

ENERGY INDUSTRY SKILLS LANDSCAPE STUDY

Findings and recommendations
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Access the Skills
Landscape Matrix
via the following QR
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to delve into the data
collated according to
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1 INTRODUCTION

We believe the UK can become a leading green industrial power, offering high quality employment for a skilled workforce driving strong economic growth. However, there is already a skills gap and demand for workers with relevant experience in key areas of the integrated energy sectors, which encompass oil and gas, hydrogen, offshore wind, and CCS. Over the next 10 to 15 years, it is widely anticipated that there will be significant challenges in terms of balancing the supply and demand for people with the right skills. At the same time there is broad consensus amongst industry and various stakeholders, including trade associations, unions and skills and training bodies, that there is a lack of clear, coherent industrial strategy that is undermining investor confidence. There are an eye watering number of skills initiatives ongoing but existing efforts are fragmented and overlapping and the landscape is complex and hard to navigate.

OEUK commissioned this Skills Landscape Report, authored by Christine Currie, to help governments and industry visualise and navigate the complex skills landscape in the UK, and to help maximise the impact of what is already in progress. We welcome the creation of a single skills body in England and hope that this report will be a helpful input to the work underway as Skills England is established. However, the government must not stop at the creation of a single skills body; elections, changes in government agendas and cabinet reshuffles can have a significant impact on strategies, priorities and funding streams which can either halt or reinforce initiatives.

Report findings and observations include:

- The skills landscape is complex with multiple stakeholders.
- There is significant duplication of practical activity.
- There must be a joined-up approach between training and a route to employment.
- A clear strategy, underpinned by transparent, joined up policy and timely funding is critical to support the development of a timely pipeline of people with the right skills in the right place at the right time.

Amidst the ongoing changes in the skills landscapes of the devolved nations, there is a significant opportunity to forge collaborative strategies. The creation of Skills England and the Scottish Government's plans for post-school education and skills reform present a chance to achieve a cohesive UK-wide approach. This is a critical moment for industry, UK and devolved governments, trade unions, academia, and training providers to work together in promoting efficient, effective, and accessible skills and training opportunities for people at all levels of skill.

It is vital that the new government demonstrates actual commitment to working in partnership with the sector to secure continued investment and to deliver on promises to safeguard jobs. We ask that the Joint Ministerial Committee considers the findings in this report, identifies a way to bring together the relevant skills bodies to agree a coherent way forward that maximises and optimises existing efforts and works to deliver this in partnership with industry.



Supply Chain & People Director and LOGIC Managing Director

2 EXECUTIVE SUMMARY

Efforts in the skills landscape are fragmented with many organisations and bodies working on common areas related to policy reform, raising local content, and addressing current and future skills challenges.

OEUK commissioned an independent study to help find a way through this landscape in order to aid greater collaboration, to limit duplication, and to increase the value of existing efforts.

The study highlighted a number of factors that challenge the capacity to address offshore energy skills development, including:

- the complexity of a highly busy stakeholder landscape, exacerbated by the insufficiency of clear government strategy and further tested by short-termism.
- the lack of a clear line of sight between training and/or a skills initiative, and a route to gainful employment
- the risk to securing and fulfilling projects by not prioritising the importance of having training in place to ensure that appropriately skilled personnel are available in the right place at the right time.

However, it also emphasised a strong desire and willingness to support skills development from a number of committed parties, with some examples of best practice occurring where there is a joined-up approach between strategy, funding, training, and employment.

Recommendations derived from the study include:

- meaningful skills investment tends to emerge most successfully when there is a beginning (strategy and funding), a middle (training/reskilling) and an end (gainful employment), supported by collaborative parties who are committed to a joined up and coordinated approach throughout
- funding is critical to sustain an initiative but the value of building relationships to support a joined-up approach to skills development should not be underestimated.
- tracking approved projects and the intended timeframes of them, with a view to identifying volume, location and type of skills sets required to support activity, could serve as useful tangible action to aid workforce planning.
- more emphasis on measuring the impact of a skills initiative through tracking the sustained longer-term benefits and ultimately how it supports an individual into gainful employment will help to ensure legitimate return on investment.

3 METHODOLOGY

The initiatives and skills organisations were presented in a matrix with the following further scope of supporting information:

- organisation type (e.g., standards body, membership body, academia, industry company etc.)
- scope (e.g., geographic – base and reach, disciplines covered)
- role (strategic, facilitation, delivery)
- governance (private sector, third sector, public sector)
- initiative description
- funding (streams, partners)
- audience (school pupils, Science, Technology, Engineering and Maths (STEM) students, apprentices, teachers, adult learners, veterans etc.)

