

SECTION 1 – EMISSION SECTORS

[Only answer questions in the sectors you have an interest in or move to section 2 - general sector skills questions]

Please tick which sectors you are responding to?

[Please note agriculture and Circular Economy's sectors have different questions – if you are responding to these sectors please move to question 1.2 or 1.3]

1.1 Sector	Please tick the appropriate sectors
Electricity and Heat Generation	
Residential Buildings	
Transport	
Public Sector	
Industry and Business	
Land Use, Land Change and Forestry	✓
Agriculture	✓ Please go to section 1.2
Waste and Circular Economy	Please go to section 1.3

Mapping & Key Milestones

1. What investment, policies, transitioning impacts, technologies are expected to be implemented in Wales that will impact the net zero skills needs in Wales and their timescales?

The Institute asks that Welsh Government continues to listen to sector expertise and work with the sector to commit to and deliver more funding for recruitment and training. Employers are wanting to invest in professionalism, and this can be achieved through the Institute of Chartered Foresters. We would encourage novel approaches, such as government supporting an internal Erasmus scheme whereby students anywhere can take forestry modules and receive credit for them. Furthermore, support should be provided for short practical training courses such as those recommended by the Forestry Skills Forum. For encouraging and developing the machine operator occupations, a subsidised apprentice model is required to encourage Harvesting companies to take on trainees; better still if this could be linked to training operators at colleges.

At this time, the consensus is that there is little else that employers can invest in due to the lack of provision currently within the Sustainable Farming Scheme, nor is there any apparent development of artificial intelligence within the forestry sector. Remote sensing will provide some assistance, but it is likely to remain expensive and inaccessible for most for the foreseeable future. There is a perceived stagnation within the forestry sector which is preventing investment and incentives to be provided. We want to work with Government to remove these perceptions and

promote the sector as a much need place for investment to assist with professional growth.

Consequently, this has led to market fragmentation, where most are SME businesses and the supply chain no longer has a clean flow, with a need for vertical integration. The next 10 years needs to see fundamental shift in how forestry and timber business is conducted. With an increase in innovative technology, artificial intelligence has the potential to decrease automation, increase revenue and increase employment.

2. Will these result in new jobs being created or broadly maintaining the existing number of jobs, but with a level of upskilling required or changes to the types of occupations? If so, please give details of opportunities and potential geography.

The composition of the forestry sector presents its own set of unique challenges when considering upskilling. The small number of forestry professionals in a sector covering 13% of the UK land mass, speaks to the size of that challenge and net zero skills are likely to add pressure to a sector already faced with a retention and recruitment challenge. As the sector is made up predominantly of micro-businesses, employing workers who move from one short-term contract to another; the impact is that these businesses struggle to invest in training or find the time and money to take on apprentices.

The nature of modern forestry is developing and changing; increased regulations in health and safety and high workloads mean that the current workforce struggles to maintain and increase their own skills and standards, let alone support the needs of new entrants. There are simply not enough forestry professionals to plan and manage the complexity of science and environment, logistics, protection, and engineering that constitute modern sustainable forestry in a time of competing resources. Professionals bring the skills and expertise needed to deliver government policy, meet the needs of industry, protect the environment, and provide financial returns to owners. Foresters, arboriculturists and urban foresters will all be needed in all capacities across multiple disciplines to be able to succeed in filling the current skills gaps.

3. What will be the new, emerging or increased net zero skills demands in Wales as a result?

A change in direction of the forestry sector has been highlighted by the increase in business skills and greater demand for leadership-based roles, which can include greater interaction and communication cross sector than was originally the case. Another common theme is pests and diseases, in collaboration with plant health, control and management. This is supported by the Forestry Workforce Research in August 2021, calling for more trained tree officers.

In addition, with developments in natural capital and the growth of green investment, carbon, and its sequestration, features as a needed area of development. However, this a newly emerging sector within the land-based economy and should be approached with a degree of caution as to the type and level of training provided.

