UK CONTINENTAL SHELF OFFSHORE WORKFORCE DEMOGRAPHICS REPORT 2015
Contents

1. Foreword ........................................ 5
2. Summary of Findings ............................ 6
3. Introduction ..................................... 7
4. Total Offshore Workforce ..................... 8
5. Core Workforce .................................. 15
6. Residential Locations and Nationalities of the Workforce .................................... 22
7. Female Workforce ............................... 25
8. Workforce Age Analysis ....................... 28
1. Foreword

Welcome to the ninth edition of Oil & Gas UK’s Demographics Report, which takes an in-depth look at the offshore workforce employed by the industry on the UK Continental Shelf (UKCS) in 2014. Since the publication of the last edition in May 2014, the upstream industry has been adjusting to a dramatically different business landscape, where the impact of oil price, combined with the challenge of operating in a high cost, mature basin, is having a negative effect on future activity. While the full impact of these changes on the offshore workforce is yet to be realised, the data in this report will provide a baseline for measuring how these prevailing business conditions affect employment levels.

Two new elements have been included in the report for the first time this year: the first provides a comparison of the numbers and roles of female workers on the UKCS with those of our North Sea neighbours in The Netherlands, Denmark and Norway, reflecting the industry’s outward-looking approach to learning from other oil and gas provinces. The second element consists of age profiles for the core offshore workforce (those who work offshore for 100 nights or more per year) as well as the non-core groups. This extra information augments the data we provide for the total offshore workforce and provides additional evidence to refute the public perception that the oil and gas workforce is ageing, or part of what has been described as ‘the great crew change’.

As always, Oil & Gas UK would welcome any feedback you have on the report or ideas for future editions. If you would like to get in touch with either, or indeed if you have any questions, please email me at athom@oilandgasuk.co.uk.

Dr Alix Thom
Oil & Gas UK’s employment and skills issues manager
2. Summary of Findings

The data used in this report are drawn from the Vantage Personnel On Board (POB) system and have been analysed to identify trends in the UK oil and gas offshore workforce.

- 64,113 people travelled offshore in 2014 representing a 3.6 per cent (61,892) increase from 2013.
- The number of core workers (those working over 100 nights a year offshore) rose to 28,990 in 2014 from 27,749 in 2013. The core workforce represented 45 per cent of the total offshore workforce.
- The total number of personnel travelling offshore continued to rise – albeit a lesser year-on-year increase than has been seen previously – despite the average oil price dropping from $109 to $99 per barrel between 2013 and 2014.
- There was an 18 per cent (2,335) increase in those working for operators in 2014 compared to a 0.2 per cent (114) decrease in contractor personnel.
- The majority of the total offshore workforce worked for a single operator and travelled to a single location last year.
- Almost 50 per cent of the total workforce worked in the central North Sea region.
- The core offshore workforce produced the equivalent of 49,327 barrels of oil per person in 2014.
- Over 27 per cent of offshore workers who reside in the UK are based in Aberdeen City or Aberdeenshire.
- 84 per cent of the offshore workforce in 2014 were of British nationality.
- Women continued to represent 3.6 per cent of the total offshore workforce last year and 2.9 per cent of the core workforce. More female workers perform catering roles than any other discipline.
- The average age of the offshore worker has remained at 40.8 years of age.
3. **Introduction**

This report provides an up-to-date analysis of demographics data for the offshore workforce on the UK Continental Shelf (UKCS) between 2006 and 2014.

The offshore population comprises a core workforce, defined as those who work offshore for 100 nights or more in one calendar year, and those who have travelled offshore for at least one but less than 100 nights. Data are extracted from the Vantage Personnel on Board (POB) system that tracks the movement of personnel to and from offshore installations.

The report will consider the differences that arise between the core and total workforce and between operators and contractors, as well as analysing the workers’ UK residential locations, the nationalities represented by the workforce, the female demographic, the age profile of the workforce and how these have changed.
4. Total Offshore Workforce

The core offshore workforce (comprising those who have been offshore for 100 or more nights in a single calendar year) represented 28,990 workers out of a total offshore workforce of 64,113. The core and non-core offshore workforce represents less than one fifth of the total number of employees working directly in, or as a result of activities generated by, the UK offshore oil and gas industry, which at the start of 2014, totalled more than 400,000.

