

Call for evidence: Workforce Planning to Deliver Clean, Secure Energy Evidence submitted by the Centre for Energy Policy, University of Strathclyde

ABOUT THE CENTRE FOR ENERGY POLICY

The University of Strathclyde's Centre for Energy Policy (CEP) works with research, government and industry partners to understand and address the pressing public policy challenge of ensuring transitions to mid-century Net Zero targets deliver sustainable and more equitable prosperity. Officially launched in 2015, CEP has an established track record of independent, rigorous, multidisciplinary research and timely and responsive knowledge exchange and policy engagement on energy and climate issues in a wider public policy context. Focused on achieving real-world impacts, the Centre has helped shape UK and Scottish Government policy in areas including energy efficiency, industrial decarbonisation, heat decarbonisation and low carbon transport.

<https://www.strath.ac.uk/humanities/centreforeenergypolicy/>

RESPONSE

CEP's response is based on our peer-reviewed evidence across the net zero space, including residential heat decarbonisation, industrial decarbonisation and energy efficiency.

1. Does the Government have an appropriate understanding of the skill needs to deliver the Clean Energy Mission by 2030 as well as decarbonise homes and businesses?

1.1 While understanding within and beyond Government on the skill needs to deliver net zero actions such as the Clean Energy Mission has developed significantly in recent years, gaps remain. In particular, and as highlighted by CEP research¹, there are two issues that need to be better understood. First, what increased demands for a limited pool of skilled labour in the same timeframes will mean for net zero projects and the wider economy. Second, and linked to the first, what is the risk of displacement of jobs from other sectors non-directly involved in net zero activity and the UK-wide and regional economic implications of this.²

1.2 In recent years, an understanding around the levels and nature of skilled labour required to deliver net zero has developed significantly. Yet, the relevant analyses are often conducted on a sector-by-sector basis and using varying methodologies, as our research as part of the Industrial Decarbonisation Research and Innovation Centre (IDRIC) demonstrates, making it hard to draw comparisons or build a more holistic picture.^{3 4} This is a challenge that the UKRI-funded Industrial Decarbonisation Challenge⁵ highlighted in their final report and was also evident in the development of business plans by different transmission network owners (TOs) for the next electricity transmission price control period (RIIO-T3). In the case of the latter, while all TOs were required to set out how their business plans will promote economic growth in line with Government's 'growth duty'⁶, no specific methodology was set, leaving TOs to determine their own approach. Again, potentially leading to challenges around drawing fair comparisons. There is a role for Government to help drive a more consistent assessment of employment requirements across net zero and other projects to identify gaps and needs

¹ <https://www.strath.ac.uk/humanities/centreforeenergypolicy/ourpublications/>

² Our work on the subject is currently under peer-review. However, the pre-print version is available at: <https://dx.doi.org/10.2139/ssrn.4935936>

³ <https://strathprints.strath.ac.uk/88309/>

⁴ <https://strathprints.strath.ac.uk/88667/>

⁵ <https://www.ukri.org/publications/enabling-net-zero-a-plan-for-uk-industrial-decarbonisation/>

⁶ <https://www.gov.uk/government/publications/growth-duty>

and design appropriate responses more effectively. Alongside Government, research organisations such as CEP can play a role in supporting more standardised approaches.

1.3 Without developing a more holistic picture of skills labour needs across the net zero space, there is the risk that delays will occur and costs to net zero projects, and the wider economy, will be driven up unnecessarily.⁷ Our analysis emerging from research funded by UKRI^{8 9} on Carbon Capture Utilisation Storage (CCUS) deployment across the UK clearly shows this. It highlights the significant demands that will be placed on the construction sector by multiple and parallel CCUS developments supported by UK Government¹⁰. For example, in establishing a transport and storage industry in line with Government plans to create four CCUS clusters in the UK, 7,700 UK full-time equivalent (FTE) construction sector jobs could be supported in the first year of development with a second peak of 6,700 jobs a few years later around a second phase of development. Our research highlights similar demands on the construction sector from other net zero projects, such as investing in energy efficiency measures. For example, research undertaken as part of the Energy Demand Research Centre (EDRC)^{11 12} finds that rolling out loft and cavity wall insulation for households living in fuel poverty could support 13,000 new jobs in the construction sector by 2030. Without adequate policy action to develop the necessary workforce, this could lead to a triggering of pressures on the cost of living and doing business due to competition for labour and increases to wage costs.