Investment advice should only be provided by a competent and chartered professional, of which there are currently a scarcity within the forestry sector. Again, transferable skills between allied sectors could help address these concerns, even if temporarily.

4. What are the key milestones or timescales to deliver these skills in Wales?

The Institute is a partner of the Forestry Skills Forum and sits on the CPD and training subgroup. Recent research from the Forestry Skills Forum for England and Wales, indicates the following quantitative forecasts of future workforce needs, to provide an indication of the future demand over the next ten years, from a 2019 baseline.

	2019	2025	2030	%+/- to 2025	% +/- to 2030
Role					
Forest Operative	273	458	432	68	58
Forestry Supervisor	33	60	57	82	72
Professional Forester	16	37	36	135	125
Total	322	555	524	72	63

5. What cross-cutting circular economy skills do you consider are required in your sector? (for example, eco-design, re-use, repair, remanufacture, reprocessing)?"

We believe that collaboration, adaptability, and experimentation will be important, but ensuring that we can deliver whilst embracing technology will be key.

The Institute participates in the Environmental Policy Forum (EPF), a membership group established to provide the opportunity for collaboration, learning, dialogue and debate amongst professionals across the environmental disciplines. The EPF Subcommittee for Green Skills, describes the extent of the cross-sector skills challenge as significant. Behavioural change was the least demonstrated skill set, with 44% saying this skill set isn't well demonstrated. Our members are in support of this, with identifying a long list of future skills needs, with obvious inclusions around practical skills, forestry and silvicultural knowledge, soft skills were also prominent. These featured community engagement, communication, interpersonal skills and managing difficult situations. As might be expected, core IT skills were stated, along with topics such as the use of drones in forestry, Artificial Intelligence and machine learning which are being seen more and more in applications across the forest industry.

Addressing the skills needs

6. Is there provision to deliver these skills offered in Wales?

We are aware that there is some speculation surrounding the short course and Further Education provision for forestry and affiliate sectors. There seems to be a disconnect between industry and education establishment when delivering what is perceived to be needed, over what is needed. Very little will change if these issues around communication are not addressed. Government needs to make training

accessible for all with an interest in the sector, this should include a provision for contractors who provide the technical skills needed to maintain our forest resource. There is a need to improve the perception of the sector, by raising awareness of the positive impact forestry has. Awareness of the breadth and depth of job opportunities and the career progression available within the sector is important for both young people and career changers, along with the different entry points.

Wales would benefit from a degree apprenticeship scheme, with the current scheme in England adapted to form the basic initiative. We need qualified, competent professionals with cross-sector skills if we are to address the diverse challenges we're experiencing. In partnership with the Forestry Commission, The Institute are championing apprenticeships for forest craftspeople (Level 3) and degree level Professional Forester (Level 6). These have support work-based placements and offer employment.

7. What do you see as the barriers to address the skills needs in Wales?

The Institute recognises through our collaboration with other industry bodies, groups, fora and outreach work that the forestry sector is facing both a skills gap and a pay gap in the sector which are presenting a barrier to forestry businesses and organisations meeting their staffing needs.

The idea of assigning values to skills is obviously not new but is of increasing importance and interest to both employees and employers as the market for competent and qualified professionals becomes more competitive. Arguably, there is a clear problem with recruitment and retention in the forestry sector within Wales with many moving to England or Scotland to pursue their career. Whilst this is a well-recognised long-term issue, the shortage of skilled staff is an issue being experienced across the whole of the UK. A proportion of our members referred to the movement of people between businesses and to the public sector, with perceived better pay and conditions cited as a factor.

This consultation does not acknowledge the Welsh Government woodland estate, which at 123, 000 hectares, making up around 6% of Wales is vital to the rural economy. With the focus being on the National Forest and maintaining ancient woodlands, we would like to see consideration being given to productive forestry and the skills needed to fulfil the timber crisis. As the UK is the third largest net importer of wood after China and the USA, Wales has a key role to play in ensuring that we develop the innovation and technology to support a move to onshoring for our timber supply.

