

Green Toolkit





Table of Contents

INTRODUCTION AND USING THE TOOLKIT 3

AIM OF THE TOOLKIT 4

THE NEED FOR GREEN 5

ASSESSING GREENNESS - WHAT COUNTS AS A GREEN OCCUPATION? 6

GUIDANCE THEME 1: CARBON, ENERGY SOURCES AND USAGE 7

GUIDANCE THEME 2: RESOURCE MANAGEMENT 8

GUIDANCE THEME 3: PROCUREMENT AND FULL-LIFE DECISIONS 8

GUIDANCE THEME 4: CONSEQUENCES AND OPPORTUNITIES 10

GUIDANCE THEME 5: DATA AND INNOVATION 11

GUIDANCE THEME 6: RESILIENCE, ADAPTATION AND PREPARATION 11

ROUTE SPECIFIC GREEN CONSIDERATIONS 12

GREEN BEHAVIOURS 13

CREATING THE TOOLKIT 13

Introduction and Using the Toolkit

IfATE works with employers to develop, approve, and revise apprenticeships and technical qualifications. All technical qualifications and apprenticeships are based on occupations recognised by employers. IfATE works with employers to define these occupations in “occupational standards”. Occupational standards describe the knowledge, skills and behaviours needed to be competent in an occupation. It’s therefore important to review them as skills requirements change.

The transition to net zero and nature recovery will change skills requirements. All occupations will need to change, to some extent, and some new occupations will be needed. Government has set an ambition for two million green jobs in the UK by 2030.

This toolkit will help to consider the evolving skills needed for green. It will support creating standards and qualifications which meet the aims below. The toolkit has been designed for different users.

Trailblazers, or employers creating or revising standards

Trailblazers will use the toolkit to add green content to occupational and apprenticeship standards.

When drafting the standard, trailblazers should:

1. Reflect on the six green guidance themes, [route-specific green considerations](#) and any sector-led research. Think how ‘competence’ in the occupation will change as we transition to net zero and nature recovery.
2. Amend the standard to reflect green skills. This could involve:
 - amending existing KSBs to illustrate with green context or examples
 - including green KSBs, including common KSBs
 - enhancing green content in the occupation profile
 - reviewing the suitability of assessment methods and funding for the ‘greener’ future of the apprenticeship

When preparing to submit for approval, trailblazers should:

3. Decide whether the occupation is light, mid, or dark green. This colour shade will be recorded when submitting the standard for approval.
4. Reflect against the validation questions. The answers don’t need to be ‘yes’. Brief explanations will be recorded when submitting the standard for approval.
 - Have you considered nature and net zero in occupation or course content?

- Will the submission result in learners who can work sustainably? This includes a foundational understanding of the meaning of sustainability, and the impact of one's own actions.
- Does the submission contain specific occupationally relevant green content?
- If the submission is at level 6 or 7, will it result in learners who can understand net zero innovation, and advocate for sustainable practices?

Route panel and advisory members

Route panels make sure that apprenticeships and technical qualifications meet high-quality approvals criteria. IfATE and route panels expect standards and qualifications to take green skills, net zero and nature into account. The toolkit can help route panels ensure this, and inform this aspect of approval.

Awarding Organisations

IfATE aims to approve qualifications which will grow and enhance green skills. Awarding organisations can use this toolkit in their IfATE approval application. They should reflect on how course content and delivery embed the themes of the toolkit.

Aim of the Toolkit

IfATE aims to approve qualifications and occupational standards which support the following three aims. The toolkit provides guidance to support this.

A foundational green competence for all learners

All apprenticeship standards and technical qualifications should support learners to work sustainably. This includes a foundational understanding of the meaning of sustainability, and the impact of one's own actions. It may also include an ability to follow sustainability policies and procedures.

Development of specific green skills, knowledge, and behaviours (KSBs)

Where appropriate, standards should include KSBs which are both necessary for competence, and support net zero and nature commitments. Not all occupations will have KSBs which meet both criteria.

Encouraging green leadership and innovation skills

Where appropriate for the occupation and level, standards should encourage green leadership, advocacy, and innovation.

This should always be in the context of employer-focussed, competence-based occupational standards and products.

