-2027, Warwick IER & Cambridge Econometrics, February 2020.

- ▶ The proportion of females within the energy and utilities sector is expected to fall slightly.
- ▶ This is mainly driven by falls within the **Electricity & Gas** industry, where the number of female employees is expected to fall by more than 7,000, taking the overall proportion of female employees from 27.3% down to 22.1%, a fall of 5.2%.

- ▶ The main cause of this being the significant fall in the number of **Admin & Secretarial** jobs (see Figures 3 and 4 above), where they account for a greater proportion of the workforce. Moving forward, it is expected that females will make up a smaller proportion of this workforce than it has done previously (see Figure 6 below).
- ▶ Within the Waste Management and Water & Sewerage industries, females are expected to account for an increasing proportion of higher-level skilled jobs, but a declining proportion of mid-to-lower-skilled jobs.

Figure 6: Shift in the proportion of females by occupation and sector

Occupation	All Sectors	Energy & Utilities Sector	Electricity & Gas	Waste Management	Water & Sewerage
Managers, directors and senior officials	3.3%	-0.4%	-4.1%	1.8%	3.1%
Professional occupations	3.3%	1.1%	-2.6%	5.7%	5.4%
Associate professional and technical	3.3%	0.6%	-3.9%	4.3%	2.4%
Administrative and secretarial	-4.5%	-9.5%	-12.5%	-9.1%	-5.8%
Skilled trades occupations	0.5%	0.3%	-0.7%	1.2%	0.9%
Caring, leisure and other service	-0.6%	-3.8%	-7.6%	-1.5%	-0.4%
Sales and customer service	-1.8%	-3.8%	-5.0%	-4.0%	1.3%
Process, plant and machine operatives	-1.8%	-1.4%	-1.3%	-1.5%	-1.0%
Elementary occupations	-3.2%	-2.9%	-5.0%	-2.3%	-4.0%
Total	0.9%	-2.0%	-5.2%	-0.4%	1.0%

Source: Working Futures 2017-2027, Warwick IER & Cambridge Econometrics, February 2020.

4. Shift in jobs by level of qualification demanded

- ▶ Skill supply, as measured by the number of people categorised by the highest formal qualification they hold, is rising rapidly as more young people in particular, stay in education longer and acquire higher-level qualifications.
- ▶ The proportion of the labour force who are unqualified is expected to represent only a small minority by 2027.
- ▶ The average level of qualifications held is rising in all occupations.
- ▶ The demand for skills, as measured by the number of jobs with higher-level occupations, and the numbers employed holding higher-level qualifications, is projected to rise moving forward.

- ▶ Generally speaking, demand for qualifications at RQF4+ will increase by around 30% by 2027.
- ▶ At the same time, the demand for people with very low or no qualifications will fall by 37.5%.
- ▶ How much of this is due to increases in demand as opposed to the supply side changes remains a point of contention, but there is some evidence of rising demand as well as supply.
- ▶ Unfortunately, this data is not available by individual sectors – the closest definition to the energy and utilities sector is “**Primary sector & utilities**”, which in addition to energy and utilities, also includes agriculture, mining and oil & gas. Therefore, the following data should be used with caution and taken only as an indicator.

Figure 7: Shift in jobs by level of qualification demanded

Qualification level	2017	2027	Change	
			Number	%
RQF8 Doctorate	549,000	732,000	183,000	33.4%
RQF7 Other higher degree	3,839,000	5,076,000	1237,000	32.2%
RQF6 First degree	6,851,000	9,224,000	2373,000	34.6%
RQF5 Foundation degree	1,966,000	2,289,000	323,000	16.4%
RQF4 HE below degree level	1,890,000	2,458,000	568,000	30.0%
RQF3 A level & equivalent	6,917,000	6,466,000	-451,000	-6.5%
RQF2 GCSE (A-C) & equivalent	6,753,000	5,775,000	-978,000	-14.5%
RQF1 GCSE (below grade C) & equivalent	4,477,000	2,934,000	-1543,000	-34.5%
No Qualification	1,607,000	867,000	-739,000	-46.0%
All qualifications	34,848,000	35,821,000	973,000	2.8%

Source: Working Futures 2017-2027, Warwick IER & Cambridge Econometrics, February 2020.
Note: Values are rounded to the nearest 1,000. Totals may not sum due to rounding.

Figure 8: Shift in jobs by level of qualification demanded within “Primary sector & utilities”

Qualification level	2017	2027	Change	
			Number	%
RQF8 Doctorate	9,000	13,000	4,000	48.9%
RQF7 Other higher degree	54,000	72,000	18,000	33.0%
RQF6 First degree	136,000	179,000	43,000	31.4%
RQF5 Foundation degree	33,000	45,000	13,000	38.7%
RQF4 HE below degree level	76,000	97,000	21,000	27.5%
RQF3 A level & equivalent	171,000	148,000	-23,000	-13.6%
RQF2 GCSE (A-C) & equivalent	176,000	151,000	-26,000	-14.5%
RQF1 GCSE (below grade C) & equivalent	124,000	83,000	-41,000	-33.3%
No Qualification	79,000	55,000	-24,000	-30.7%
All qualifications	858,000	842,000	-16,000	-1.8%

Source: Working Futures 2017-2027, Warwick IER & Cambridge Econometrics, February 2020.
Note: Values are rounded to the nearest 1,000. Totals may not sum due to rounding.