8. What action is needed to remove those barriers?

Within a circular economy, our members have identified that an inconsistency from Government with providing long-term funding streams is a barrier to skills development. The Institute acknowledges that Government does not need to control every facet but provide and support the opportunity to thrive and simplify bureaucracy – industry can do the rest.

We should be examining how training and skills are provided in other sectors to deliver improvements in our own skills and employment provision. The current categorising of forestry under agri-skills currently - though collaborative and inclusive - may be providing a barrier to those looking to access forestry related training. Future funding schemes for training need to recognise the challenges presented by the structural weaknesses inherent in an industry based on high proportions of microbusinesses and subcontracting arrangements that often cannot afford additional training to develop the business. Without this the status quo is unlikely to change, employers will continue to provide basic, fundamental courses for employees and ignore skills development. Without skills development beyond the basic needs, the business and the sector are unlikely to develop to its full potential.

Without systemic change, Forestry organisations will continue to do what they've always done which may include managing their own skills and recruitment needs in isolation. Systems change is needed. Although difficult it is achievable if we work together collectively. There is a tendency to look to Welsh Government to solve these. It can't. With collective action from all of us, working together with passion, creativity, and energy, we stand the best chance of maximising the opportunities that the Forest Industries provides to society, environment, and the economy in Wales.

9. What is the impact if these skills are not available in Wales?

If we do not get this right, there are risks to individuals and businesses, to the reputation of the sector, to the environment at every scale and to the climate change agenda. There are risks around health, safety and reputation which can often be associated with falling standards. As highlighted in our 2022 position paper "Can't see the skills for the trees – critical shortages in forestry workforce skills put climate targets at risk", there are currently many vacant jobs compared to the numbers of qualified workers. In such busy times, and when often one person is required to 'cover' gaps in the workforce there is a danger that they will not be able to keep up with their continuing professional development. Previously when the sector has been struggling, skills development has gone up as people needed the badge of credibility to set them apart, but in times of boom we have seen professional development fall. However, this should never have been the case; we should be working towards and maintaining high professional standards.

There is a probability that the already limited contractor resource will diminish further. This will heighten competition for forest management contracts and place additional pressure on an already challenging and disincentivised sector, to meet planting targets and manage woodland in accordance with the UK Forestry Standard, resulting in standards slipping. We suggest that the key to increasing activity in Wales is making woodland creation targets more attainable and encouraging all the reasons for tree planting rather than the current perception that the "system" is geared towards reasons not to plant. Maintaining timber production levels with planting of commercial crops both for restocking and new planting will allow timber to continue to contribute to the Welsh green economy with a direct impact on net zero.

Links to other sectors

10. Are there any dependencies with other sectors, with specific links to skills? If so, what are these and what are their impacts?

Farming and forestry are both experiencing cultural, economic and skills barriers to integrating trees on farms. Arguably, business efficiency and profitability are heavily affected by the lack of skills. The Institute believes that allied professions, such as agriculture and forestry should be encouraged to work together and develop opportunities for cross sector learning and collaboration.

We need to resist polarisation through developing closer working relationships between professional foresters and farmers. We know that we need all types of woodland to tackle the environmental crisis, including the materials crisis, and we know that all types of woodland support biodiversity. The input of professional forestry is needed to increase the trust between the public and private sectors. This trust can only be gained by explicit clarity, from knowledge exchange with practising professionals and engaging with the industry on a level of shared understanding.

We recommend that there is a greater degree of joint working between training providers and in-house training offered through organisations' internal programmes. This could be in assessed or formalised modules that could build up to appropriate qualifications.

Skills Groups

11. What groups (steering, advisory) exist currently to gather and capture information on skills needs, undertake mapping and monitoring, or advice on future industry / sector requirements?

