



UK COMMISSION FOR
EMPLOYMENT AND SKILLS

Sector insights: skills and performance challenges in the energy sector

Executive Summary 90
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Executive Summary

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Executive Summary

Overview of the research

This project forms part of the Sector Insights research undertaken by the UK Commission for Employment and Skills (UKCES). The overall aim of the programme is to examine skills and performance challenges across a range of industry sectors of critical importance for the UK economy.

This report presents conclusions about the **energy** sector, focusing upon a selected number of key occupations in order to yield in-depth insights:

- engineer;
- technician;
- project/change manager;
- sales and marketing manager;
- overhead lines worker.

Key findings

In 2013, the energy sector contributed 3.3 per cent of the UK's GDP, directly contributing £25 billion to the UK economy, with a further £71 billion in indirect contributions. In 2013, 6.2 per cent of the industrial workforce was employed in the sector, equating to 169,000 people. Despite a recent decline in productivity, it remains one of the most productive sectors in terms of GVA per employee.

The UK energy sector is evolving rapidly. Key drivers of change such as policy, the emergence of new technologies and the transition to a low carbon economy are prompting radical changes in energy consumption, management and storage.

The outlook for the energy industry as a whole is mixed, with sub-sectors facing different challenges. For example, the electricity sector is forecast to grow (underpinned by substantial investment into smart metering), as is the renewables sector (particularly offshore wind). Conversely, falling oil prices have been a catalyst for recent job losses in the oil and gas sector.

This research, based on 91 interviews with key informants and employers, reveals skills shortages across a range of key occupations. Interviewees report a limited supply of skilled and experienced workers, caused by:

- strong competition for skills between sub-sectors, other sectors and countries;

- uptake of the most sector-relevant STEM qualifications not meeting employer demand;
- poor visibility of (and consequently interest in) the energy sector as a career prospect among young people and potential new entrants from other industries;
- an ageing workforce.

The skills mix required by sector employers is expected to evolve in the future, to include soft skills, technical skills such as data analytics, as well as knowledge of new technologies as they emerge.

Occupational standards and qualifications need to keep up with rapid sector developments, to ensure the workforce has the necessary skills. The sector has a strong culture of in-house training, partly because of a shortage of relevant courses delivering sector-specific skills and knowledge that employers need. However, an increasingly mobile workforce, often working on short-term contracts, has meant that some employers are reluctant to invest sufficiently in formal training and up-skilling of some members of the workforce.

Employers typically use occupational standards as a framework for establishing and assessing competency within their workforce. However, existing standards are sometimes seen as too generic. Employers are more likely to be interested in higher-level occupational standards that are easy to access and use, although some would like more sub-sector specific context.

Addressing workforce skills and challenges is important for the productivity and profitability of the UK's energy businesses, energy security and ability to compete in a global marketplace. Whilst there are good examples of innovative solutions being adopted by individual employers, there is a need for the sector to work in collaboration to address the problems. The Energy and Efficiency Industrial Partnership (EEIP) is a useful model for supporting such collaboration.

Suggested actions

There are a number of actions which could be taken to improve the responsiveness of skills supply across the energy sector. These include:

Policy and funding

- Make funding available for schemes to train people in key occupations with major skills shortages
- Support and fund a collaborative approach enabling employers to work collectively in addressing sector challenges using the EEIP to facilitate change

Standards and qualifications

- Enable higher-level occupational standards to be quickly developed that reflect sub-sector needs and plug existing gaps in coverage
- Encourage collaboration between academia and industry so that qualifications are tailored closely to meet employer needs and reflect context of different sub-sectors.

Recruitment and development

- Cascade skills and knowledge from member of the workforce on the verge of retirement via internal mentoring
- Enable cross-fertilisation between sub-sectors to channel flow of skills rather than losing people from the energy sector to other industries as a result of peaks and troughs in workforce demand
- Improve careers information, particularly to enhance sector visibility for young people and potential new entrants from other industries.

Executive Summaries present the key findings of the research produced by the UK Commission for Employment and Skills. More detailed analytical results are presented in Evidence Reports.

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