The Need for Green

As the UK Government Net Zero Strategy sets out, the world has to reduce emissions to as close to zero as possible by 2050 to keep global warming below 1.5°C. If we fail to limit global warming to 1.5°C, floods and fires will get more frequent and more fierce, crops will be more likely to fail, and sea levels will rise driving mass migration. Above 1.5°C we risk reaching climatic tipping points like the melting of arctic permafrost - releasing millennia of stored greenhouse gases - meaning we could lose control of our climate for goodⁱ. 2023 will be the hottest year on record, with the impacts of this already felt in the UK and across the worldⁱⁱ.

The UK has legally committed to net-zero carbon emissions by 2050. This commitment is complimented by environmental improvement commitments. The prime minister has said “there can be no solution to climate change without protecting and restoring natureⁱⁱⁱ”.

These two linked goals and the path to achieve them is known as the ‘green transition’. The green transition will affect all work, as some jobs change and some are newly introduced. The skills required to make this transition, and to live in, develop and support a society which reduces the impact of human activity on the environment, are known as green skills^{iv}.

There are many reasons for considering green skills.

Competent employees. Considering green skills is essential for supporting learners to be competent in the low-carbon, nature-supportive economy.

Legal need. Numerous low-carbon laws before 2050 will mean occupations have to change.

Investment and growth. Both the government and private sector will invest billions of pounds to meet net zero and nature goals.

Competitive advantage. Customer preference for ethical environmental practices and policies is growing.

Attracting and retaining employees. Workers, especially younger workers, prefer jobs which support net zero and nature recovery.

Lower costs. Sustainable, resource-efficient practices generally give better value for money.

Resilience to impacts we already feel. The climate has already changed. New and evolving skills are needed to adapt to the impacts of this.

Fighting climate change. There is a moral benefit to green investment that reduces damage to the environment.

If ATE will therefore expect occupational standards and qualifications to take green into account. This toolkit sets out guidance for making the necessary transition.

Assessing Greenness - What counts as a Green Occupation?

All occupations have different roles in the green economy and face different challenges. As a result, classifying 'green jobs' is complex. The ONS publishes helpful guidance on how different frameworks can be used^v. IfATE has classified occupations into three groups, to reflect the degree to which the occupations directly or indirectly support green.

Light green: The core nature of the occupation will not change, but some KSBs will need tweaking to support sustainable working. For example, a care assistant's core duties will always be addressing care needs. However, the duties can be 'greened' by adding skills like sustainable disposal of PPE.

Mid green: The core nature of the occupation will not change, but how it is applied could do completely. This may mean adding or amending KSBs to support competence in new green technologies and approaches. For example, an engineer may need to learn new skills to move from carbon-based technologies to renewable. But they will use the same core engineering principles, and their job title won't change.

Dark green: The core nature of the occupation delivers nature and net zero ambitions, and cannot do otherwise (if done competently). For example, an energy manager, a sustainability business specialist, an ecologist.



Guidance Theme 1: Carbon, Energy Sources and Usage

To achieve net-zero emissions by 2050, employees and employers will have to decarbonise their processes and energy use. Investing early will likely be less expensive in the long-term. Reducing energy demand, and encouraging micro-generation, reduces costs.

Some occupations will need specific skills to deliver and maintain these changes (e.g. a low carbon heating technician). Others will need a smaller change in skills to anticipate and work alongside energy changes.

Energy Efficiency. Improving energy efficiency in processes, buildings, and ways of working. This could include skills for making use of automation and new technologies.

Adapting to low-carbon technology. Skills for using lower carbon technologies. For example, adapting to use induction cookers instead of gas, without affecting quality. Another example may be using digital teaching materials.

Reducing the need for travel and virtual working. There are many skills associated with successful virtual working. For example, building rapport remotely, or collaborating in a 'hybrid' team.

Green IT. Skills for reducing energy consumption and carbon footprint in digital services. This could include improving the efficiency of code, making use of automation, and reducing storage and bandwidth. It could also include greener day-to-day practices. For example, 3 e-mails, or 2 google searches, use the same amount of carbon as boiling a mug's worth of water (~7 grams)^{vi}.

Low carbon transport. This could include planning around electric vehicles and two wheeled vehicles. Or thinking how low-carbon transport, including intermodal travel, can be used. It could also include forward- planning to increase efficiency of deliveries.

Carbon accounting. Understanding, tracking, and reporting on carbon emissions. Offsetting where appropriate.

Renewable energy sources. Employers may consider micro-generation, such as solar panels and wind turbines. These may need skills to install and maintain, and impact day-to-day ways of working. For example, employees may need to learn to time operations to avoid night, or to set machines to keep electric draw below capacity.