Forestry Skills Forum

Wood Knowledge Wales

Environmental Policy Forum

Lantra Wales

The Institute of Chartered Foresters

12. What research have these groups already undertaken?

In 2021, the Forestry Skills Forum published the Forestry Workforce research paper. The results showed an optimistic outlook in the growth of the sector and individual businesses, but a lack of confidence in training & skills provision. As a result, many larger employers have set up their own internal, bespoke training programmes, whilst many smaller businesses offer only ad-hoc training. Neither of these solutions address the wider structural training & educational needs of the sector. Within the training and skills provision, concern has been raised over a lack of cohesiveness in the sector that must be addressed urgently if forestry is to address the timber crisis,

skills crisis, and climate crisis – all of which are fundamental to the sector contributing to and addressing net zero.

Also, in 2021, we published our position paper on “Can’t see the skills for the trees – the critical shortage in forestry workforce skills put climate targets at risk”. Our position highlighted the Prime Minister’s COP26 mantra, ‘coal, cars, cash and trees’, confirming how fundamental trees are to tackling the climate crisis. People need trees and trees need people. We cannot hope to achieve what is required without urgently expanding, upskilling and diversifying the forestry and arboriculture workforce. Immediate action is needed.

Opinions regarding future provision pointed to a need to return to more robust training of focussed forestry skills, whether that be practical or managerial, producing better operators, better silviculturists and more business focussed new entrants and employees. It was felt that the skills required of a career in forestry are undersold rather than focussing on the highly skilled person a new entrant can become.

The Institute in partnership with the EPF, has identified two areas of cross-cutting focus; equality, diversity and inclusion and calling for a collaborative, joined up approach. Respondents reported the need for good practice sharing and collaboration, noting that without these links and boosting green skills, we won’t achieve our environmental and climate commitments. A joined-up approach must also be taken by Government and other decision-makers to ensure there is consistent investment policy.

1.2 Agriculture

Mapping & Key Milestones

1. The Agricultural Bill (Wales) is leading to the Sustainable Farming Scheme in 2025, what new and transitioning skills are required to support new farming practices in Wales?

As per our response to the Agriculture (Wales) Bill consultation, government and regulators need to recognise the skills of woodland managers and stakeholders who are key to the successful delivery of the Sustainable Land Management objectives. There is an important job to do in upskilling farmers, land managers and other stakeholders on the management of trees and woodland. Government needs to consider carefully how advice will be provided and the Institute would welcome a discussion on this. There is an opportunity for better knowledge exchange across land management professions. The Institute has concerns about how critical advice for trees will be provided under the agricultural transition. There are currently an insufficient number of professional foresters to advise farmers and provide access to the competent support and knowledge required.

Addressing the skills needs

2. What type of skills are most needed?

The increased importance of non-forestry skills has come up repeatedly from our members and partners. This has been affiliated with the general deficiency of business and commercial acumen, digital skills, marketing/promotional skills, and those of communication and engagement were a particular focus. These should be core attributes of a modern workforce in any industry, and there needs to be a mechanism for both upskilling the existing workforce as well as making these skills and mind-sets core to basic forestry training.

There has been a highlighted the need for enhanced silvicultural knowledge alongside business and practical skills, and that this is both a problem now and one which was likely to get worse into the future. Providing Agri-workers with a broad suite of silvicultural skills required for management was highlighted as a particularly acute future problem given the continued reduction of FE and HE provision and quality. The Institute recommends that a concerted and coordinated effort be made to increase the core silvicultural knowledge, as it is critical to providing all Agri-workers, including foresters with the skills and knowledge needed for the industry to grow and meet our ambitious planting targets.

3. Is there provision to deliver these skills offered in Wales?

We have observed that it is becoming increasingly common for forestry employers to engage graduates from non-forestry courses, and that these are not just subjects with similar core skills, such as land management or geography, but those from backgrounds in marketing, business studies and traditional humanities. This reflects the feeling amongst employers that that can teach the right candidate the technical skills needed for the specific role. However, this can in some instances lead to individuals becoming institutionalised.