The total offshore workforce (64,113) increased by 2,221 workers (3.6 per cent) from 2013 to 2014 and compares with an increase of 4,910 workers (8.6 per cent) from 2012 to 2013. The continued rise in total offshore personnel may be attributed to the ongoing robust maintenance programmes, together with the development of major offshore projects such as Nexen’s Golden Eagle and BP’s Clair Ridge. However, the softening of the year-on-year increase in total offshore personnel last year could be due to the completion of a number of 2013 projects.

As was seen in 2013, there was an increase in employees in all offshore disciplines, with no particular sub-sector or role subject to higher than average growth.
Figure 2 provides a breakdown of the total offshore workforce by those working for operators and those employed by contracting companies.

There was a noticeable change last year in this area with an 18 per cent increase in the number of personnel working for operators to 15,306. The number of contractor personnel, meanwhile, decreased by 0.2 per cent to 48,807. This is an acute difference from 2013, when operator and contractor employee levels increased by 4.2 and ten per cent, respectively.

The contractor community represented 76 per cent of the total offshore workforce in 2014 compared with 80 per cent in the previous year.

Figure 2: Total Personnel Travelling Offshore for Operators and Contractors
Of the total non-core workers (35,123), the largest proportion (10,128) continued to travel offshore for ten nights or less. Of the total offshore workforce, 15.8 per cent travelled offshore for ten nights or less.

The most noticeable increase is found in the number of personnel travelling offshore for 91 to 100 days, with a 12.4 per cent rise from 1,820 to 2,045. Workers spending between 31 to 40 and 41 to 50 days offshore have seen increases of 11.5 per cent and ten per cent, respectively.

*Figure 3: The Number of Nights Spent Offshore by the Non-Core Workforce in 2012, 2013 and 2014*
The correlation observed until 2012 between the average oil price and the total number of offshore personnel, with a one-year time lag, does not continue. From 2013 to 2014, there was a nine per cent drop in the average oil price per barrel (bbl) and a 3.6 per cent rise in the total offshore workforce. This can be compared with 2013 when there was a 2.7 per cent drop in average oil price alongside an 8.6 per cent increase in offshore workers.

*Figure 4: The Total Number of Personnel Travelling Offshore Versus the Average Oil Price*
There is a continuing trend when looking at the breakdown of locations visited and the number of operators worked for by the offshore workforce, with the majority travelling to a single location and working for one operator.

**Figure 5: The Number of Locations Visited by the Total Offshore Workforce in 2014**

![Figure 5: The Number of Locations Visited by the Total Offshore Workforce in 2014](source: Vantage POB)

**Figure 6: The Number of Operators Worked for by the Total Offshore Workforce in 2014**

![Figure 6: The Number of Operators Worked for by the Total Offshore Workforce in 2014](source: Vantage POB)
Similar to 2013, almost half of the offshore workforce travelled to the central North Sea last year. There was a 20.8 per cent (447) decrease in the numbers working in the west of Shetland (W of S) overall.

**Figure 7: Geographical Distribution of the Total Offshore Workforce on the UK Continental Shelf**

<table>
<thead>
<tr>
<th>Region</th>
<th>No. of Males &amp; Females</th>
<th>No. of Males</th>
<th>No. of Females</th>
<th>% of Total Workforce</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>West of Shetland</strong></td>
<td>1,704</td>
<td>1,605</td>
<td>99</td>
<td>2.7</td>
</tr>
<tr>
<td><strong>Northern North Sea</strong></td>
<td>8,482</td>
<td>8,196</td>
<td>286</td>
<td>13.2</td>
</tr>
<tr>
<td><strong>Central North Sea</strong></td>
<td>31,408</td>
<td>30,076</td>
<td>1,332</td>
<td>49</td>
</tr>
<tr>
<td><strong>Morecambe Bay (including East Irish Sea)</strong></td>
<td>1,261</td>
<td>1,220</td>
<td>41</td>
<td>2</td>
</tr>
<tr>
<td><strong>Southern North Sea</strong></td>
<td>6,023</td>
<td>5,863</td>
<td>160</td>
<td>9.4</td>
</tr>
<tr>
<td><strong>Multiple Sectors</strong></td>
<td>15,235</td>
<td>14,850</td>
<td>385</td>
<td>23.8</td>
</tr>
</tbody>
</table>

