

LEICESTER AND LEICESTERSHIRE

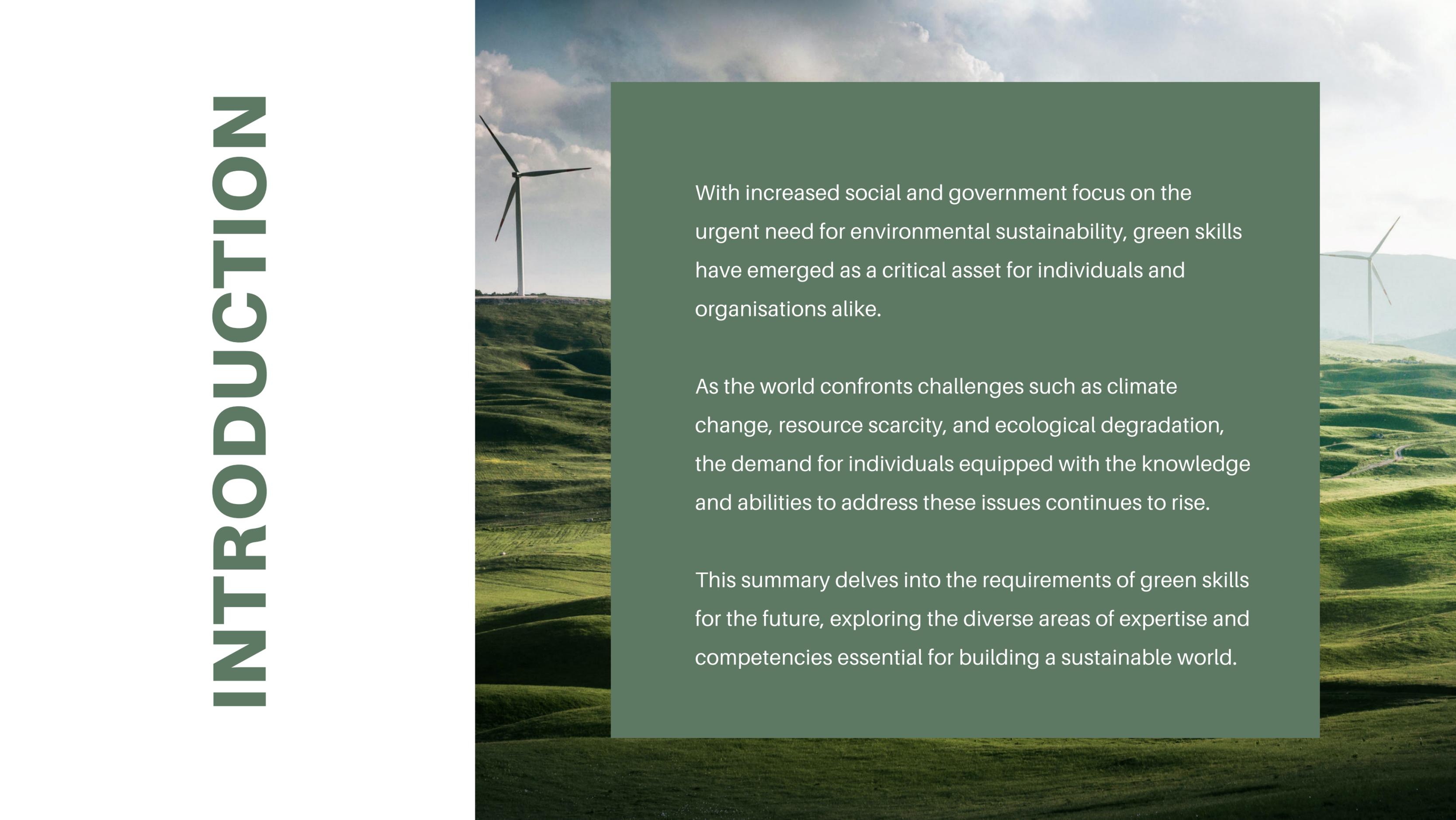


Green Skills

Produced by the Leicester and Leicestershire Enterprise Partnership



INTRODUCTION



With increased social and government focus on the urgent need for environmental sustainability, green skills have emerged as a critical asset for individuals and organisations alike.

As the world confronts challenges such as climate change, resource scarcity, and ecological degradation, the demand for individuals equipped with the knowledge and abilities to address these issues continues to rise.

This summary delves into the requirements of green skills for the future, exploring the diverse areas of expertise and competencies essential for building a sustainable world.



What are Green Skills?

Green skills can be defined as the knowledge, skills, and behaviours that individuals possess to understand, address, and mitigate environmental challenges. These skills encompass a wide range of disciplines and fields, including but not limited to: renewable energy, sustainable agriculture, waste management, green building, water conservation, and environmental policy.

Green skills go beyond traditional job-specific expertise. They involve understanding the principles of sustainability, being aware of the environmental impacts of various activities, and possessing the technical know-how to implement eco-friendly practices.

Green skills are not limited to certain professions but can be integrated into diverse roles, enabling individuals to drive positive environmental change and shape a more sustainable future.

