

# Industrial manufacturing and engineering



## Overview of industrial manufacturing and engineering in the Highlands and Islands

The sector includes industrial manufacturing and fabrication activities excluding food and drink manufacturing which is covered in a separate sector profile. Engineering includes technical testing and analysis, engineering consultancy services, architecture and related disciplines. IT-related engineering and consultancy is excluded. The oil and gas sector and related activities such as platform inspection, repair and maintenance (IRM) are included within the sector.<sup>1</sup>

### Employment

- The industrial manufacturing and engineering sector employed over 13,000 (excluding self-employed) in the Highlands and Islands in 2005, representing 7% of all employment in the HIE area (compared with 11% in Scotland) and around 12,500 FTEs.<sup>2</sup>
- 5% of industrial manufacturing and engineering employment in Scotland is in the Highlands and Islands.<sup>3</sup>
- 77% of the sector's jobs in the Highlands and Islands were in manufacturing, 19% were in engineering and 4% were in oil and gas.<sup>4</sup>
- There are over 100,000 skilled jobs in Scotland employed in the oil and gas sector and supply chain. In the Highlands and Islands, the oil and gas sector provides around 630 direct FTE jobs in Shetland, mostly at Sullom Voe, and a further 200 indirect FTEs (harbour airports and logistics). The Flotta Oil terminal in Orkney employs around 200 FTEs.<sup>5</sup>
- Typical full-time hourly pay (excluding overtime) of manufacturing employees was £10.05 and engineering employees was £13.22 in the Highlands and Islands in April 2006, (respectively 1% higher and 33% higher than the typical full-time weekly wage of £9.91 across all sectors).<sup>6</sup>
- Typical full-time hourly pay (excluding overtime) of employees in the oil and gas sector in Scotland was £16.41 in April 2006, (54% higher than the typical Scottish full-time weekly wage of £10.67 across all sectors).<sup>7</sup>

### Business units

- The industrial manufacturing and engineering sector in the Highlands and Islands includes almost 1,500 individual businesses, 87% of which employ 1-10 employees in 2005.<sup>8</sup>

<sup>1</sup> There is some overlap with other sector profiles in employment estimates for the HIE Network industrial manufacturing and engineering sector profile and manufacturing activities of LifeScan Scotland (HIE Network health science sector profile). There is also some overlap with the HIE Network environmental jobs sector profile, eg in relation to IRM work, and with the HIE Network renewable energy sector profile.

<sup>2</sup> ABI 2005 (excludes self-employed)

<sup>3</sup> ABI 2005 (excludes self-employed)

<sup>4</sup> ABI 2005 (excludes self-employed)

<sup>5</sup> HIE Network 2007

<sup>6</sup> Annual survey of hours and earnings (ASHE) 2006, ONS

<sup>7</sup> Annual survey of hours and earnings (ASHE) 2006, ONS. Typically, wages across all sectors in the Highlands and Islands were 92.9% of the Scottish level.

<sup>8</sup> ABI 2005 (excludes self-employed). 83% of all industries in the Highlands and Islands (cf 80% in Scotland) employ 1-10 employees.

- 62% of these businesses are in the manufacturing sector, 36% are in engineering and 2% are in oil and gas.<sup>9</sup>
- The North of Scotland Industries Group (NSIG), which promotes businesses in the north of Scotland, has 60 members, many within the manufacturing, engineering, renewables and oil and gas sectors.

## Output

- Gross output from manufacturing in 2004 in the Highlands and Islands was £2.1billion.<sup>10</sup> Total Gross Value Added (GVA) from manufacturing in the Highlands and Islands was £895million, or £49,100 per employee (compared with GVA per employee across all industries in Scotland of £42,200).<sup>11</sup>
- Gross output from engineering in 2004 in the Highlands and Islands was £134million.<sup>12</sup> Total GVA from engineering in the Highlands and Islands was £91million, or £41,300 per employee (compared with GVA per employee across all industries in Scotland of £42,200).<sup>13</sup>
- Oil and gas output from the North Sea peaked in 2000 and is expected to continue declining with only a temporary increase in 2007-08. The UK produced 3.2 million barrels of oil equivalent (boe) per day in 2005, which is forecast to drop to 2.7 million boe by 2010.<sup>14</sup>
- GVA per employee in the oil and gas sector in Scotland in 2004 was £684,000, the highest of any sector.<sup>15</sup>