Guidance Theme 2: Resource Management

Moving to a circular economy is key for a sustainable future. Making resource management a conscious part of decision-making benefits the individual and organisation. For the individual, it encourages personal development and accountability. For the organisation, reducing resource demand and increasing efficiency will reduce cost.

The circular economy. Skills for maintaining products for as long as possible, and reusing end of life products. These can be productively used again and again, creating further value.

Designing for re-use and repair. Designing or selecting products, services, and machines which are easy to repair and maintain.

Partnerships. Finding and maintaining partnerships with other organisations, reducing waste by exchanging 'waste' materials.

Harm-minimising materials. Use or recommend products and materials with lower environmental impact. For example, recommending powder inhalers instead of propellants; using timber instead of concrete.

Energy recovery. Deriving energy from waste if it cannot be repaired, recycled, or reused. For example, by incineration with energy recovery, gasification and pyrolysis, or anaerobic digestion.

Reducing quantities to reduce waste. This could include reducing packaging, or reducing portion sizes.

Increasing efficiency to reduce waste. Improving ways of working or process to reduce the raw materials needed for the same output. This links to theme 5.

Harm-minimising disposal. Following industry or government standards for management of hazardous substances. Environmental Permitting Regulations and ISO 14001 may provide a helpful framework.

Strategy and planning for zero waste. Embedding sustainability in business models, even when more costly in the short-term. For example, re-selling returned goods, or matching production to expected demand (and not more).

Consistently recording and tracking waste. Tracking resource use can help make informed decisions. Using the UN Resources Framework to report on resource usage could help with global resource data modelling.

Guidance Theme 3: Procurement and Full-Life Decisions

Sustainable procurement is the process of meeting goods, services, works, and utilities needs in a way that achieves value for money on a whole life basis.

Considering all the costs over the lifespan, like maintenance, decommissioning, and environmental impact, can save money in the long run. Scrutinising the actions of suppliers can protect against greenwashing and other reputational harm. Holding suppliers accountable is also best practice for ensuring delivery and maximising value. It can also support other aspects of sustainability, like human rights.

Governance. Decision-making should consider holistic costs, benefits, and impacts. Learners can learn what effective governance means, and how its components come together. They may also learn specific skills for holding suppliers to account.

Techniques for holistic decision-making. This could include learning how to calculate the total cost impact of a decision, including the long-term impacts. It could also include specific practical skills, like completing environmental impact assessments.

Due diligence. Consider a supplier or partner's ability to address sustainability concerns. Factor sustainability concerns into the tender or partner selection process. Learning to evaluate suppliers, and think across-the-supply-chain, will be a useful net zero skill.

Contract management. This includes understanding and navigating responsibilities and accountabilities in contract management. It can also include encouraging clear reporting.

Taking responsibility. Taking responsibility for practice across the supply chain, upstream and downstream.

Partnering. Considering partnerships and relationships to support net zero and nature aims. For example, carbon offsetting, or using fairtrade or otherwise certified suppliers. Local partnerships may be particularly helpful to consider.



Guidance Theme 4: Consequences and Opportunities

There are huge opportunities in the net zero and nature transition. Similarly, there will be consequences if organisations don't adapt. Understanding these can help learners make thoughtful decisions and builds personal responsibility. This can help grow a long-term ability to challenge and improve practices. Where appropriate, it can encourage learners to champion green practices, inspiring others. Studies show that young people want careers that allow them to help tackle climate change^{vii}.

Personal Impact. Understanding the impact of one's own actions is the first step for personal responsibility. Personal responsibility underpins all sustainability aims, as it gives people motivation to improve. Understanding wider sectoral impact and the 'big picture' is also important.

Legal compliance. Knowing how to follow the right environmental and net zero legislation is likely to be important in all sectors.

Competitive advantage. The demand for sustainable services and products is increasing among customers. This means sustainable practices can give a competitive advantage^{viii}. Learners may benefit from understanding customers' green preferences, and knowing how to adapt to meet them.

Sectoral targets. Understanding sectoral or organisational targets, and how day-to-day work can deliver against them.

The bottom line. Understanding the financial implications of sustainable and unsustainable actions. Sustainable practices are often in line with cost-saving, particularly in the long-term.

Investment opportunities. There is a rich grant and investment landscape for green growth. Government incentives and private funds can both finance green improvements.