"Employment in an activity that contributes to protecting or restoring the environment, including those that mitigate or adapt to climate change." ONS, 2023



TECHNICAL SKILLS

Required by specialists



KNOWLEDGE

Required by most people to help their day-to-day be more sustainable



BEHAVIOURS

Required across the workforce to meet the changing demands

**GREEN
SKILLS CAN
BE
CONSIDERED
ACROSS 3
CATEGORIES**



Technical Skills

Renewable energy technologies
e.g. hydrogen, solar, wind

Sustainable transportation e.g.
electric vehicle technicians

Construction e.g. retrofit, heat
pump installation, architects

**Scientists, researchers, data
experts**

Policy and compliance expertise

Water management

Electrical Engineering

A person's hands are shown drawing architectural plans on a table. The plans are spread out, and the person is using a red pen to draw. The background is a dark, textured surface.

Knowledge

Carbon literacy

Understanding sustainable practices and harmful behaviours, including the supply chain and future use of products

Basic understanding of policy and regulations effecting business

Understanding the circular economy

Eco-friendly manufacturing processes

Energy efficiency



Behaviours

Innovation and entrepreneurial skills

Communication, influencing decision-making, advocating, capable of influencing stakeholders

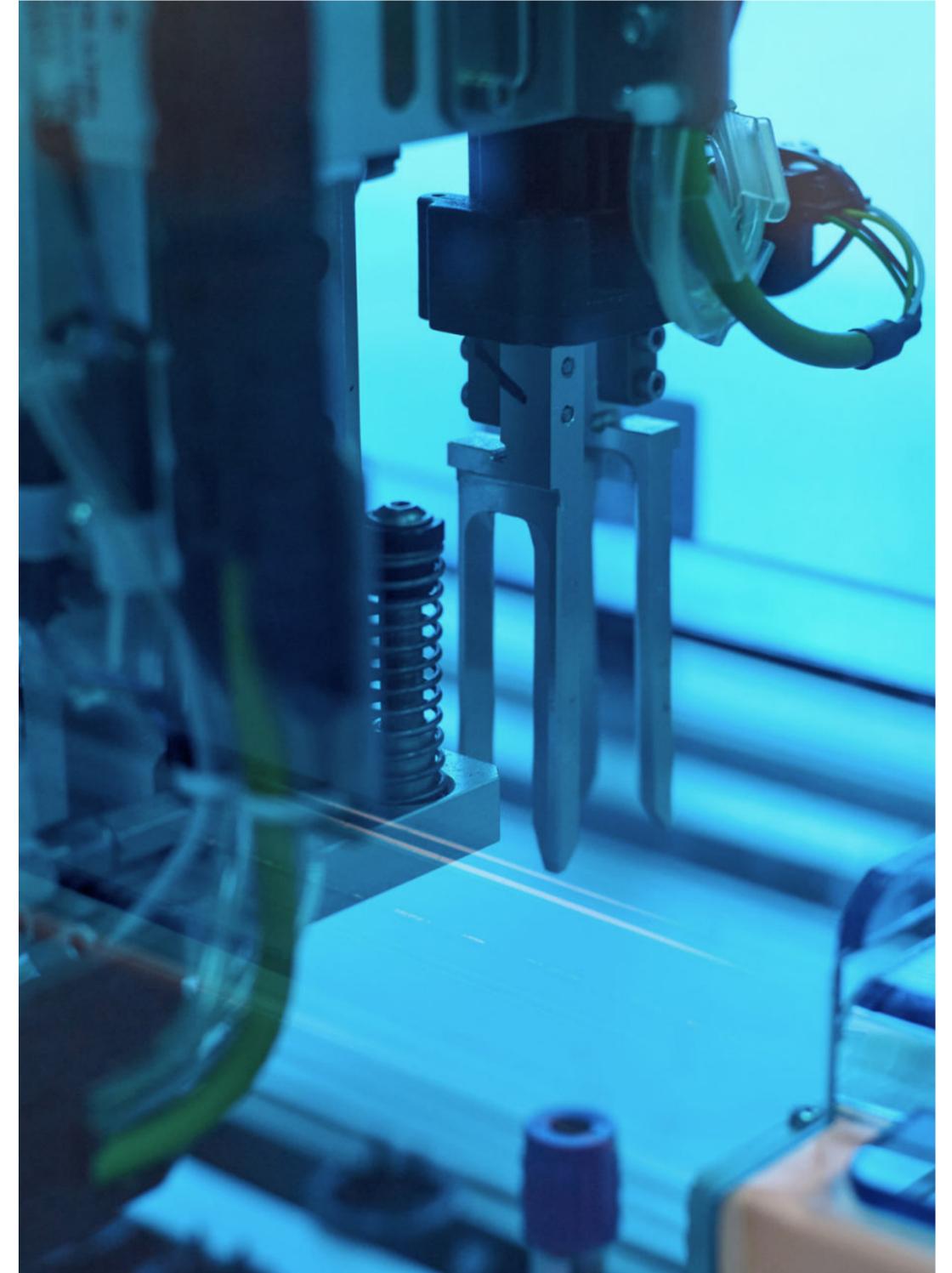
Flexibility and ability to learn new skills and knowledge as solutions evolve

Problem-solving to address complex problems

Willingness to change and adapt

SKILLS AND SECTORS

The skills, sectors and jobs to support sustainable economy will be wide and varied. The following pages consider the main areas in further detail.



SKILLS IN DEMAND

Renewable Energy Technologies:

Expertise in renewable energy sources such as solar, wind, hydro, geothermal, and biomass. This includes knowledge of installation, maintenance, and optimisation of renewable energy systems.

Energy Efficiency:

Skills in energy auditing, energy management, and implementing energy-efficient practices in buildings, industries, and transportation will be essential to reduce energy consumption and carbon emissions.