▶ Although the number of jobs within the energy and utilities sector is predicted to increase by 15,000 by 2027, within this wider definition of “Primary sector & utilities”, the number of jobs is expected to fall by 16,000 (1.8%).

▶ Again, demand for higher-level qualifications is expected to increase, while demand for low and no qualifications will fall by 32.3% (slightly less than the fall expected across all sectors).

5. Total requirement for people

▶ In addition to the expected growth in the number of jobs (+973,000) across all sectors (“expansion demand”), a further 11.6million people will leave the workforce through retirement and other reasons (“replacement demand”)².

▶ This results in a total requirement for 12,554,000 people between 2017 and 2027.

Figure 9: Total requirement by sector

	2017	2027	Net Change	Replacement Demand	Total Requirement
All sectors	34,848,000	35,821,000	973,000	11,581,000	12,554,000
Energy & Utilities	352,000	367,000	15,000	107,000	122,000
Electricity & Gas	144,000	145,000	1,000	42,000	43,000
Waste Management	149,000	158,000	9,000	47,000	56,000
Water & Sewerage	59,000	64,000	5,000	18,000	23,000

Source: Working Futures 2017-2027, Warwick IER & Cambridge Econometrics, February 2020.
Note: Values are rounded to the nearest 1,000. Totals may not sum due to rounding.

▶ Within the energy and utilities sector, an additional 107,000 people will be required to replace those that leave the labour force – resulting in a total requirement of 122,000.

▶ Although the total number of jobs is expected to remain stable within the **Electricity & Gas** industry (+1,000), replacement demand will result in an additional 42,000 people being required.

▶ The **Water & Sewerage** industry will require an extra 18,000 people, on top of the 5,000 new jobs in the industry.

▶ A total of 56,000 people will be required in the Waste Management industry – 47,000 replacements in addition to 9,000 new jobs.

▶ The table overleaf reports the expected expansion and replacement demand for a detailed list of 25 separate occupations.

▶ The occupations highlighted in green are those which are relevant to the energy and utilities sector.

▶ These data relate to all sectors of the economy – unfortunately, these data are not available for the energy and utilities sector alone.

² These estimates do not include the requirement to replace people that leave their current jobs and take up employment in another (i.e. staff turnover). This is assumed to “zero sum” within industries and across the economy as a whole.

Figure 10: Total requirement by detailed occupation (UK, all sectors)

Occupation	2017	2027	Net change in jobs	Replacement demand	Total requirement
11 Corporate managers and directors	2,526,000	2,875,000	349,000	955,000	1,303,000
12 Other managers and proprietors	1,040,000	1,130,000	90,000	426,000	516,000
21 Science, research, engineering and technology professionals	1,754,000	1,914,000	159,000	463,000	623,000
22 Health professionals	1,543,000	1,773,000	230,000	606,000	836,000
23 Teaching and educational professionals	1,721,000	1,933,000	212,000	632,000	845,000
24 Business, media and public service professionals	1,856,000	2,075,000	219,000	660,000	879,000
31 Science, engineering and technology associate professionals	671,000	680,000	9,000	186,000	195,000
32 Health and social care associate professionals	530,000	613,000	83,000	222,000	305,000
33 Protective service occupations	386,000	375,000	-11,000	88,000	77,000
34 Culture, media and sports occupations	840,000	892,000	52,000	279,000	331,000
35 Business and public service associate professionals	2,457,000	2,749,000	292,000	825,000	1,117,000
41 Administrative occupations	2,932,000	2,688,000	-244,000	960,000	717,000
42 Secretarial and related occupations	749,000	389,000	-360,000	192,000	-168,000
51 Skilled agricultural and related trades	355,000	360,000	5,000	130,000	135,000
52 Skilled metal, electrical and electronic trades	1,228,000	1,044,000	-184,000	290,000	106,000
53 Skilled construction and building trades	1,069,000	1,064,000	-5,000	308,000	303,000
54 Textiles, printing and other skilled trades	781,000	658,000	-123,000	202,000	79,000
61 Caring personal service occupations	2,578,000	3,057,000	478,000	1,075,000	1,553,000
62 Leisure, travel and related personal service occupations	767,000	754,000	-12,000	261,000	248,000
71 Sales occupations	2,232,000	2,078,000	-154,000	673,000	519,000
72 Customer service occupations	697,000	799,000	102,000	234,000	336,000
81 Process, plant and machine operatives	910,000	709,000	-201,000	207,000	5,000
82 Transport and mobile machine drivers and operatives	1,270,000	1,265,000	-4,000	451,000	446,000
91 Elementary trades and related occupations	555,000	531,000	-24,000	147,000	123,000
92 Elementary administration and service occupations	3,401,000	3,416,000	15,000	1,110,000	1,125,000
All occupations	34,848,000	35,821,000	973,000	11,581,000	12,554,000

Source: Working Futures 2017-2027, Warwick IER & Cambridge Econometrics, February 2020.