The scope of the study extended to the North Sea Transition Deal energy sector boundaries - Carbon Capture, Usage and Storage (CCUS), Hydrogen, Offshore Floating Wind, and Oil and Gas. Fixed Wind was also included.

The study did **not** include:

- single events or 'one off' sessions
- general skills development initiatives that did not incorporate an Energy element.
- organisations that are generally perceived as pertinent to Energy Skills if they did not evidence the delivery of an initiative.
- general 'engineering' skills development activity unless it was specific to Energy.
- the myriad of activity pertaining to, for example, research, data, design, innovation, export, trade, grid/general infrastructure, projects etc. if the activity was not specific to a skills initiative.
- initiatives that appear to have ended/disappeared, even if they have past profile, rather it included only what were considered to be 'live' initiatives.

As well as creating a matrix, a further objective was to identify areas of overlap and/or common ground to help avoid duplication of effort and resources, and to understand where strategic gaps may exist.

Over 200 current initiatives and relevant policies were captured in the study data and analysed to direct the content of this report. The study data is available via [\[link\]](#) on the OEUK website.

4 FINDINGS AND OBSERVATIONS

Complex Landscape with Multiple Stakeholders

Energy skills is undeniably a complex landscape. In conjunction with researching the current initiatives in place to support the development of energy skills, it was important to understand policy and funding activity in the areas of Skills and Energy. The expectation was that policy and funding would influence the direction of skills development and the scope, form, and sustainability of programmes available.

Across the UK, education, and training (skills) are devolved matters while energy is reserved (but planning, which plays a critical role in development, is devolved) and each devolved nation has its own standalone 'net zero' action plan. In Scottish Government *alone* key political players include a separate Cabinet Secretary for:

- Education & Skills
- Net Zero & Just Transition
- Energy

And a separate Minister for:

- Green Skills
- Energy
- Higher & Further Education

Key policies published by the Scottish Government in the last few years that relate to Skills and/or Energy, include:

- Scotland's Future Skills Action Plan
- Fit for the Future: Developing a Post-school Learning System to Fuel Economic Transformation
- Securing a Green Recovery on a Path to Net Zero: Climate Change Plan 2018–2032
- Climate Emergency Skills Action Plan
- Draft Energy Strategy and Just Transition Plan (in advance of a finalised version due Summer 2024)
- Hydrogen Action Plan which followed the Hydrogen Policy Statement

Scotland has been used here to highlight how complex the Skills and Energy space is in one devolved nation *alone*. The challenges with devising a clear and joined-up policy approach for such a busy landscape start to present more clearly when considering where the political structure and priorities of a devolved nation sit in relation to UK policy and its own associated strategy and funding.

Furthermore, the study highlighted that activity such as elections, changes in government agendas and cabinet reshuffles also have a significant impact on strategies, priorities and funding streams which can either displace or revive skills initiatives. An example can be seen in the recent cessation of funding by UK Government to the 38 Local Enterprise Partnerships (LEP) across England, in favour of transferring funding instead to local and combined authorities. LEP were originally set up to determine local skills priorities, receiving almost £12 billion in public funding during their decade of operation. That will change as of April 2024 and while it may bring efficiencies and new opportunities, it will also dissolve longstanding relationships that supported skills development across England.

Given the scale of Energy projects and the propensity for companies to operate right across the UK, the volatility and fragmentation increases the challenge for planning skills development in a way that is comprehensive, accurate and sustainable. This also makes it difficult for industry to access the right people (appropriately skilled individuals) at the right time (project lifecycle) in the right place (geographical location).

Similarly, dealing with policy and regulatory uncertainty for nascent areas of energy (namely hydrogen and CCUS) makes it difficult to plan and develop a timeframe for skills development that has a clear line of sight to employment. It is difficult for an organisation or individual to invest in training for a job that does not currently exist. Without clear government strategy to follow, there is reluctance and uncertainty in where to invest, for everyone, including government itself. The consequences of this will be highlighted further in 'The Timeframe for Planning Skills Development' on page 5.

During the course of the research, the involvement of multiple stakeholders and stakeholder groups with the common interest of a sub-sector of energy was also identified. For example, groups and initiatives in Hydrogen across the UK with an interest in skills include:

- Hydrogen Skills Alliance
- Hydrogen Delivery Council
- Hydrogen UK
- Hydrogen South West
- Powerhouse
- Hynet Academy
- Hydrogen Skills Partnership
- HyDEX
- Creed Hydrogen Skills and Innovation Centre

This is not an exhaustive list. On paper it is unclear if there is engagement amongst them, and indeed if and how they individually or collectively plug in to broader energy strategy, and then that which is specific to Hydrogen.