Sustainable Agriculture:

Understanding sustainable farming practices, organic farming methods, soil health management, agroecology, and efficient water usage.

Green Construction and Design:

Designing and constructing energy-efficient, environmentally-friendly buildings that prioritise renewable materials, energy conservation, and sustainable construction practices.

Circular Economy:

Knowledge of circular economy principles, waste reduction, recycling, and resource recovery will be valuable in transforming linear production and consumption models.

Environmental Policy and Regulation:

Understanding national and international environmental policies, regulations, and frameworks will be important to navigate compliance requirements and develop effective sustainability strategies.

SKILLS IN DEMAND

Water Management:

Skills in water conservation, water treatment technologies, and efficient water use in various sectors, including agriculture, industry, and urban environments.

Conservation and Biodiversity:

Expertise in conservation biology, habitat restoration, wildlife management, and sustainable natural resource management.

Sustainable Transportation:

Knowledge of alternative fuels, electric vehicles, public transportation systems, urban planning, and efficient logistics.

Data Analysis and Environmental Modelling:

Data analysis, remote sensing, and environmental modelling to assess and monitor environmental impacts, predict trends, and inform decision-making processes.

Climate Change Adaptation and Resilience:

Understanding the impacts of climate change and developing strategies to adapt and build resilience.

Environmental Education and Communication:

Effective communication skills to raise awareness, engage communities, and drive behavioural change towards sustainable practices.

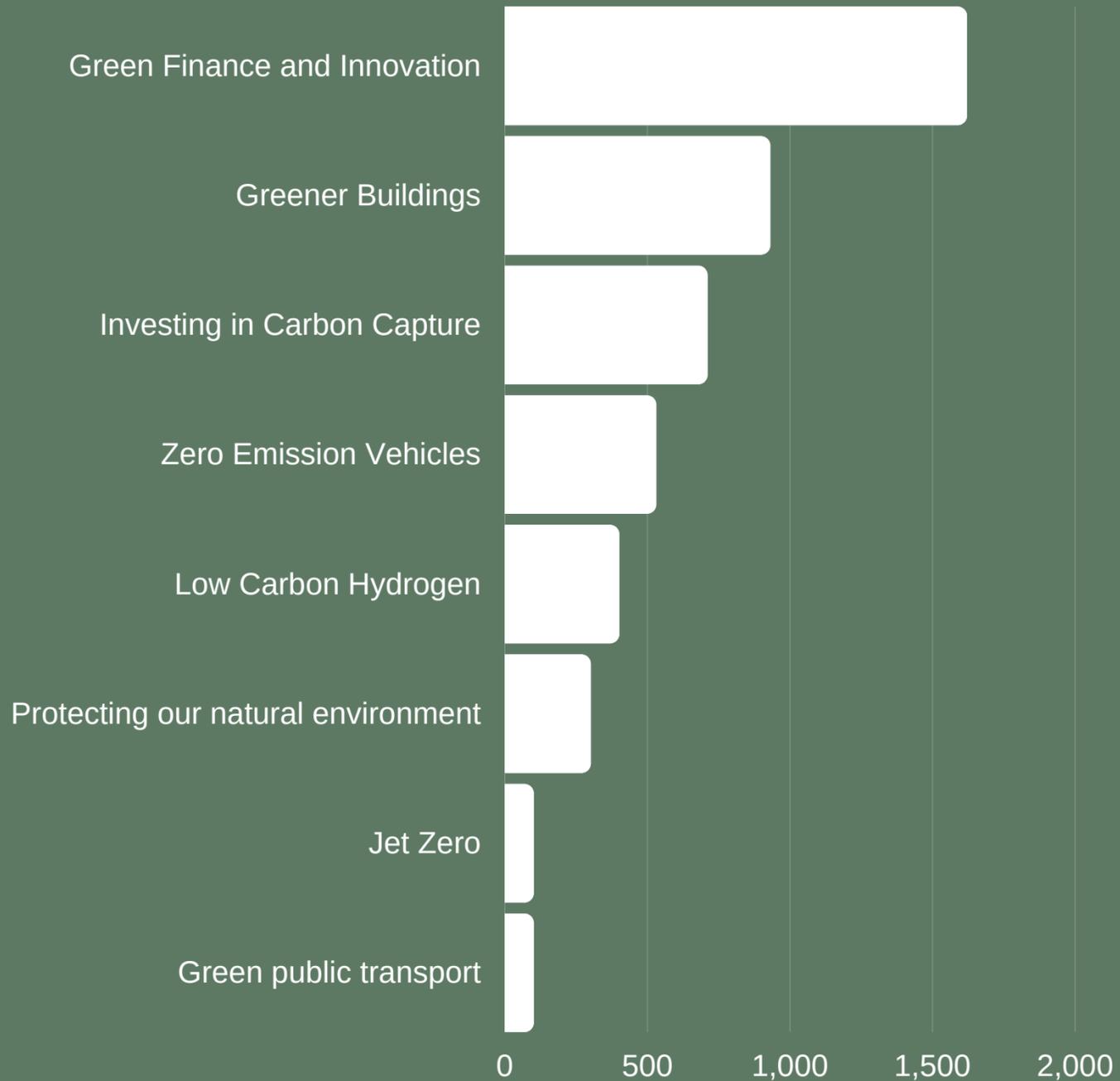


The green sector is dynamic, and individuals with a commitment to lifelong learning and staying updated with emerging trends will be well-positioned to meet the changing skill requirements in the future.