## Product markets

### Key markets include:

- IRM – potential market of £130million for UK yards over a five-year period.<sup>16</sup>
- Subsea – strong exports from UK firms in a growing market valued at £4-£5 billion in the UK.<sup>17</sup>
- Offshore decommissioning – 420 platforms in the UK with estimated £6billion to be spent in coming 10 years.<sup>18</sup> Decommissioning of the Frigg field which ceased production in 2004 employs around 20 workers in Shetland, across a consortium of companies.<sup>19</sup>
- The renewables market, notably onshore and offshore wind, is expected to create fabrication and installation opportunities.
- The nuclear decommissioning activity at UKAEA Dounreay in Caithness requires a wide range of contractors and suppliers and this will provide market opportunities as well as the potential for local firms to develop experience to compete for work at other reactors worldwide due to be decommissioned.

## Workforce/skills

- Overall, jobs in this sector in the Highlands and Islands are more likely than the all-sector average to be full-time (90%) and held by males (72%).<sup>20</sup>
- Oil and gas jobs in the Highlands and Islands are particularly likely to be full-time (98%) and held by males (87%).<sup>21</sup>
- Ageing workforce with insufficient new recruits entering.
- Competition for skilled labour as a result of buoyant North Sea sector.

<sup>9</sup> ABI 2005 (excludes self-employed)

<sup>10</sup> ABI/2 Scottish Executive 2006 (excludes self-employed)

<sup>11</sup> ABI/2 Scottish Executive 2006 (excludes self-employed)

<sup>12</sup> ABI/2 Scottish Executive 2006 (excludes self-employed)

<sup>13</sup> ABI/2 Scottish Executive 2006 (excludes self-employed)

<sup>14</sup> UKOOA Economic Report 2006

<sup>15</sup> Scottish Executive 2004

<sup>16</sup> Review of North Sea Mobile Offshore Drilling Units prepared by Avayl Engineering Consultancy, Aug 2005

<sup>17</sup> Subsea UK website 2007 – [www.subseauk.org](http://www.subseauk.org)

<sup>18</sup> Oil & Gas Decommissioning Opportunity Review – A report to Scottish Enterprise Grampian by Douglas-Westwood Ltd and the TCS Partnership, July 2005. A more recent estimate by Scottish energy consultant Wood Mackenzie forecasts the total cost of decommissioning oil and gas fields to be over £21 billion.

<sup>19</sup> Shetland Islands Council 2006

<sup>20</sup> ABI 2005 (excludes self-employed). 63% of all jobs in the Highlands and Islands are full-time, and 47% are held by males

<sup>21</sup> ABI 2005 (excludes self-employed). In Highlands and Islands, manufacturing = 91% full-time, 73% male; engineering = 82% full-time, 66% male

## SWOT analysis

The following analysis illustrates the main issues facing the development of the industrial manufacturing and engineering sector in the Highlands and Islands.

### Strengths

- Scottish exports increased in value in 2005 and 2006,<sup>22</sup> although still 25% below the 1999 peak
- Refocusing of opportunities away from North Sea fabrication work
- Local facilities are versatile and well-placed, eg Nigg is a world-class resource with a range of potential uses, including renewables
- Better than average pay in the sector
- Excellent quality of local skills

### Weaknesses

- Manufacturers face competition from low-wage economies
- Distance from markets increases transport costs and reduces competitiveness
- The value-added elements of key growth sectors such as renewables are often imported
- Tax increases make extraction of oil and gas from the UKCT shelf less internationally competitive

### Opportunities

- Growing UK and international business opportunities through the energy supply chain
- Decline in North Sea oil and gas will bring about new work decommissioning offshore platforms
- Opportunities to use Arnish for manufacturing and Nigg as an assembly point for offshore wind or hybrid wind/tidal systems
- IRM and sub-sea sectors offer growth potential

### Threats

- Skilled workforce can be mobile and attracted to other geographic areas, eg the North East where the North Sea sector is buoyant
- International competition for contracts
- Direct employment in oil and gas sector likely to decline, affecting mostly Orkney and Shetland
- Ageing of workforce (average age over 50) in the sector with insufficient new recruits

## Priorities for action

HIE will conduct a review of its action priorities for the industrial manufacturing and engineering sector in 2007. This could include examination of infrastructure, market entry, supply chain support and skills development for the industrial manufacturing and engineering sector. Within the oil and gas sector, HIE's current priorities are to maximise engagement with the IRM and Subsea sectors and, through NSIG, to understand fully the market, improve market intelligence and establish regular contact with the decision makers in the North Sea.

<sup>22</sup> 2006 exports forecast by SCDI