Reputational risks. Unsustainable practices, including in the supply chain, can risk damaging brand and market share. Analytical and practical skills can help identify, check, and reduce these risk.

Ethics. There is a moral risk associated with contributing to climate breakdown. Understanding climate change, how we cause it individually and corporately, but also how we can mitigate it, can help all learners.

Advocacy and inspiration. Some occupations present opportunities for inspiring others. For example, education professionals can inspire young people to act sustainably.



Guidance Theme 5: Data and Innovation

Learning to use data and technology are key skills for learners and important for net zero. Tracking how resources are used and wasted is often the first step to find areas for improvement. It can help the sector and government predict demand, help planning, and improve delivery.

Higher level education often teaches critical evaluation, leadership, and innovative thinking. Employers can benefit from advanced learners taking responsibility for challenging and improving practice. IT can help them manage the challenges of the green transition, including for their reputation, long-term resilience, and bottom line. It can also help them seize new opportunities and use innovative ideas.

Collecting sustainability data. Identifying what to track, and how to do it It may be useful to track energy use, waste generation, water use, and carbon emissions. This may include reviewing power invoices, meter readings, or more complex carbon accounting.

Data Use. Appropriately managing data. Considering the carbon footprint of data storage, alongside privacy laws.

Informed decisions. Reflecting on resource and energy use data, and making informed decisions on savings.

Building trust and accountability. Working transparently by sharing green data and progress towards goals. Building trust and shared accountability with customers, the community, and investors.

Evolving and improving practice. Innovating to evolve policies, improve ways of working, and find efficiencies.

Inventing and creating. Exploring new green services, new markets, and new products.

Partnering. Working with other organizations and the local community.





Guidance Theme 6: Resilience, Adaptation and Preparation

Alongside prevention, adaptation is an important aspect of the climate strategy. The climate crisis will cause more extreme weather events, like heatwaves, storms, floods, and droughts. All sectors will need to adapt, and many employees will need new skills to prepare for these events.

Service continuity. Ensure training and contingency planning for emergencies to ensure staff and customer safety. For instance, making sure patients are safe in care homes during heatwaves. Also, ensuring education services continue during disruptive storms.

Emergency modelling and planning. Linked to the above, anticipate and plan for climate-related emergencies. This could involve preparing for known dangers in new places, like wildfires in areas that were not at high risk before. It also includes being aware of new risks, such as the fire hazards of hydrogen and lithium batteries. Additionally, it means being ready for more frequent and severe events.

Supply chain management. Resilient supply chain management may mean identifying substitutes, and building capability to adapt. For example, if a specific medicine, or ingredient, becomes unavailable.

Designing for resilience. Designing products and services to be climate change resilient. For example, anticipating extreme weather when designing infrastructure, insurance, or agricultural systems.

Changing legislation. As we work towards net zero, employers will need to consider how they will adapt to future policy changes. This includes considering likely future legislation now. It also includes considering behaviours and skills for agility and adaptation.

Route Specific Green Considerations

These [route specific considerations](#) have been compiled to prompt ideas and conversations. They are not mandatory Knowledge or Skills statements.

Instead, they may be helpful for:

- illustrating the occupation description and duties with examples
- adding examples to the KSBs
- tailoring into KSBs
- amending and enhancing more general KSBs
- enhancing and expanding on KSBs in a qualification design and delivery

It may be useful to use this guide and the Common Green KSBs together. There is a section for each route.

Green Behaviours

Green behaviours are ways of acting which will help achieve net zero and protect nature.

Level 2 or 3

Takes responsibility for acting sustainably. Demonstrate a personal commitment to achieving environmental and net zero aims.

Level 4 or 5

Understands how actions can lead to sustainable outcomes. Considers through-life sustainability when making decisions. Embeds and champions sustainable working practices. Takes an interest in new green developments and innovation in the sector.

Level 6 and 7

Considers wider relevant factors, including the environment, ethics, legal compliance, and competitiveness. Actively changes and improves ways of working based on this. Feels empowered to challenge practices and behaviours where appropriate.

Recognises the scope for sustainable outcomes in their actions and approaches. Considers through-life holistic sustainability and circular economy when making decisions. Champions these sustainable working practices, inspiring others.



