

IET sustainability skills survey

2023 summary

Measuring the sustainability skills challenge

A survey of over 2000 engineering employers across the world, conducted by YouGov, found that the UK's ambition to be a world leader in AI and sustainability is hampered by the lack of adoption of digital technologies. A whole system approach is needed to ensure the UK has the skills to be internationally competitive.

Recommendations

- Net zero needs the trifecta of an industrial strategy, innovation funding, and support for upskilling the UK workforce to become more internationally competitive.
- Agility and whole-systems thinking are key skills for reaching net zero and adapting to climate change, and more should be done to encourage this in the workforce.
- Industry confidence in the UK's education pipeline is remarkably low by international standards
 - greater collaboration between industry and universities is required - targeting placements in areas of critical skill deficit such as nuclear technologies and digital twins.
- Employers are missing an opportunity on digitalisation and net zero. Government should help facilitate upskilling in the sustainable use of technologies such as AI and digital twins.

Skills gaps

67% of UK employers have a sustainability strategy.

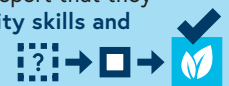


76% of those report that additional skills are required to implement this strategy.



Only a third of all UK engineering employers have a sustainability strategy that includes making their organisation net zero.

Employers who do not have all the skills they need to lower their environmental impact report that they are lacking specialist sustainability skills and knowledge, whole systems and agile thinking, amongst others.



Training

Employers in the UK who need to address skills gaps are more likely to favour upskilling/reskilling than some other nations, including:



41%
USA



27%
Germany

UK employers are more likely than most countries to offer conventional forms of training such as:



66%

on the job training



46%

in-house development programmes, and



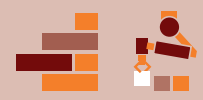
42%

formal qualifications

However, UK is the nation least likely to offer training in;



new technologies (15%), and manufacturing (9%) sectors.



Education system



63% The UK is the only country in which most employers think that the education system does not prepare graduates well for industry – the margin is substantial.

35% 2nd highest is Malaysia.



To combat this, UK employers suggest:



(44%)

and



(34%)

more industry placement years

more industry-targeted projects.

Most UK employers think engineers entering the workforce should have:

an agile mindset

68%



whole systems thinking

56%



specialist environmental or sustainability knowledge

52%



However, the following areas are still seen as more important:



79%

technical skills



70%

innovative thinking



70%

complex problem-solving skills

Sustainability

The top three technologies UK employers' think would help the UK meet net zero are:



39%

sustainable heating and cooling of buildings



36%

renewable energy generation



34%

and retrofit



65%

of UK employers are concerned about the impact of climate change on their business.



77%

do not think they have all the skills they need to be resilient against the impact of climate change.

Compared to other countries surveyed, fewer UK firms have introduced new technologies in the past three years to reduce carbon emissions such as:



18%

automation



17%

AI



16%

high-performance materials



5%

UK firms are the least likely to recognise digital twins as a priority technology for reaching net zero – in the construction sector, only 3% say digital twins are important.

Only

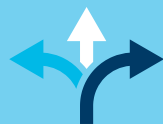
23%

think that the UK has the skills in this area.



Government policy

Confidence in the apprenticeship levy is split but is particularly low among SMEs.



Overall

45%

support greater flexibility, while

47%

say government should increase awareness of how it works.

Industrial strategy **39%**

was rated the most helpful government policy for reaching net zero, followed by:



36%

innovation funding



36%

the green economy



34%

funding for upskilling and reskilling.

For further information, visit

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Methodology

1,007 adults working in engineering employers in the UK. Fieldwork was undertaken between 21 August – 5 September 2023. The survey was carried out online.