4. What do you see as the barriers to address the skills needs in Wales?

As previously mentioned, the role of microbusinesses is key within both agriculture and forestry – particularly in relation to tree planting, establishment, and maintenance. We foresee a shortage of contractors to undertake this work as potentially one of the biggest barriers to achieving tree planting targets as part of the Sustainable Farming Scheme. A potential solution for workplace learning would be a subsidised apprentice model, to encourage companies to take on trainees but still link to colleges. There are members working for larger corporate companies who view training managers as a lesser challenge, as this can be undertaken through continuous professional development with the Institute of Chartered Foresters. We and other professional bodies have a significant role to play in promoting the role of tree professionals.

5. What action is needed to remove those barriers?

As aforementioned, the Institute believes that allied professions, such as agriculture and forestry should be encouraged to work together and develop opportunities for cross-sector learning and collaboration. Government can support this by providing a

strategic read-across between initiatives involving trees and environment, which will need to be addressed within and across government and national government organisations. Forestry may be devolved but the skills market is trans-UK and there are learnings from the Institutes working with Department for Food Environment and Rural Affairs and the Forestry Skills Forum that can be replicated. This includes the need for incentives for professional development and training and a commitment from government for a strategic agenda; we are encouraged to see that this is being addressed and developed by The Agriculture Advisory Panel for Wales. We would welcome the opportunity for further engagement as the strategy progresses.

6. What is the impact if these skills are not available in Wales?

The Welsh rural economy will collapse and give way to external investment, and only increase the Wales's reliance on imports, completely defying the wellbeing of future generations and decimating Welsh heritage. Our reliance on offshoring for timber supply, would most definitely increase. We need to recognise that the supply chain is not broken, just dated. We can do better. Compared to mainland Europe, we are falling behind with innovation in forestry, particularly with technology and its application. We need to change, as most management in the future will be sitting with Generation Y, who have knowledge of technology, but can't find a suitable way of implementing technology into the sector as it currently is. The digital marketplace can improve the supply chain, offering efficiency and transparency. Arguably, the hurdle is fear, preventing digital from becoming the normal practice with distribution channel shifts and transparency being seen by some companies to be threats. But technology can increase our efficient use of natural resource.

7. Do you have any feedback or ideas/suggestions regarding the skills and knowledge transfer currently on offer for those in Wales?

Increased funding was reported as a key solution to tackling the skills challenge, for a range of skills sets, from soft and transferable skills to deep technical knowledge. Again, the EPF report on green skills suggested that a revision of funding included further education and professional organisations, would enable the delivery of quality education and training respectively. It is recognised that there is a gap within planned activity for financial incentives, therefore this forms a key recommendation. Incentives could include bursaries, encouraging entry into the land-based sector as recognition for the environmental, economic, and social benefits that they provide. Ideas for making it easier for businesses to invest in green skills included amending the current structure of the apprenticeship levy to allow access to green and sustainable finance programmes. The Institute also recognises that it has a key role to play within facilitating knowledge exchange amongst professionals and corresponding sectors. We would welcome a conversation on how we could help with linking forestry and farming.

SECTION 3 NET ZERO SKILLS DEFINITION

1. Is the draft definition of Net Zero Skills (page 7 of this consultation) easy to understand? Please consider how clear the definition is in regards to the work you and others do and whether it can be applied in a practical manner.

Whilst the definition is easy to understand, it seems that this is open to perception, interpretation and an understanding of the sector and context. Forestry has a key role to play in achieving net zero on a variety of ambitions. However, unless there is more of a unified understanding of forestry, how the sector operates and the skills within it, it is unlikely that forestry will be seen and accepted as a net zero skill outside of a government framework.

SECTION 5 - EMPLOYERS CHALLENGES CHAPTER

1. What are the key challenges employers face to upskill their staff in net zero skills?

We acknowledge that there is a significant gap between the workforce needed to meet targets and the numbers joining the sector. There is certainly a pressure on salary costs in a profession with an acknowledged national skills gap. Amongst our members, there is great concern that the supply of skilled workers into the sector will not be met to enable planting targets are to be reached. A lack of detailed programme development and consultation from Government, beyond financial commitments and high-level targets has disincentivised the profession and landowners to do more work in forestry. Improved clarity and empowerment will reduce reluctance in recruitment.