Creating the Toolkit

This document was formally known as the “Sustainability Framework”. The net zero and nature agenda is an important aspect of Sustainability. According to the UN goals, Sustainability also includes human, social, and economic factors. IfATE's Equity, Diversity, and Inclusion toolkit may be helpful for considering some of the 'human' and 'social' factors. IfATE has created these two toolkits in response to employer and government demand for support in these specific areas.

The Construction Route Panel published the "Sustainability Framework" in Summer 2021. It was refreshed and renamed in Autumn 2023 by IfATE, with support from employers groups. Employer advisory groups included the GATE-AP, the Energy and Utilities Advisory Panel, and Route Panels.

ⁱ Net Zero strategy, [Net Zero Strategy: Build Back Greener - GOV.UK \(www.gov.uk\)](https://www.gov.uk/net-zero-strategy)

ⁱⁱ Data from Copernicus, [Home | Copernicus](https://www.copernicus.eu/)

ⁱⁱⁱ The Prime Minister COP 27 Speech, published in Powering Up Britain Strategy [Powering up Britain - GOV.UK \(www.gov.uk\)](https://www.gov.uk/powering-up-britain)

^{iv} CEDEFOP (2010) Defines green skills “the knowledge, abilities, values and attitudes needed to live in, develop and support a society which reduces the impact of human activity on the environment”. *Skills for green jobs: European synthesis report*. P.20. CEDEFOP.

^v “Green jobs” update, current and upcoming work - Office for National Statistics (ons.gov.uk)

^{vi} Study conducted by Alex Wissner-Gross, Harvard. [Google Search Generates 7q of CO2, says Study \(searchenginejournal.com\)](https://searchenginejournal.com/google-search-generates-7q-of-co2-says-study/)

^{vii} Research by EY.

[UK shoppers say high prices and product confusion stop them shopping more sustainably, EY survey finds | EY UK](https://www.ey.com/en-gb/uk/shoppers-say-high-prices-and-product-confusion-stop-them-shopping-more-sustainably-ey-survey-finds)

Other Useful Resources

. There are many general online resources on each of the six green guidance themes. Some initial suggested links are provided below.

General Information

[UN Sustainable Development Goals](https://www.un.org/sustainabledevelopment/)

[Net Zero Strategy: Build Back Greener - GOV.UK \(www.gov.uk\)](https://www.gov.uk/net-zero-strategy)

[Environmental Improvement Plan 2023 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/environmental-improvement-plan-2023)

Carbon and energy

[Carbon Trust](https://www.carbontrust.com/)

[Energy Saving Trust](https://www.energysavingtrust.org/)

[Climate change and energy - Government Detailed Information](https://www.gov.uk/guidance/make-your-technology-sustainable)

[Energy Efficiency - Government Detailed Information](https://www.gov.uk/guidance/make-your-technology-sustainable)

<https://www.gov.uk/guidance/make-your-technology-sustainable>

Resources

[WRAP – Circular Economy and Resource Efficiency Experts](https://www.wrap.gov.uk/)

Procurement

[Procuring the Future Report](https://www.procurement.gov.uk/)

[CIPS Knowledge Summary Sustainable Procurement](https://www.cips.org/knowledge-summary/sustainable-procurement/)

[UN Procurement Practitioners Handbook 4.5 Sustainable Procurement](https://www.un.org/development/desa/policy/2019/05/20190501-un-procurement-practitioners-handbook-4.5-sustainable-procurement/)

[Sustainable Procurement Platform](https://www.sustainableprocurementplatform.com/)

[UN ESC Recommendation N°43: Sustainable Procurement](https://www.un.org/development/desa/policy/2019/05/20190501-un-procurement-practitioners-handbook-4.5-sustainable-procurement/)

Opportunities and Consequences

[Stakeholder alignment on sustainability for competitive advantage | World Economic Forum \(weforum.org\)](https://www.weforum.org/stakeholder-alignment-on-sustainability-for-competitive-advantage/)

[Powering Up Britain: Net Zero Growth Plan - GOV.UK \(www.gov.uk\)](https://www.gov.uk/powering-up-britain-net-zero-growth-plan)

Data and Innovation

[UK Net Zero Research and Innovation Framework - GOV.UK \(www.gov.uk\)](#)

[Innovate to net zero | Sustainability | McKinsey & Company](#)

Resilience, Adaptation, and Preparation

[Get ClimateReady - Met Office](#)

[What is climate change adaptation and why is it vital? | World Economic Forum \(weforum.org\)](#)

[Climate Adaptation | United Nations](#)