1.4 The gradual reduction of activity in existing carbon-intensive industries, such as oil and gas will not necessarily free up the necessary skilled labour to support the growth of nascent or transforming industries (e.g., renewables), or deliver a just transition for the workers of carbon-intensive industries. As our work finds¹³, the gradual decline of the UK Oil & Gas industry, according to the projections of the North Sea Transition Authority (NSTA), will undoubtedly free up labour capacity, including workers with specialised skills. However, the Oil & Gas decline timeframe does not match the development of industries such as CO₂ Transport and Storage (linked to CCUS deployment), nor the projected development of different low-carbon energy projects. In fact, the commitments regarding renewable electricity generation, green hydrogen production and CO₂ Transport and Storage by 2030, will require a significantly larger volume of workers to be implemented, compared to the potential freed-up capacity due to the decline of Oil & Gas. Therefore, there needs to be a pragmatic and holistic evaluation of both how the more pressing labour requirements will be met and what actions need to be in place to secure the ongoing employment of those transitioning away from carbon-intensive industries, assuming, of course, that they are at a stage that they wish to remain active parts of the UK labour market.

2. To what extent can the Clean Energy Mission and the retrofitting of homes and businesses be carried out by the existing workforce and to what extent will it require new entrants to the workforce?

⁷ <https://strathprints.strath.ac.uk/89478/>

⁸ <https://www.strath.ac.uk/humanities/centreforeenergypolicy/ourprojects/idric/>

⁹ <https://www.strath.ac.uk/humanities/centreforeenergypolicy/ourprojects/snzi/>

¹⁰ <https://www.gov.uk/government/news/government-reignites-industrial-heartlands-10-days-out-from-the-international-investment-summit>

¹¹ <https://www.edrc.ac.uk/publications/addressing-fuel-poverty-what-are-the-relative-benefits-of-public-spending-on-direct-bill-support-or-energy-efficiency/>

¹² <https://www.edrc.ac.uk/publications/the-economy-wide-impacts-of-different-approaches-to-addressing-fuel-poverty-the-importance-of-where-when-and-how-public-funds-are-spent/>

¹³ Karkoutli, A., Katris, A. and Turner, K. (forthcoming) The implications of the projected decline in UK oil and gas extraction: economic losses or freed-up capacity?

2.1 Our work on household retrofitting to improve residential energy efficiency¹⁴ highlights that depending on the breadth of the retrofitting activity, there can be significant labour requirements in key sectors such as construction (also highlighted in response to Q1). For example, if the retrofitting activity aims to improve the energy efficiency of the ‘most UK residential properties to EPC C by 2035’, then early or late action that implements 25% of this activity either in the first or last year of the retrofitting project, can lead to worker requirements in excess of 120,000 in these years. This is a significant labour requirement and unless it can be met without, or with limited, displacement from other sectors, it can lead to negative GDP pressures in the UK economy and negatively affect a wide range of sectors, which do not benefit from the retrofitting activity but face the increased labour costs.

2.2 Our analysis^{15 16} of the planned £10.6 billion of spending on electricity network expansion (a critical component of the Clean Energy Mission) between 2026 and 2031 (as part of Ofgem’s third price control period) by transmission network owner SP Energy Networks finds that the investment could ultimately support net GDP and employment uplifts of up to £2 billion per annum and 11,500 jobs. It will also lead to increased demands on the construction sector, and if current skills and worker shortages are not resolved then this could lead to increases in the price of goods and services across the economy and some displacement of export production. However, if action on UK’s worker and skills shortages is taken, the economic gains could increase, reaching £4.4 billion and 44,230 FTE jobs over the five-year period.

3. How might the Government ensure that the job market in clean energy roles is sustainable enough to incentivise private sector investment in training for 2030 and beyond?

3.1 Government commitments around public spending for net zero can help incentivise and ‘crowd in’ private sector financing. As highlighted in our EDRC research¹⁷, putting in place the right long-term policy signals to industry to expand and develop supply chains by targeting public spending to improve energy efficiency in the homes of those living in fuel poverty, could also create the enabling conditions required to roll out a wider programme of retrofitting for *all* homes across the UK, including securing private sector funding.

3.2 Effective signposting by Government on priority investment areas and timeframes for returns, alongside appropriate policies to guarantee demand for products and services (e.g., in the case of nascent industries such as CO₂ Transport and Storage), will be critical to secure the levels of private financing required to support workforce development and net zero more generally.¹⁸ Adequate funding from Government as well as certainty around project timelines, financing and related career paths will also be essential to enable and sustain private sector investment in training, as highlighted through our engagement with industry and businesses around CCUS deployment in the UK as part of IDRIC. This certainty can also assist in overcoming potential barriers to recruitment and attracting new and existing workers to new sectors and industries, driving improvements in inclusivity and diversity.¹⁹