The local picture

Local demand will vary to some extent but also require the cross-cutting knowledge, skills and behaviours detailed. However, some local trends have been identified.

Direct jobs created by 2030 to support a green recovery in the LLEP area



Source: Cambridge Econometrics research 2021

Green jobs in Leicestershire

A 2021 report commissioned by the LLEP looked specifically at Low Carbon jobs in the area linked to the Governments' 'Ten Point Plan for a Green Revolution' (2020). [The Low Carbon Sector](#)

This graph demonstrates where the volume of green jobs are expected to be found with well- established sectors being the highest employers:

- Green Finance (found within Professional Services, a high-volume area of employment locally and nationally)
- Greener Buildings (including Construction)
- Shift to Zero Emission Vehicles (Motor trades)

This analysis suggests that the bulk of green jobs will be in existing sectors and may require a significant amount of retraining and upskilling for current employees.

The report also acknowledged that 1000s more jobs would be created in associated industries and over 21,000 people were already employed in the low carbon sector in 2020.

Green Skills sites in Leicestershire

University of Leicester
De Montfort University
Loughborough University

- HyDEX Hydrogen Skills

Low Carbon
research centres.

Loughborough College

- SDF
- Institute of Technology site

Leicester College

- SDF

Brooksby Melton College

- Regenerative farming courses

SMB group, Coalville

- SDF

NWSLC Wigston campus

- SDF

CLEAR

- Sustainable logistics training centre

MIRA

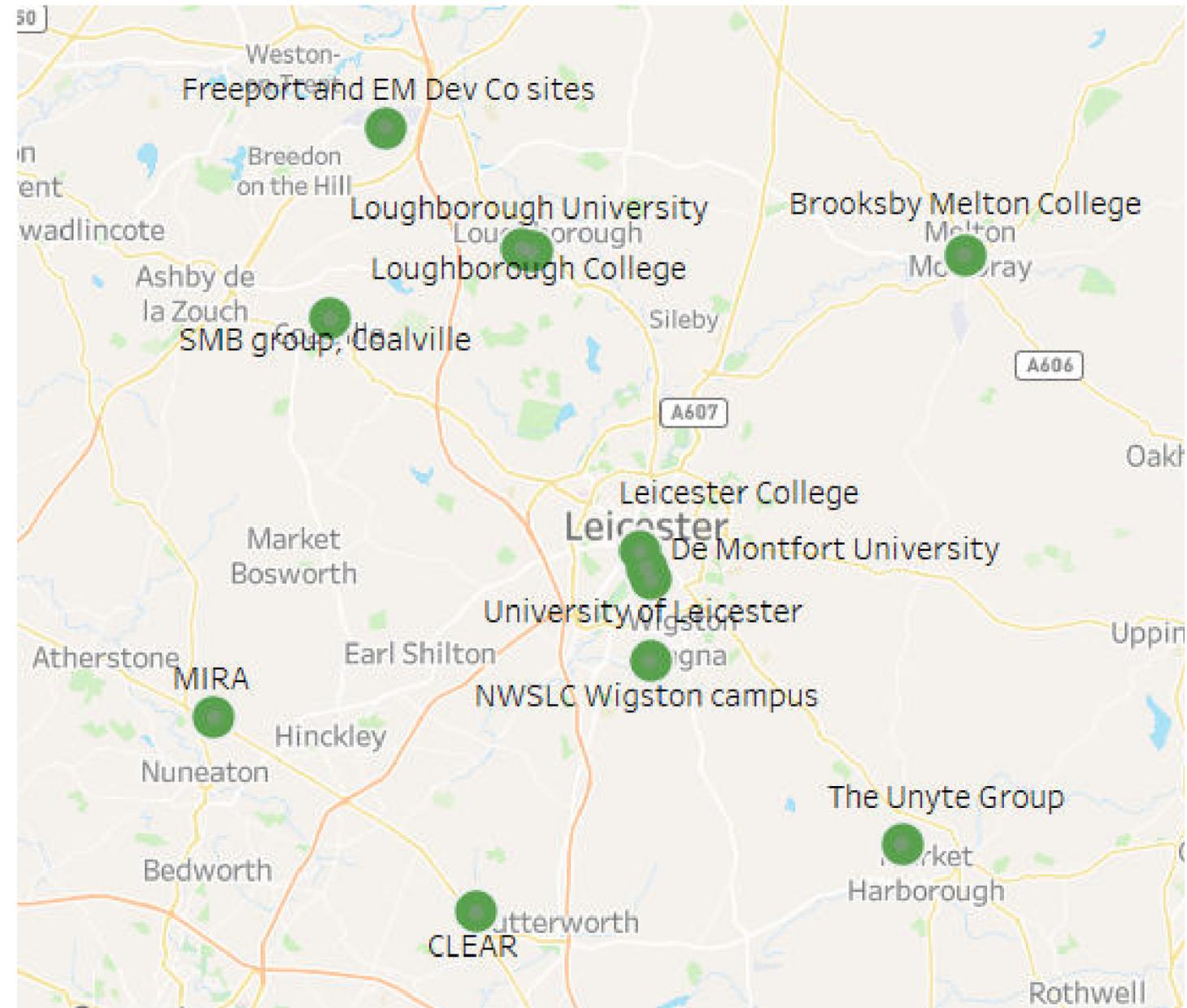
- Hydrogen transport development

Freeport and EM Dev Co sites

- Proposed sites for low carbon businesses

The Unyte Group

- Green Skills training



*SDF - Structural Development Fund to develop skills in electrification and hydrogen



Future work in the LLEP area

Skills Bootcamps

DfE is currently offering Local Authorities and LEPs the chance to bid to provide Bootcamps (short intensive training for work) including Green Skills. Green Skills bootcamps in neighbouring counties are already open for local applicants.