There are also entities which operate within geographical boundaries and have an interest in energy skills, for example:

- the Industrial Clusters (the largest are in Scotland, Teesside, Humberside, North West (Merseyside), South Wales, Solent (Southampton), and Black Country)
- East of England Energy Group
- Aberdeen Renewable Energy Group
- Scottish Renewables
- Zero Carbon Humber

The size of the prize for Energy spans individual localities but stakeholders with ‘feet on the ground’ are particularly valuable in presenting the true challenges and opportunities specific to that particular geography. More so if there is an effort of collaboration, i.e. a supportive government strategy and funding, the right stakeholders in place to develop and deliver training, with employers who can input with respect to types and timelines of job creation thus ensuring training is fit for purpose and more likely to lead to gainful employment.

Duplication of Practical Activity

The busyness of the landscape on a political and sub-sectoral level has been outlined above, but duplication could also be seen in practical, timebound activities. One example is the number of organisations carrying out, or recently having carried out, some form of skills mapping/pathways initiative - these include:

- OPITO
- NESA
- Opergy
- Energi Coast
- Energy & Utility Skills
- Scottish Funding Council
- RenewableUK
- Energy Skills Partnership

The work conducted by these organisations overlaps in some capacity, but each data set uses its own unique variables and set of objectives. The outcome is that varying figures, when discussed publicly and without context, become confusing. This study has been useful in directly evidencing how cluttered and often duplicated the landscape is and how the outcome of some otherwise good work can become both diluted and ambiguous. Many of these organisations have secured government funding for individual projects which highlights a lack of coordination in government investment.

During the process of gathering the data to compile the matrix, there was limited evidence on the measurement of impact of many of the initiatives, often implemented at significant cost, often with considerable government spend attached.

The Gap Between Career Prospect and Accessing Gainful Employment

While not unique to this research, this work again highlighted the broad array of STEM initiatives at play across the UK. In their 2022 report: Enabling Skills for the Industrial Decarbonisation Supply Chain STEM, IDRIC identified there to be 300+ STEM activities/providers. Unquestionably, STEM activity is critical to inspire the next generation and is the initial important step in developing a robust, homegrown pipeline of talent for the future. However, the study also identified that while there are pockets of activity at certain levels (i.e. school children, apprenticeships, continued professional development for workers) relating to a career in energy, there was limited evidence of a joined-up approach to each of these stages of an individual's lifecycle of learning. With competition from other sectors offering attractive and exciting careers, it will be increasingly important to retain the attention and interest of a school

leaver and nurture that interest with a clear career offering that leads to transparent, gainful employment opportunities. During the research many examples were found of skills organisations that provide job profiling of potential jobs that could be available to people who want to work in the energy sector, however there was generally a lack of coordination with actual job availability. In testing some of the job profiles, to understand the value of this resource, it was often difficult to find a match to open employment when using recruitment sites or company websites. This is another example of well-meaning activity to support a person's interest in entering the energy workforce, however it is challenged with having any real impact if it does not lead to a legitimate opportunity.

In compiling the study, it was often difficult to see how an initiative ultimately led to meaningful employment, even in instances where the initiative itself appeared to offer legitimately useful training in the field of energy, with certification attached. Scenarios where there is a joined-up approach between training and a route to employment would ultimately be more common if there was less short-termism and a greater capacity to plan for projects with a better idea of job roles, levels, volumes, and geographical locations. Without a clearer understanding of this, initiatives to support energy skills can often only provide a general base of knowledge applicable to many things but often nothing of technical specificity and therefore, nothing of niche value.

The Timeframe for Planning Skills Development

A clear strategy, underpinned by transparent, joined up policy and funding is critical to support the development of a timely pipeline of talent.

Tracking tangible activity, such as success in consenting rounds, etc., would be useful to gain a more specific understanding of operational requirements, timeframes, and strategies for approved energy projects, particularly of *where* and *what* skill sets might be required. The development of appropriately skilled individuals cannot be implemented and achieved overnight. Particularly in cases where niche and high-level skills are required, a five-to-seven-year lead time could be possible if the course requires degree level education. In advance of the delivery of such a course, appropriately trained instructors/lecturers need to be recruited, the course design and accreditation requires to be fulfilled before the potential four to five year studying time is undertaken by the prospective skilled employee. In an era of digitalisation where many perfunctory roles could be automated in future, and indeed are becoming so in the present, there is likely be a move towards a focus on higher skilled human resource. Therefore, it is necessary to understand the reality of how long it might be before a skilled employee is fully trained and available to fulfil a critical role in energy. While carrying out the research for this study, it was recognised that often the focus would be on getting operationally (supply chain, planning etc.) ready to fulfil a contract and access funding (often government), and skills would be considered as a second step once the rest of the supply chain activity was handled. But this approach to skills, as a secondary factor for consideration, will only serve as a bottleneck in fulfilling projects in a timely manner.