4. How can the new Office for Clean Energy jobs contribute to workforce planning in the energy sector?

¹⁴ <https://doi.org/10.1002/eet.2124>

¹⁵ <https://doi.org/10.17868/strath.00091528>

¹⁶ <https://doi.org/10.17868/strath.00091529>

¹⁷ <https://www.edrc.ac.uk/publications/the-economy-wide-impacts-of-different-approaches-to-addressing-fuel-poverty-the-importance-of-where-when-and-how-public-funds-are-spent/>

¹⁸ <https://strathprints.strath.ac.uk/88667/>

¹⁹ <https://strathprints.strath.ac.uk/88310/>

4.1 The Office for Clean Energy Jobs has a critical role to play in innovating and overcoming potential barriers to recruitment, particularly for roles in new sectors and industries such as CO₂ Transport and Storage and ensuring that diversity is improved in terms of gender and ethnicity. Engagement with training institutions, employers and regional policy makers as part of our research highlighted that consideration must be given to the use of terminology such as 'green jobs', which is not always well understood amongst potential recruits. Issues around strengthening diversity were also highlighted in the recent skills summit hosted by the University of Strathclyde in conjunction with SSE, Scottish Power and NESO.²⁰ An appreciation of place-based socio-economic and cultural issues, e.g., places which have experienced decline following earlier periods of deindustrialisation and perceptions of not benefiting from the establishment of new industries and associated job creation is also vital. This can allow understanding to develop around how these issues may pose barriers to recruitment and local supply chain development.²¹

4.2 The planned close coordination between the Office for Clean Energy Jobs and Skills England is welcome and will be essential to ensure the required skilled, flexible and more diverse workforce. This must include enabling flexibility around resourcing, including the apprenticeship levy, as well as investing in engaging with young people from primary school level to build awareness of a variety of career paths. Moreover, recognising that investment is required in both new and existing workforces, with businesses highlighting that more work could be done to provide incentives for those retiring from key sectors and industries to train and upskill new and existing workforces.²²

5. What more can the Department for Energy Security and Net Zero do to ensure the workforce is in place to deliver the Clean Energy Mission and accelerate the retrofitting of homes and businesses?

5.1 Our research suggests that it is essential that any industrial strategy also includes or is built alongside a comprehensive long-term workforce strategy, which will require cross Government department coordination and cooperation. Such a strategy needs to enable agile and flexible skill development programmes, the effective management of labour demand peaks, just transitions from sectors such as oil and gas, and the creation of reliable career paths for new entrants to the workforce. If left unaddressed, this skills challenge could have implications for the availability of a skilled workforce, the wages required to staff net zero development projects properly and ultimately, potential delivery delays and an increase to the total project development cost.²³

5.2 Working with the new Office for Clean Energy jobs and other stakeholders, including industry, the Department for Energy Security and Net Zero (DESNZ) has a crucial role to play in supporting the development of understanding around both the supply and demand for jobs to deliver net zero; and applying this understanding to coordination around the timing and sequencing of net zero projects to avoid inflating costs. Findings from our research on CCUS²⁴, energy efficiency²⁵, heat pump rollouts²⁶ and electric vehicles²⁷, as well recommendations from the recent Strathclyde-hosted skills summit²⁸, support this approach (as highlighted in responses to Qs 1-3). This approach must consider the risk of job displacement and the impacts on different sectors and regions of efforts to develop supply

²⁰ <https://pureportal.strath.ac.uk/en/publications/people-skills-and-jobs-in-power-system-decarbonisation-working-co>

²¹ <https://strathprints.strath.ac.uk/88310/>

²² <https://strathprints.strath.ac.uk/88310/>

²³ <https://strathprints.strath.ac.uk/88667/>

²⁴ <https://strathprints.strath.ac.uk/88173/>

²⁵ <https://www.edrc.ac.uk/publications/addressing-fuel-poverty-what-are-the-relative-benefits-of-public-spending-on-direct-bill-support-or-energy-efficiency/>

²⁶ <https://www.sciencedirect.com/science/article/pii/S2211467X2400227X>

²⁷ <https://strathprints.strath.ac.uk/80099/>

²⁸ <https://strathprints.strath.ac.uk/88665/>

chains and undertake multiple net zero projects simultaneously. Our work looking at the establishment of a CO₂ Transport and Storage industry²⁹ as well as the rollout of heat pumps³⁰ has found that demand in sectors such as construction could lead to displacement of jobs in retail, services and hospitality, which are concentrated in certain regions, with other regions benefitting from more jobs in construction. Overall, this indicates the potential for benefits and costs to be distributed unevenly.

5.3 Building on our responses across this submission around developing an understanding of the nature of the skills and workforce challenges, DESNZ can also support the use of academic expertise in the development of consistent approaches to understand the scale of the skills and workforce challenges, not just at individual project level but across the net zero space.

²⁹ <https://strathprints.strath.ac.uk/88665/>

³⁰ <https://strathprints.strath.ac.uk/86820/>