

GREEN CAREERS AND SKILLS PATHWAYS NORTH WALES

Discover opportunities to
build a sustainable future



Partneriaeth Sgiliau Rhanbarthol
Gogledd Cymru
North Wales
Regional Skills Partnership

INTRODUCTION:

The future is green, and you can be part of it. Across North Wales, industries are changing fast to meet the challenges of climate change and achieve net zero. This shift is creating exciting careers in clean energy, sustainable construction, the public sector, and more.

Why is it important to understand Green Skills and Jobs?

- We have already seen the creation of new roles in areas that didn't previously exist.
- In Wales, there is a strong ambition to grow thousands of skilled green jobs by 2030.
- We will see new roles develop with the emergence of new low carbon technologies and sustainable industries.
- Many roles will require enhanced green skills to meet future challenges.



Whether you're planning your next steps in education, training, or work, this guide will demystify green skills and jobs and show you how to get involved.

This resource will help you:

- Understand what green skills and green jobs really mean
- Explore current and future opportunities available in North Wales
- Discover clear pathways into careers that make a difference
- Understand how to future-proof your skills for growing industries
- Play a role in tackling climate change and building a sustainable future.

North Wales is moving toward a sustainable future - and you can be part of it. Start your journey today and help shape a greener, stronger North Wales.



CONTENTS

Green Jobs	4
Green Skills	5
Why Green Skills Matter	5
Green Skills Pathways	6
Key Sectors Driving Green Skills Demand in North Wales	8
Renewable Energy	8
Hydrogen and Carbon Capture Technologies (HyNet North Wales)	9
Construction, Built Environment & Retrofit	10
Environmental Management & Natural Resources	11
Sustainable Agriculture	12
Circular Economy, Waste Management and Climate Resistance	13
Green Careers in Local Authorities	14
Useful resources	15



GREEN JOBS

What are Green Jobs?

Green jobs are ‘employment in an activity that contributes to protecting or restoring the environment, including those that mitigate or adapt to climate change, or help communities adapt to climate change’.

These jobs are not limited to one sector and can exist multiple industries.

- A green job might involve direct environmental work such as managing renewable energy projects, or it could be a traditional role applied in a sustainable way such as a construction worker using low-carbon materials.
- What makes a job “green” is not always the title, rather it’s the impact and purpose of the work.

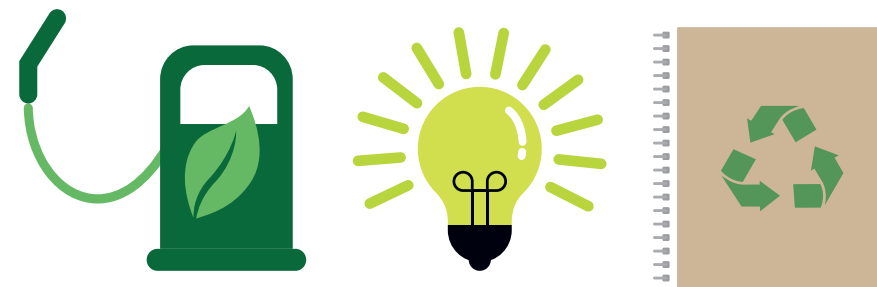


4

Where Are Green Jobs Found?

While green jobs can be present across all sectors, they are more common in industries leading the net zero transition, such as:

- Energy and Environment – including renewable energy, environmental management and forestry
- Construction – including retrofitting buildings with renewable energy resources, sustainable design, low-carbon materials
- Public Sector – including local government climate and transport planning, sustainable procurement, waste management
- Manufacturing and Engineering – including clean tech, resource-efficient production



GREEN SKILLS

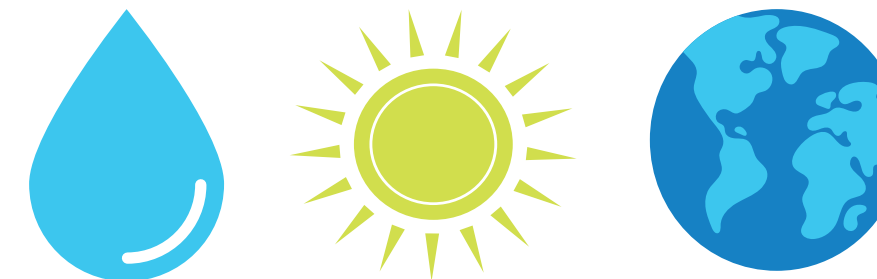
What are Green Skills?

Green skills are the knowledge, abilities, and behaviours that allow individuals to work in ways that support our transition to net-zero and are needed to meet the demands of greening industries.

Green skills are relevant in every sector, not just in jobs labelled “green.”