Local skills improvement plan (LSIP)

The LSIP will consider Green Skills as a cross cutting theme as it surveys local businesses and helps local providers commission the right learning and training to support local labour market demands.

FE Colleges

Local colleges are beginning to look at courses such as retrofit, and electric and hydrogen vehicle skills

Institute of Technology

The new IoT, based in Loughborough, will offer higher level courses to support low carbon industries.

HyDEX

HyDEX is a Hydrogen skills and capabilities programme supporting the hydrogen economy in the Midlands., with Loughborough University an active partner.

LLEP area jobs

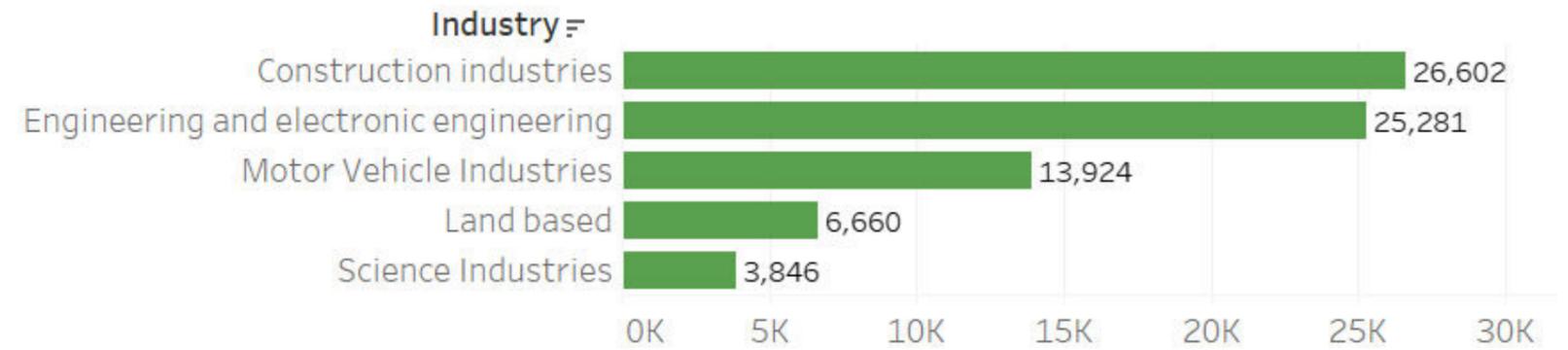
Looking at some of the sectors in scope, we can see that Construction and Engineering jobs will bring the highest volumes.

Engineering and Motor Vehicle industries have a higher concentration locally than nationally.

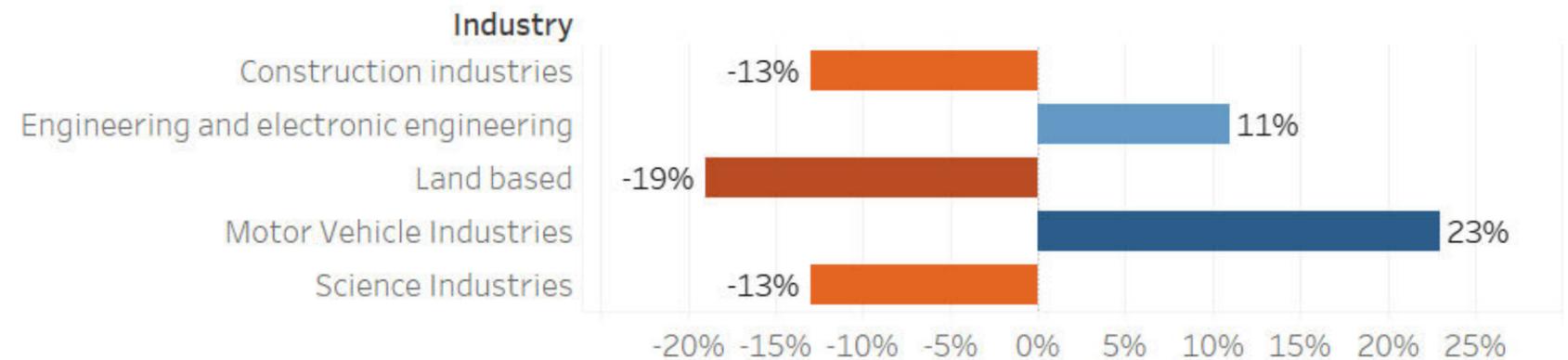
Employees in all the industries considered are currently majority male. This is especially the case for construction and engineering. Work to widen the talent pool in these sectors will be important to meet low carbon ambitions.

Sectors are not exclusively Green Jobs but use sector categories divided to group related industries.

Industries by size



No. of sector jobs compared to national concentration



Sectors by Gender (national data)



Data source: Lightcast Economic Modelling 2022

Jobs growth

Data from the Lightcast Economic Modelling tool suggest that growth in the 4 identified areas will be variable and not huge given the 10-year time period.