The impact on projects of having properly skilled individuals, in the correct role at the right time and available in the required geographical location, is an element that cannot be underestimated.

Timing of Funding is Critical

The study clearly demonstrates a huge appetite to support skills development from a number of organisations, many of whom are looking for a clearer direction on how best to channel that support and investment. There was repeated evidence of initiatives petering out, often due to having received a piece of funding that was not renewed. In some cases, this looked to be a timing issue rather than an ineffective initiative – the programme concluded before a route to employment became available leaving a hiatus for the learner.

5 RECOMMENDATIONS

A Holistic, Joined-Up Approach

Good examples of 'meaningful' skills investment emerge when there is a beginning (strategy and funding), a middle (training/reskilling) and an end (gainful employment), supported by collaborative parties who are committed to a joined up and coordinated approach throughout.

The above scenario also tends to be more successful in attracting funding - greater collaboration and a fuller, more connected 'workforce narrative' is considered to minimise risk and strengthen sustainability. An example identified during the research included the following joined-up scenario by a collection of stakeholders with a mutual interest to ensure the process was approached holistically. SeAH Wind is working with Nordic Products and Service (an ECITB approved engineering training centre) and Middlesbrough College to create two programmes under its SeAH Wind Academy. The Academy will see welders (and other trades) trained and developed over the course of a 6-month programme. SeAH Wind will supply all the offshore wind turbine monopiles for Vattenfall's Norfolk Vanguard wind project and the Academy aims to create a pipeline of skilled personnel to move from the programme into gainful employment. All participants on the programme will, on successful completion, be offered full-time permanent positions with SeAH Wind. The programme is supported by Teesworks Skills Academy and Tees Valley Combined Authority.

The Value of Embedded Relationships

Recognition should be afforded to the value of building and sustaining relationships and therefore to the preservation of them when it comes to broader policy decision making and political change. Collaboration occurs when no one organisation in isolation could achieve the end goal, hence the significance of the 'relational' importance when considering how to approach the timely development of Energy Skills, which requires collective input. At the core of collaboration is trust and organisations working in this environment have the opportunity to save time, resource and money while improving conditions required for innovation and resilience. When political agendas shift, and funding becomes removed or rerouted, relational capital is often a valuable casualty. This continues to feed the short-termism narrative and inhibits embedded relationships.

Tangible Activities to Aid Workforce Planning

Tracking successful projects, using mechanisms such as the hydrogen allocation rounds for Hydrogen, for example, and consenting/Strategic Investment Model (SIM) announcements for Wind, could provide a tangible and practical tool to use for the purposes of workforce planning. Since these projects are at that point *confirmed* (with funding/consent) they could be used as a legitimate way to start building workforce planning data for future activity that would provide value as projects ramp up and more clarity is established around types of skills and volume of skills associated with approved work.

Measuring the Impact of Skills Initiative

Resources for developing and delivering energy skills should only be assigned when there is an end game in sight for how the training will, in reality, support an individual into gainful employment. The logic of skills development translating to an employment scenario often seems to be overlooked. There is no worth in sanctioning funding for initiatives with the purpose to be *seen* to be doing something to support energy skills if there is no intended plan as to how it will conclude in meaningful benefit. Improved measurement of an initiative's impact is necessary, particularly where it is attracting significant government funding. A requirement of assessment should be the tracking of sustained longer-term impact the initiative achieves and the evaluation of this should afford it the potential for further proportionate funding if needed.

6 CONCLUSION


In conclusion, there is no avoiding the busyness of the energy skills landscape. Marrying the elements of Skills and Energy is complicated, each with their own policies and ambitions, and with stakeholders invariably looking at the situation through the lens of an energy sub-sector, or their stance within the lifecycle of an energy career, or their geographical location, or their own organisational objectives and priorities, and many times a combination of the aforementioned. The melting pot of perspectives and inputs is unavoidable. This does not need to be a negative if players have the capacity and impetus to develop opportunities to collaborate. Operating in isolation and with a singular focus will only ever produce limited gains in an industry that requires to be made up of many. However, steady, and coherent leadership will be at the heart of addressing offshore energy skills shortages by presenting clear and consistent policy with funding streams in place to support initiatives that lead to gainful employment. This will provide a mutual direction of travel. There also needs to be the capacity for more decisiveness around timelines of activity so that there is an opportunity to plan in skills development in a way that does not hinder project efficiency and so that stakeholders can take a coordinated approach.

The availability of appropriately skilled human resource is perhaps the most valuable element in the success of any energy project or operation. While there is broad and clear agreement on this, there is work to be done to move the dial from aspiration to (joined up) action.

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