There are four groups of skills which are especially in demand for green jobs:

- Engineering and technical skills
- Science Skills
- Operation Management Skills
- Monitoring Skills



Examples of these include:

- Maintaining and installing renewable energy or low-carbon technologies (wind turbines, Solar PV Panels, Heat pumps etc.)
- Understanding energy efficiency and carbon reduction
- Applying circular economy principles*
- Managing natural resources sustainably
- Using digital tools to monitor environmental impact

***A CIRCULAR ECONOMY IS ABOUT REUSING, REPAIRING, AND RECYCLING THINGS INSTEAD OF THROWING THEM AWAY**



5

In addition to these skills, a range of transferrable skills are also considered to be increasingly important, not only for green skills, but generally for skills of the future.

CORE TRANSFERRABLE SKILLS IN DEMAND FOR FUTURE ROLES



Why Green Skills Matter

- **New industries mean more jobs**
Green skills support the development of new industries and job creation in areas such as renewable energy, sustainable construction, and environmental services.
- **Adapting to a Changing Job Market**
Green skills are essential for everyone – from school leavers and apprentices to experienced professionals. They support career progression, adaptability, and relevance in a rapidly evolving job market.
- **Environmental Protection**
These skills help safeguard North Wales' unique landscapes, biodiversity, and ecosystems, from the mountains of Eryri to the Dee Estuary.
- **Community Resilience**
Equipping local people with green skills strengthens community responses to climate-related challenges like flooding, coastal erosion, and extreme weather.



GREEN SKILLS PATHWAYS

Whether you're just starting out, changing careers, or seeking to upskill, there are multiple pathways to gain the knowledge and experience needed to thrive in green jobs across North Wales.

How to Get Started:

- **Education and Training**
Colleges, universities, and online platforms offer courses in sustainability, retrofit, agri-tech, and low-carbon engineering.
- **Apprenticeships**
Earn while you learn with hands-on experience in green industries like energy installation and environmental conservation. Apprenticeships are open to all ages and backgrounds.

- **Upskilling and CPD**
Already working? Add green skills to your role with training in carbon literacy, energy efficiency, and sustainable practices – often funded through the Personal Learning Account.
- **Community Projects and Volunteering**
Join local initiatives such as biodiversity projects or recycling schemes to gain experience and build networks.

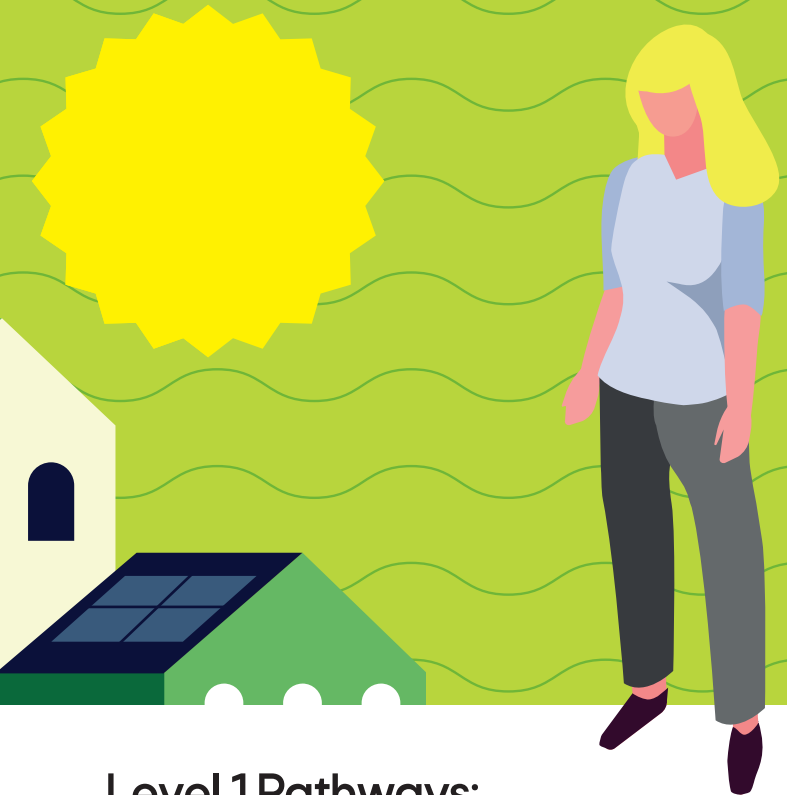
Tip: Use the North Wales Skills Portal to find local training, support and opportunities, and check out Careers Wales for career advice and information.