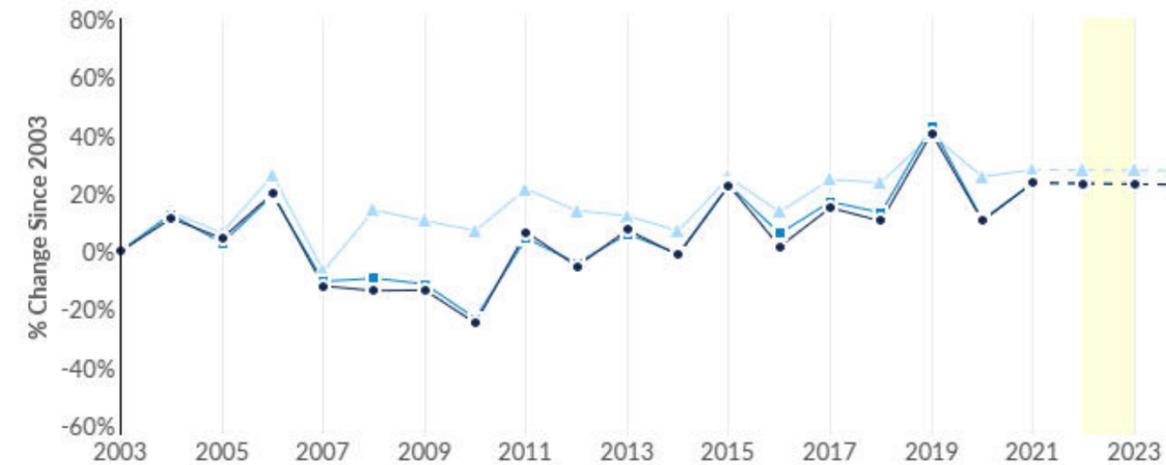
However, aside from growth, skills demand will arise from two other factors:

- Upskilling and reskilling existing employees as their jobs fundamentally change
- Replacing workers leaving the sector, 2-3% annually, variable by sector

In large volume industries such as construction, replacement demand equates to 100s of workers each year.

Sectors are not exclusively Green Jobs but use sector categories divided to group related industries.

Demand for Land Based jobs



Sector	2022 jobs	2031 forecast	Change
Science industries	3,846	3,378	-468
Engineering and Electrical	25,281	26,230	949
Construction	26,602	27,340	738
Motor Vehicle	13,924	15,236	1312
Land based	6,660	6,611	-49

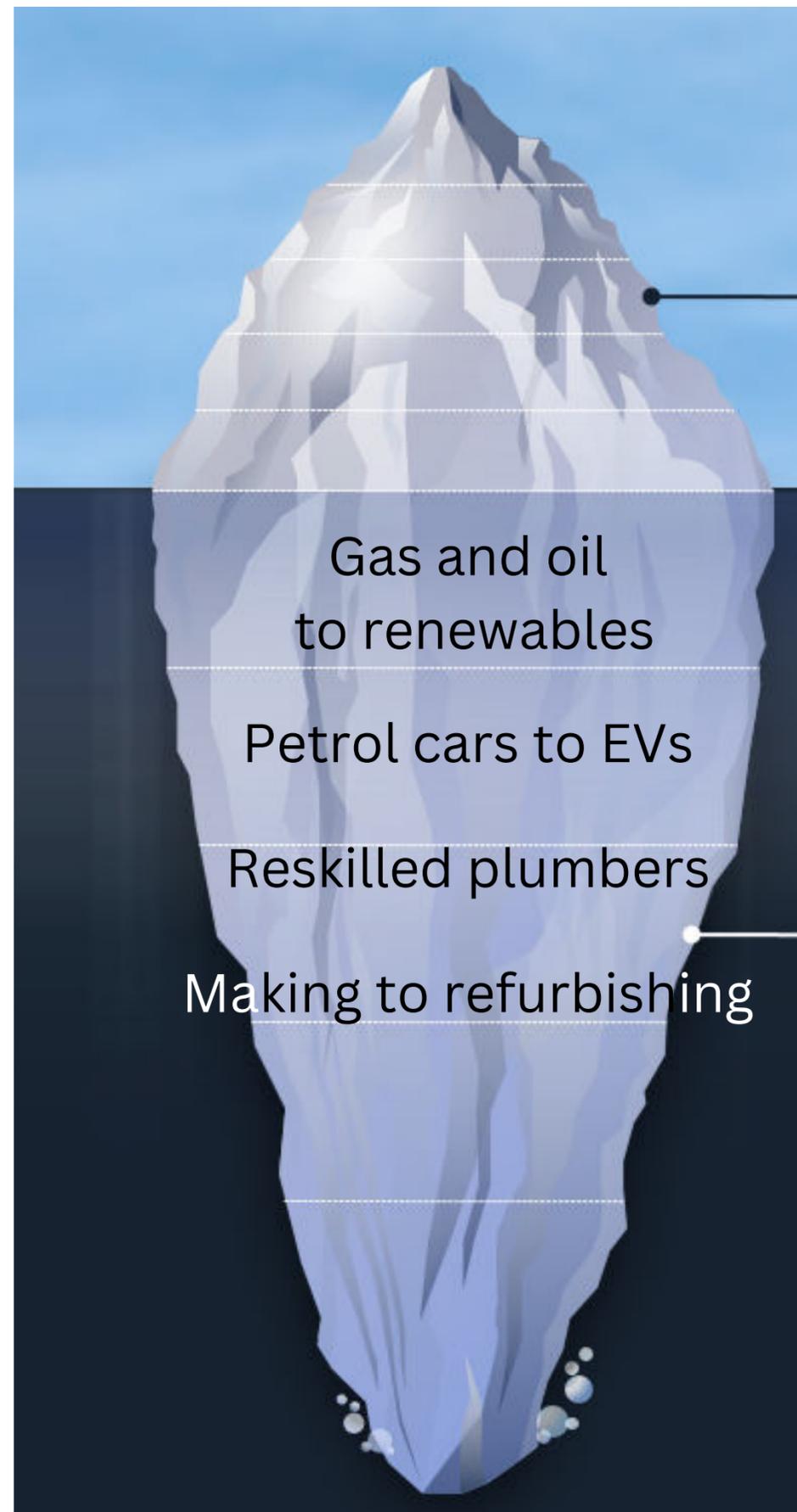
Data source: Lightcast Economic Modelling