1 All percentages displayed have been rounded and so do not add up to 100.

Source: Vantage POB
Figure 8 represents the geographical distribution of the workforce as a cluster graph. It is evident that the distribution has been relatively stable since the first data collection of offshore demographics in 2006.

![Geographical Distribution of the Total Offshore Workforce on the UK Continental Shelf](image)

There have been some noticeable changes between 2006 and 2014, particularly in the W of S region, with the number of male and female workers rising by 40.1 per cent and 57.1 per cent, respectively. The only percentage decrease between 2006 and 2014 was found in the female workforce travelling to the southern North Sea, whilst the most noticeable percentage increases were for the female numbers travelling to the northern North Sea and the male workers travelling to Morecambe Bay. It is interesting to note that exactly the same number of female workers travelled to multiple sectors throughout the UKCS in 2006 as they did in 2014.

<table>
<thead>
<tr>
<th>Sectors</th>
<th>2006</th>
<th>2014</th>
<th>% Difference 2006 to 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. Males</td>
<td>No. Females</td>
<td>No. Males</td>
</tr>
<tr>
<td>Central North Sea</td>
<td>21,805</td>
<td>903</td>
<td>30,076</td>
</tr>
<tr>
<td>Morecambe Bay (including East Irish Sea)</td>
<td>814</td>
<td>30</td>
<td>1,220</td>
</tr>
<tr>
<td>Northern North Sea</td>
<td>6,255</td>
<td>181</td>
<td>8,196</td>
</tr>
<tr>
<td>Southern North Sea</td>
<td>5,522</td>
<td>208</td>
<td>5,863</td>
</tr>
<tr>
<td>West of Shetland</td>
<td>1,146</td>
<td>63</td>
<td>1,605</td>
</tr>
<tr>
<td>Multiple Sectors</td>
<td>12,959</td>
<td>385</td>
<td>14,850</td>
</tr>
</tbody>
</table>

Source: Vantage POB

Note: Data collection for the Morecambe Bay/East Irish Sea area started in 2009.
5. **Core Workforce**

The core workforce comprises those who have been offshore for 100 or more nights in a single calendar year. The number of core personnel increased from 27,749 in 2013 to 28,990 in 2014, a 4.5 per cent rise. This is the lowest year-on-year increase since the first Demographics Report was produced in 2006, with the exception of the 1.4 per cent decrease in 2010.

Common rotational patterns are either equal time or two weeks on, three weeks off. Due to current industry cost and efficiency challenges, a number of companies have now moved to an equal time rota, while other companies continue to consider such a move. It is anticipated that core workforce numbers may decline in 2015.

![Figure 10: Number of Core Personnel Travelling Offshore](image)

The number of core workers continued its upward trajectory in 2014 despite rising development and operating costs and continued to account for 45 per cent of the total offshore workforce.
The number of offshore locations visited by the core workforce almost mirrors those visited by the total offshore workforce. Forty-nine per cent (31,513) of the total offshore workforce visited one location, compared with 51 per cent (14,701) of the core personnel. Twenty per cent of the total and core workforce visited two locations in 2014. This is a similar breakdown as in previous years, with 50 per cent of core personnel travelling to a single location in both 2013 and 2012.

Source: Vantage POB
Figure 13 shows that 70 per cent (20,268) of core personnel worked for a single operator last year.

*Figure 13: The Number of Operators Worked for by the Core Workforce in 2014*

Source: Vantage POB
5.1. Comparative Trends of the Core Workforce

As with the total workforce, a correlation was observed until 2012 between the average oil price per bbl and the number of core personnel, with a one-year time lag. Figure 14 illustrates the disconnection between the two since 2012, showing the continued increase in core workforce and the reduction in average oil price.