Note: Values are rounded to the nearest 1,000. Totals may not sum due to rounding.



- ▶ There is only one occupation which is expected to experience a negative total requirement - Secretarial and related occupations (-168,000) – as discussed on page 5.
- ▶ All other occupations are expected to experience a positive total requirement for people.
- ▶ The table below shows the total requirement, by sector, within each of the four nations and nine English regions.
- ▶ The geographic areas with the highest total requirement within Electricity & Gas are the South East, East Midlands and Scotland.
- ▶ Within Waste Management London, the South East and South West will experience the highest total requirement.
- ▶ The total requirement for people within Water & Sewerage is highest in the South East, but otherwise generally evenly spread across the UK.

Figure 11: Total requirement (expansion demand + replacement demand) by sector and nation and English region

Nation/ Region	All Sectors	Energy & Utilities Sector	Electricity & Gas	Waste Management	Water & Sewerage
UK	12,554,000	122,000	43,000	56,000	23,000
England	10,686,000	100,000	35,000	46,000	19,000
East Midlands	841,000	12,000	6,000	4,000	2,000
East of England	1,165,000	10,000	2,000	5,000	3,000
London	2,186,000	12,000	3,000	8,000	1,000
North East	407,000	4,000	2,000	1,000	1,000
North West	1,295,000	13,000	4,000	7,000	2,000
South East	1,751,000	20,000	9,000	7,000	4,000
South West	1,067,000	13,000	3,000	7,000	3,000
West Midlands	1,045,000	11,000	4,000	4,000	3,000
Yorkshire & Humber	929,000	8,000	2,000	4,000	2,000
Northern Ireland	307,000	4,000	1,000	2,000	1,000
Scotland	1,018,000	11,000	6,000	4,000	2,000
Wales	543,000	8,000	2,000	4,000	2,000

Source: Working Futures 2017-2027, Warwick IER & Cambridge Econometrics, February 2020.
 Note: Values are rounded to the nearest 1,000. Totals may not sum due to rounding.



6. Concluding remarks

- ▶ Over the course of the next decade, growth in the number of jobs in the UK will be modest, at 0.3% per year.

- ▶ Jobs growth within the energy and utilities sector will be slightly higher, driven by growth within the **Water & Sewerage** and **Waste Management** industries.

- ▶ The trend towards higher-skilled jobs and away from lower-skilled jobs will continue. **Admin & Secretarial occupations** will see the largest reduction in jobs.

- ▶ The proportion of females in the UK workforce is expected to increase slightly, driven by increasing level of economic activity amongst females.

- ▶ Due largely to the nature of the occupational shifts expected within the energy and utilities sector (i.e. away from mid-level occupations dominated by females), particularly within the Electricity & Gas sector, the proportion of females in the sector is expected to fall slightly. However, females are expected to account for an increased proportion of higher-level jobs within **Waste Management** and **Water & Sewerage**.

- ▶ These occupational shifts will result in the continuation of greater demands for higher-level qualifications, and fewer jobs available for those with low-level or no qualifications.

- ▶ All actors in the labour market need to focus not just on the projected changes in employment levels (+15,000 within the energy and utilities sector), but also on replacement needs (+107,000 for the sector).
 - ▶ Even in occupations where total employment is set to decline, such needs must be met in order to support existing operations.

 - ▶ This means that there are good career opportunities for new entrants in many such areas, even where overall employment levels may be falling.

7. Comparison between these estimates and those published in the Workforce Renewal and Skills Strategy

Due to the very different methodologies employed to produce the employment projections detailed above and the number of vacancies predicted for the sector within the Skills Strategy, comparisons between the two should be made with extreme caution.

While Working Futures estimates the total requirement for **people** over the decade at 122,000, the Skills Strategy estimates 277,000 **vacancies** will need to be filled.

There are two principal differences in approach between the two sets of estimates:

- ▶ While the Skills Strategy includes the manufacturing and construction supply chain and the Gas Utilisation workforce (e.g. domestic heating engineers), Working Futures does not. This adds an estimated 208,000 people to the sector's workforce

- ▶ Working Futures does not include an estimate of the number of vacancies caused by staff turnover (it assumes that job mobility within a sector will sum to zero). However, as the Skills Strategy is predicting the total number of vacancies that will need filling, not necessarily the number of "new" people needed by the sector, the impact of staff turnover is included.

There are also small differences in the estimated number of new jobs to be created and the number of retirements predicted over the decade; but generally speaking, these are within about 10% of each other.