Entry Level Pathways: Introductory Opportunities

- **Who's it for:** Young people (14–19) and adults with no previous qualifications
- **What's available:** Short courses, community learning, and employability programmes
- **Focus:** Build confidence and essential skills in literacy, numeracy, and employability to prepare for progression



Level 1 Pathways: Emerging Opportunities

- **Who's it for:** Young people (14–19) and adults with no previous qualifications
- **What's available:** Introductory qualifications in green-linked sectors such as environmental, sustainability, and construction
- **Focus:** Develop core employability and practical green skills for further training, apprenticeships, or entry-level roles



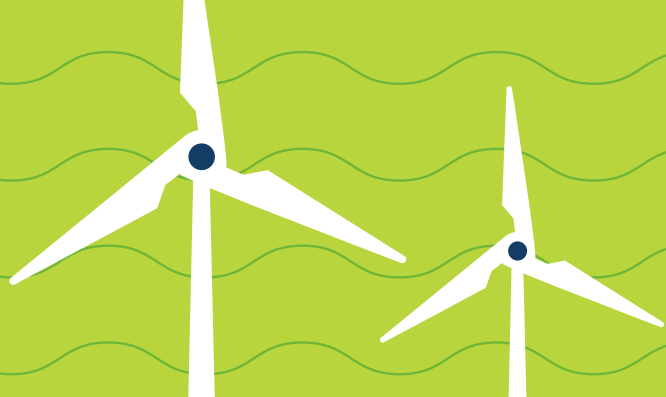
Level 2 Pathways: Developing Opportunities

- **Who's it for:** Young people (14–19) and adults with Level 1 qualifications
- **What's available:** Apprenticeships in agriculture, environmental, forestry, engineering, and advanced manufacturing; additional green-focused qualifications
- **Focus:** Build technical skills and sector knowledge for green careers



Level 3 Pathways: Expanding Opportunities

- **Who's it for:** Age 16+, adults with Level 2 qualifications
- **What's available:** Apprenticeships strongly linked to green careers, including energy & carbon management and construction apprenticeships now available at Level 3 and above
- **Focus:** Build advanced technical and sector-specific skills for skilled roles in energy, sustainable construction, and environmental management
- **Examples of Roles:**
 - Energy Technician (Solar/Wind Installation) (Renewable Energy)
 - Water Environment Operative (Environmental Management & Climate Resilience)
 - Domestic Energy Assessor (Construction & Built Environment)



4

Level 4 Pathways: Advanced Opportunities

- **Who's it for:** Adults aged 18+ with Level 3 qualifications
- **What's available:** Higher apprenticeships and technical routes in construction project management, energy systems, and environmental management
- **Focus:** Prepare for entry-level management or higher technical roles in green leading sectors
- **Examples of Roles:**
 - Carbon & Sustainability Officer Local Authority Green Careers)
 - Project Manager for Retrofit Projects (Construction & Built Environment)
 - Process Technician (Hydrogen & Carbon Capture)

12

5

Level 5 Pathways: Advanced Technical & Management Opportunities

- **Who's it for:** Adults aged 18+ with Level 3 or 4 qualifications
- **What's available:** Diplomas in Sustainability, Environmental Management, and Construction
- **Focus:** Leadership and advanced technical expertise
- **Examples of Roles:**
 - Sustainability Lead or Advisor (Local Authority Green Careers)
 - Retrofit Coordinator (Construction & Built Environment)
 - Renewable Energy Project Coordinator (Renewable Energy)



6

Level 6 Degree-Level Pathways

- **Who's it for:** Adults aged 18+ with Level 3, 4 and 5 qualifications
- **What's available:** Degree Apprenticeships, Honours Degrees, Level 6 Diplomas
- **Focus:** Strategic and specialist roles in green sectors
- **Examples of Roles:**
 - Renewable Energy Engineer (Renewable Energy)
 - Construction Manager with Sustainability Focus (Construction & Built Environment)
 - Environmental Policy Advisor (Environmental Management & Natural Resources)



13

7

Level 7 Postgraduate & Specialist Pathways

- **Who's it for:** Adults aged 20+ with Level 6 qualifications
- **What's available:** Masters Degrees, PGCE, PGDip, Level 7 NVQs
- **Focus:** Senior management, policy, and research roles
- **Examples of Roles:**
 - Senior Sustainability Manager (Local Authority Green Careers)
 - Carbon Capture Specialist (Hydrogen & Carbon Capture - HyNet North Wales)
 - Climate Resilience Researcher (Circular Economy & Environmental Management)



KEY SECTORS DRIVING GREEN SKILLS DEMAND IN NORTH WALES

Renewable Energy

Renewable and Low-Carbon Energy in North Wales

North Wales is a national leader in wind, solar, nuclear and tidal energy, with major projects driving demand for skilled workers in installation, maintenance, and grid integration - with Wales benefitting from 20,000 clean energy jobs by 2030.