*Figure 14: The Number of Core Personnel Travelling Offshore Versus the Oil Price*

Source: Vantage POB, Argus Media
2014 saw the smallest year-on-year reduction since UK production peaked in 2000. This is in stark contrast to the eight per cent fall seen in 2013. Improved output from existing facilities and investment in new production were the key drivers.¹

**Figure 15: The Relationship between the Number of Core Workers and Production**

![Graph showing the relationship between the number of core workers and production.](image)

Likewise, the following graphs show that core workforce numbers steadily increased despite a reduction in drilling activity and alongside an increase in operating costs and capital expenditure.

**Figure 16: The Relationship between the Number of Core Workers and Drilling Activity**

![Graph showing the relationship between the number of core workers and drilling activity.](image)

¹ Oil & Gas UK’s Activity Survey 2015 is available to download at www.oilandgasuk.co.uk/activitiesurvey
Figure 17: The Relationship between the Number of Core Workers and Overall Expenditure

Source: Vantage POB, Oil & Gas UK

Figure 18: The Relationship between the Number of Core Workers and Operating and Capital Expenditure Costs

Source: Vantage POB, Oil & Gas UK
Figure 19 illustrates the significant decline in the barrels of oil equivalent (boe) produced per worker over a nine-year period. In 2006, 151,121 boe were produced per core worker, in stark comparison to 2014 when 49,327 boe were produced. This represents a 67.4 per cent reduction. However, it is important to understand that this reflects a trend associated with the maturity of the basin; many fields are past peak production and new fields are smaller with more difficult to access resources. There has also been a decline in production efficiency, which is particularly apparent between 2010 and 2013.

**Figure 19: Total Offshore Workforce and Core Workforce against Production**

Source: Vantage POB, DECC
6. Residential Locations and Nationalities of the Workforce

6.1 Residential Locations

Figure 20 maps the UK home addresses of personnel working on the UKCS, together with the density. Over a quarter of those who reside in the UK, 15,146 workers, live in Aberdeen city and shire. 13.8 per cent (7,711) live in the north east of England and 4.5 per cent (2,543) are based in and around Norwich.

These percentages are slightly less than in 2013, when 28 per cent of UK-based personnel lived in Aberdeen city and shire and 16 per cent were based in the Tyneside and Teesside areas. This reveals that more workers from outwith key hubs are joining the sector.

*Figure 20: A Map Illustrating the UK Home Addresses of Workers on the UK Continental Shelf*
6.2 Workforce Nationalities

Of the offshore workforce, 53,881 workers were of British nationality in 2014, an increase of 5.3 per cent from 2013 when there were 51,177 British personnel. This represents 84 per cent of the total offshore workforce last year, an increase of 1.3 per cent from the previous year.

![Figure 21: The Number of Offshore Workers of British Nationality](chart)

Although the vast majority of offshore personnel are of British nationality, Figure 22 overleaf highlights the diversity of the remaining 10,232 workers. Nationalities such as Albanian, Bhutanese, Israeli, Panamanian and Zambian have re-entered the UKCS in 2014, with others, such as El Salvadorian, Jordanian, Peruvian and Uzbekistani, leaving the sector. The largest decrease was in the Norwegian workforce, falling by 330 workers, from 1,729 in 2013 to 1,399 in 2014. The non-British workforce accounted for 17.3 per cent of total offshore personnel in 2013, which fell to 16 per cent last year.
The top 10 non-British nationalities working on the UKCS are shown in Figure 23 below. The percentage of Norwegian workers has declined from 16.1 per cent in 2013 to 13.7 per cent last year, whilst the proportions of Dutch, Polish, American, Irish, French and Romanian workers have all increased. Canadians have fallen out of the top ten while Italians have entered the list.