FUTURE JOBS

Some jobs will become obsolete in the transition to a green economy. However, the overall function - e.g. heating homes, serving vehicles, will still be required.

Forecasts about future jobs vary wildly, predicting both more and less overall jobs in the low carbon transition.

However, we can be sure that the bulk of jobs affected will be in existing sectors and services.



Number of jobs created or lost

Jobs within sectors that will fundamentally change

When considering the range of skills and the types of knowledge required for a new, sustainable economy, it is important to consider the volume of skills and depth of knowledge in each area.

The economy will not require 1000s of battery technicians and not everyone will need to understand hydrogen electrolysis.

Although it is difficult to forecast numbers, the following diagrams give an idea of the levels of skill and knowledge required.



SKILLS



KNOWLEDGE

Green Skills volumes

Highly specialist skills

Food science and
Agri tech

Carbon capture

Hydrogen
Battery tech

New and transformed jobs

Existing jobs fundamentally changed by low carbon demands e.g. car maintenance, plumbers

New jobs that exist due to new low carbon industries and businesses, e.g. wind turbine engineer

Existing roles with transferable skills needed to support the changing economy

Architects
Electrical engineers

Project Managers
Green Finance

Industries fundamentally changed by low carbon demands

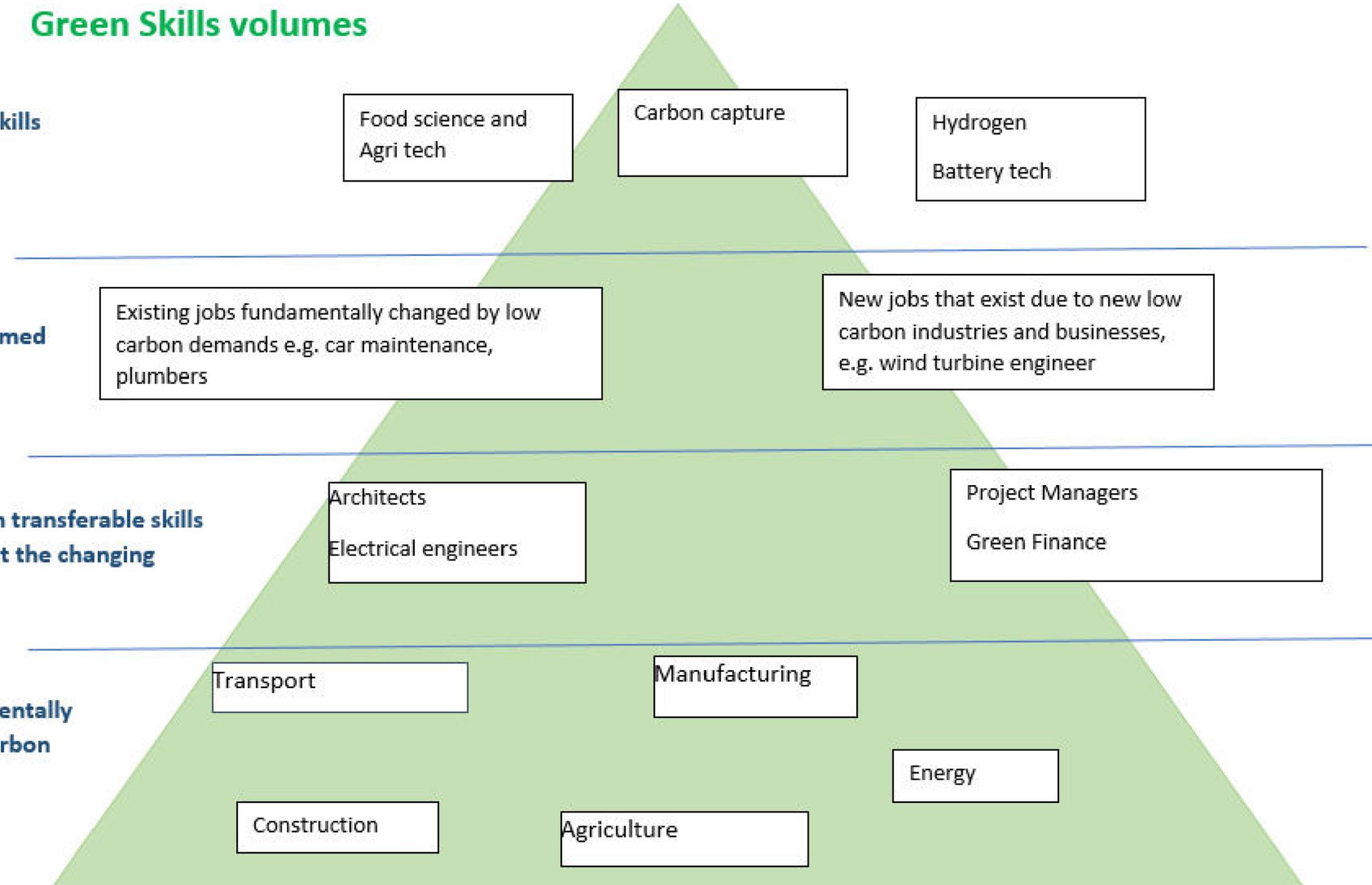
Transport

Manufacturing

Energy

Construction

Agriculture



Green Skills requirements

Highly specialist skills

Specialist Degree Level or highly technical STEM skills e.g. Hydrogen, space observation

Industry specific

Existing jobs fundamentally changed by low carbon demands e.g. car maintenance, construction, energy production, packaging

New jobs that exist due to new low carbon industries and businesses, e.g. waste strategy manager, solar panel fitter

Most people will need

Flexibility and openness to new learning to accommodate ongoing change and new processes

Sustainability skills influencing how your day-today job is performed across sectors

Everyone will need

An awareness of the employers green priorities/induction

Basic Carbon Literacy

Basic knowledge of energy efficiency at work

Three examples...



ELECTRICIANS

Installing charging points at homes and stations, along with the wider electrification of the energy system.



PROJECT MANAGEMENT

...and other professional services such as finance and architects will be required for Low Carbon projects.



CONSTRUCTION

Materials and designs may change but construction and refurbishment of homes and infrastructure is expected to grow.

TRANSFERABLE SKILLS

Many Low Carbon sector jobs will use skills that workers already have, even though the focus or purpose may be for a Low Carbon outcome.

DfE Skills programmes to support the Low Carbon sector

Courses are available at all ages and all levels to support the growth of green jobs.

The local offer will vary according to the local provision available.

		Current or planned provision linked to green sectors
Work-based	Skills Bootcamps (Level 2 – 5)	Delivering a range of Skills Bootcamps, including those that deliver skills to support sustainability and the green industrial revolution, such as retrofit construction, electric vehicles, and woodland management