For those who do enter the workforce, employers have mentioned the worrying gaps between education and employment which underpin this lack of skills and experience, in part due to the crisis in training provision. A common theme is the need for structured training programmes like graduate schemes and apprenticeships and the associated need for funding for these programmes. However, a complex operating environment with perpetually changing standards and subsidy regimes is feeding uncertainty, thus the “not knowing tomorrow encourages people to continue what they are doing today.”

2. What are the solutions to overcome the challenges?

A clear message from Government is required to the forest industry about its commitment to planting targets to give confidence to the industry, though a settled Sustainable Farming Scheme with a comprehensive Woodland Management element, that encourages landowners to make money from their existing woodland resource.

The Institute recognises that employers and private businesses are key to resolving the skills crisis and must support their employees in gaining these needed skills and encourage them to take up continuous professional development opportunities. We encourage employers to recognise and acknowledge the skills gaps that they have and raise awareness of the opportunities and work cross-sector to meet their needs. We would encourage Welsh Government to recognise companies that have and are

developing their own graduate and other training schemes in house to meet the needs of the sector. Likewise, informal courses provided by many organisations could be captured in some way and come into a national training programme. Additionally, there is an obvious need for a structured national conversion programme for people who have a qualification and, or experience in another subject or sector, but have made a mid-career change to the forestry sector.

3. What would encourage employers to invest in skills for their workforce?

We recommend closer collaboration with industry, perhaps through combining organisations' internal training structures with further and high education. This would allow recruits and employers a degree of flexibility in how training is undertaken and support for transferability between employers. Additionally, Welsh Government should provide support for the degree-level and level 3 apprenticeships.

4. What are the restrictions to developing Welsh supply chains, with regard skills?

As previously mentioned in question 2, clear guidance and certainty is needed around the Sustainable Farming Scheme and woodlands place within it. A comprehensive woodland management element would encourage financial investment and assist with reducing the current stagnation the sector is experiencing around tree planting. The gap is increasing between the Welsh Government's ambition to create 180,000ha of new woodland, with the public perception that investors in Welsh farms do not want to spend money in Wales. With the status quo continuing for limited to no grant support existing for management woodlands, and with 40% of Welsh woodlands currently unmanaged, there is a significant opportunity for professional forest managers to contribute to achieving net zero, should the right support be in place. If woodland maintenance is not supported, there is a chance that the status quo will continue, and little progress will be made to bridge the gap between forestry and farming.

SECTION 8 – ADDITIONAL COMMENTS

We have asked a number of specific questions. If you have any related issues which we have not specifically addressed, please use this space to report them:

Trees have a huge role in mitigating the climate and nature crises and in helping us to adapt to a changed future climate. As the body representing tree professionals, we are proud to be playing our part in this. However, we have serious concerns that we will not meet these challenges without urgently solving the growing skills gap. We need more people from a more diverse range of backgrounds with the broad range of skills essential for modern forestry to thrive. It is imperative that in the rush to deliver on Government targets we don't marginalise expertise and professionalism, lest we end up with a temporary fix that requires a much more expensive investment in future to repair the damage.

Urgent and systemic action is needed from individuals, organisations, public bodies and governments, across departments and borders. If we do not solve the skills

crisis there will be severe consequences for generations to come in the form of poorly planted and managed woodlands, failing urban trees, failure to offset carbon and increased exposure to damaging pests and diseases. In short, we would be failing to address the environmental crisis and to benefit from the huge opportunity for green growth.

It is our collective responsibility to ensure a future forestry workforce that can deliver for climate, nature, people and economic outcomes. We urge you to read our position paper, contact the Institute to discuss further action and work with us to make our goals for the environment a reality.

Please enter here:

Responses to consultations are likely to be made public, on the internet or in a report. If you would prefer your response to remain anonymous