### Figure 23: The Top Ten Non-British Nationalities Working on the UK Continental Shelf

<table>
<thead>
<tr>
<th>Nationality</th>
<th>Proportion</th>
<th>No. of Personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Norwegian</td>
<td>13.7%</td>
<td>1,399</td>
</tr>
<tr>
<td>2. Dutch</td>
<td>10.4%</td>
<td>1,060</td>
</tr>
<tr>
<td>3. Polish</td>
<td>6.3%</td>
<td>648</td>
</tr>
<tr>
<td>4. Irish</td>
<td>4.9%</td>
<td>502</td>
</tr>
<tr>
<td>5. American (USA)</td>
<td>4.7%</td>
<td>481</td>
</tr>
<tr>
<td>6. French</td>
<td>2.9%</td>
<td>298</td>
</tr>
<tr>
<td>7. Italian</td>
<td>2.7%</td>
<td>280</td>
</tr>
<tr>
<td>8. Romanian</td>
<td>2.5%</td>
<td>251</td>
</tr>
<tr>
<td>9. Lithuanian</td>
<td>2.2%</td>
<td>223</td>
</tr>
<tr>
<td>10. Danish</td>
<td>1.9%</td>
<td>199</td>
</tr>
<tr>
<td>Other</td>
<td>47.8%</td>
<td>4,891</td>
</tr>
<tr>
<td>Total Number of Non-British Employees</td>
<td></td>
<td>10,232</td>
</tr>
</tbody>
</table>

Source: Vantage POB
7. Female Workforce

An additional 66 women travelled offshore in 2014, 43 of which were part of the core workforce. This brought the number of female offshore workers to 2,303 representing 3.6 per cent of the total offshore workforce, as in 2013. Women have continued to make up 2.9 per cent of the core workforce since 2012.

Despite the focus on encouraging gender diversity within the oil and gas sector, female representation within the offshore sector is still disproportionately low. It is interesting to note that this issue is not unique to the UK, with the Dutch and Danish sectors reporting female percentages of 3.7 per cent and 5.2 per cent, respectively. Whilst these levels are higher than in the UK, they remain disappointingly low.

A comparison can be made with the Norwegian sector, where 3.5 per cent of the offshore workforce was female in 1985, the same level as the UK sector in 2006. In 2010, the percentage in Norway had risen to nine per cent, whilst the UK percentage had barely increased and sat at 3.7 per cent. However, though the Norwegian percentage hit nine per cent in 2000 it remained static for the next decade.

Although the Norwegian sector has a higher percentage of female personnel offshore, it is worth noting the disciplines in which the women work. Fifty-four per cent of them worked in catering in 2010 compared with 29.7 per cent in the UK sector in the same year. As can be seen in Figure 24, catering continues to be a key discipline for women in the UK offshore workforce, with those carrying out maintenance activities accounting for the second highest area of employment.

Figure 24: Breakdown of Female Personnel by Key Discipline

Source: Vantage POB

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4 Data were provided through the Vantage POB tracking system.
5 See http://bit.ly/1g3LROq
Figure 25: A Comparison of the Total Number of Female Workers with those in Non-Catering Roles

![Graph showing comparison of female workers and those in non-catering roles from 2006 to 2014.](image)

**Source:** Vantage POB

Figure 26: The Total Number of Female Workers and those in Non-Catering Roles

<table>
<thead>
<tr>
<th>Year</th>
<th>Excluding Catering</th>
<th>Percentage</th>
<th>All Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>1,279</td>
<td>72.8%</td>
<td>1,756</td>
</tr>
<tr>
<td>2007</td>
<td>1,386</td>
<td>73.7%</td>
<td>1,881</td>
</tr>
<tr>
<td>2008</td>
<td>1,362</td>
<td>72.2%</td>
<td>1,887</td>
</tr>
<tr>
<td>2009</td>
<td>1,326</td>
<td>70%</td>
<td>1,895</td>
</tr>
<tr>
<td>2010</td>
<td>1,289</td>
<td>70.3%</td>
<td>1,833</td>
</tr>
<tr>
<td>2011</td>
<td>1,371</td>
<td>71%</td>
<td>1,930</td>
</tr>
<tr>
<td>2012</td>
<td>1,539</td>
<td>72%</td>
<td>2,138</td>
</tr>
<tr>
<td>2013</td>
<td>1,559</td>
<td>69.7%</td>
<td>2,237</td>
</tr>
<tr>
<td>2014</td>
<td>1,642</td>
<td>71.3%</td>
<td>2,303</td>
</tr>
</tbody>
</table>