	Apprenticeships (Level 2 – 7)	Over 100+ apprenticeship standards supporting green skills as identified by the (GATEAP) Other standards such as engineering and manufacture being reviewed by employers for suitability. Portable, Flexi-job and Accelerated Apprenticeships available.
Classroom-based	T Levels (Level 3)	Engineering for construction T Level launched Sept 21 covers retrofit and heat pump installation. From Sept 22, new T Levels in Engineering, Manufacturing, Processing & Control. Agriculture, Land Management and Production available by Sept 23.
	Free L3 Quals (Level 3)	Over 400 free qualifications at Level 3 in Agriculture, Building and Construction, Engineering, Environmental Conservation, Horticulture and Forestry and Science.
	IoTs (Levels 3 – 6)	IoTs offer specialisms in STEM and green sectors such as zero carbon energy production and sustainable engineering. Wave 2 of IoTs (2022) to deliver in wider green sectors.
	HTQs (Levels 4 – 5)	LLE will pilot short course provision at Levels 4-6 to support in-work adults upskill/retrain in STEM/net zero subjects. HTQs (Levels 4-5) rolling out from Sept 2022 in digital, construction and engineering.

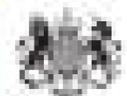
DfE Policy Support

The Department for Education also have a range of policies to support the local development of Green Skills pipelines, including support for Further Education to develop facilities and workforce.

Careers Education, Information, Advice and Guidance	
Careers and Enterprise Company	The CEC supports delivery of careers programmes in schools.
National Careers Service	Up to date and impartial careers advice for adults.
Local Engagement	
Local Skills Improvement Plans	Led by Employer Representative Bodies to support local skills provision to be more responsive to labour market needs.
The Strategic Development Fund	Supporting FE to invest in teaching and facilities to prepare for future demand.
Growing the FE Workforce	
Taking Teaching Further	Supporting FE to recruit experienced professionals into FE teaching roles.
Bursaries	Bursaries up to £29k to support training of FE teachers in priority STEM subjects.

Green Jobs Taskforce

In 2020 the UK Government launched the Green Jobs Taskforce to set the direction for the job market as we transition to a high-skill, low carbon economy. The taskforce concluded in July 2021.



Department for
Energy Security
& Net Zero

Green Jobs Delivery Group

The group was set up in response to recommendation of the government Green Jobs Taskforce.

15 independent recommendations were made for government, local government and the skills sector under 3 themes:

Theme 1: Driving investment in net zero to support good quality green jobs in the UK

Theme 2: Building pathways into good green careers

Theme 3: A just transition for workers in the high-carbon economy

GOVERNMENT POLICY

Government policy continues to evolve. However, the UK has yet to announce a financial package comparable to the US's Inflation Reduction Act (\$369bn in green subsidies) or the EU's Green Deal (up to €1T).

It is likely that a the focus of green skills training will be influenced by future funding priorities at both a national and local level.

Government support is currently programme and competition based, for example funding to support training in retrofit and installation announced in July 2023.



Produced by Leicestershire County Council Business Intelligence in partnership with the Leicester and Leicestershire Enterprise Partnership

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