**Source:** Vantage POB
As in 2013, the highest concentration of females working offshore in 2014 remained in the 24 to 29 age category, followed by the 30 to 34 bracket. Last year saw a 1.4 per cent increase in the 30 to 34 category and a one per cent increase in the 35 to 39 bracket. This shows a more stable picture than in the previous year, when there was a five per cent increase and 4.8 per cent decrease, respectively.

Figure 27: Female Offshore Population Versus Male Population, in 2014
8. Workforce Age Analysis

The average age of the offshore worker remained static in 2014 at 40.8 years, refuting the myth of an ageing workforce. Once again, the majority of personnel fall within the younger age categories with a steady decline as the workforce gets older.

*Figure 28: The Age Profile of the Offshore Workforce from 2010 to 2014*
When the age profile of the core workforce is compared with that of non-core personnel, it becomes evident that the average age of the core crew is slightly older at 42.2 compared to 39.6 for the non-core worker. There is a more gradual decline in the numbers as the non-core workforce gets older. This is the first Demographics Report to include a breakdown of the non-core and core age profile.

**Figure 29: The Age Profile of the Core Workforce Versus the Non-Core Workforce in 2014**
Figure 30 compares the number of workers in the 23 to 28 and 60 to 65 age brackets. In 2014, the percentage rises in both categories were much lower, at 3.6 per cent and 2.9 per cent, respectively, compared with 14.7 per cent and nine per cent in 2013. This clearly demonstrates that the age profile of offshore personnel remained constant and that ‘the great crew change’ was anecdotal.

*Figure 30: The Number of Workers Aged 23 to 28 Compared with those Aged 60 to 65 in 2014*
Figure 31 compares the change in each age range between 2006 and 2013 and 2006 and 2014. There is a greater difference in most brackets from 2006 to 2014, with the exception of the under 18 and 18 to 23 categories where there were decreases by eight and 228 workers, respectively. The greatest increase is evident between the ages of 30 and 34 with a difference of 761 workers, followed by the 24 to 29 category with a difference of 636. There was a decline in the older brackets from 2012 to 2013 but this has since reversed.

**Figure 31: The Change in the Number of Workers in Each Age Range for the Total Offshore Workforce between 2006 and 2014 and between 2006 and 2013**

![Bar chart showing the change in number of workers in each age range between 2006 and 2013 and between 2006 and 2014. The greatest increase is evident between the ages of 30 and 34 with a difference of 761 workers, followed by the 24 to 29 category with a difference of 636. There was a decline in the older brackets from 2012 to 2013 but this has since reversed.](source: Vantage POB)
When looking at the core workforce separately, it is evident that the greatest change, as in 2013, was in the 30 to 34 age category with a 2,194 increase in workers. The same pattern as previous years emerges when looking at the core workforce in its entirety with virtually no change in the under 18 category, significant increases in both the 24 to 29 and 30 to 34 brackets, followed by a sharp reduction in the scale of the increase in the remaining age ranges.

*Figure 32: The Change in the Number of Core Workers in Each Age Range between 2006 and 2014*
Figure 33 illustrates the operator/contractor split with the majority in each age range working for contracting companies. This is most notable in the under 18 category, of which 91.5 per cent of personnel worked for contracting companies; although there are only 293 employees in this age bracket in total. In the 24 to 29 and 30 to 34 age categories, about 80 per cent work for contracting companies. In 2013, the most noticeable difference was in the 30-34 age bracket, with 78.5 per cent of employees working for contracting companies, indicating that the split between operators and contractors remained relatively steady.

**Figure 33: The Breakdown in Personnel Working for Operators and Contractors**

Given the challenges facing the industry at the moment, this report – together with 2015 data – is likely to highlight important changes in the workforce profile next year.