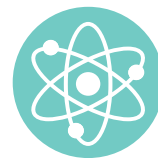
- **Awel y Môr (Offshore Wind)**
Awel y Môr will play a key role in expanding offshore wind capacity in North Wales, creating opportunities in renewable energy, engineering, and environmental management.



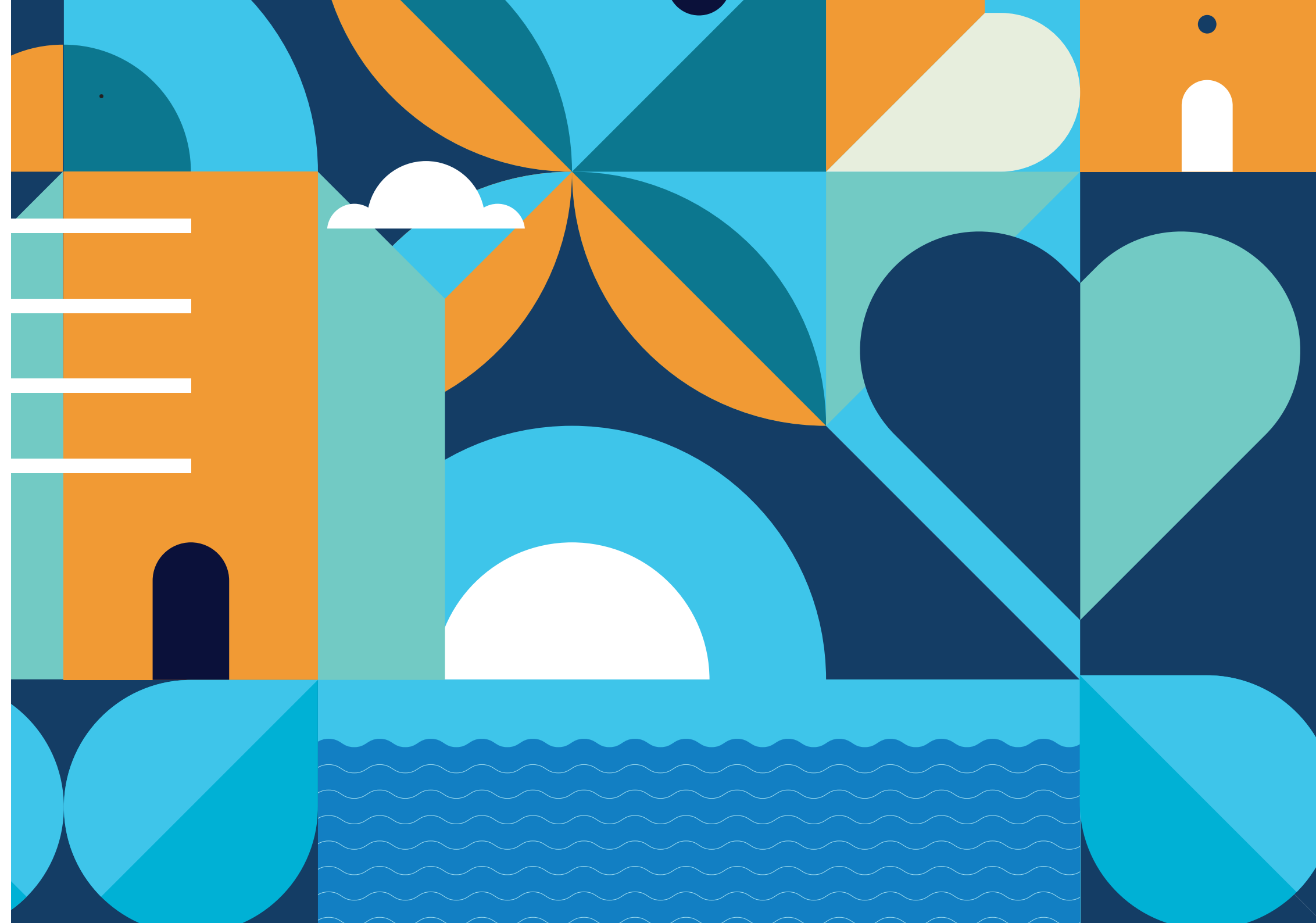
- **ENGIE First Hydro**
One of the UK's largest pumped storage facilities at Dinorwig and Ffestiniog, providing long-term careers in engineering, operations, and energy management.



- **Gwyndod (Wylfa) and Trawsfynydd (Nuclear Energy)**
Strategic sites for new nuclear development and decommissioning, offering long-term careers in engineering, health and safety, and operations.

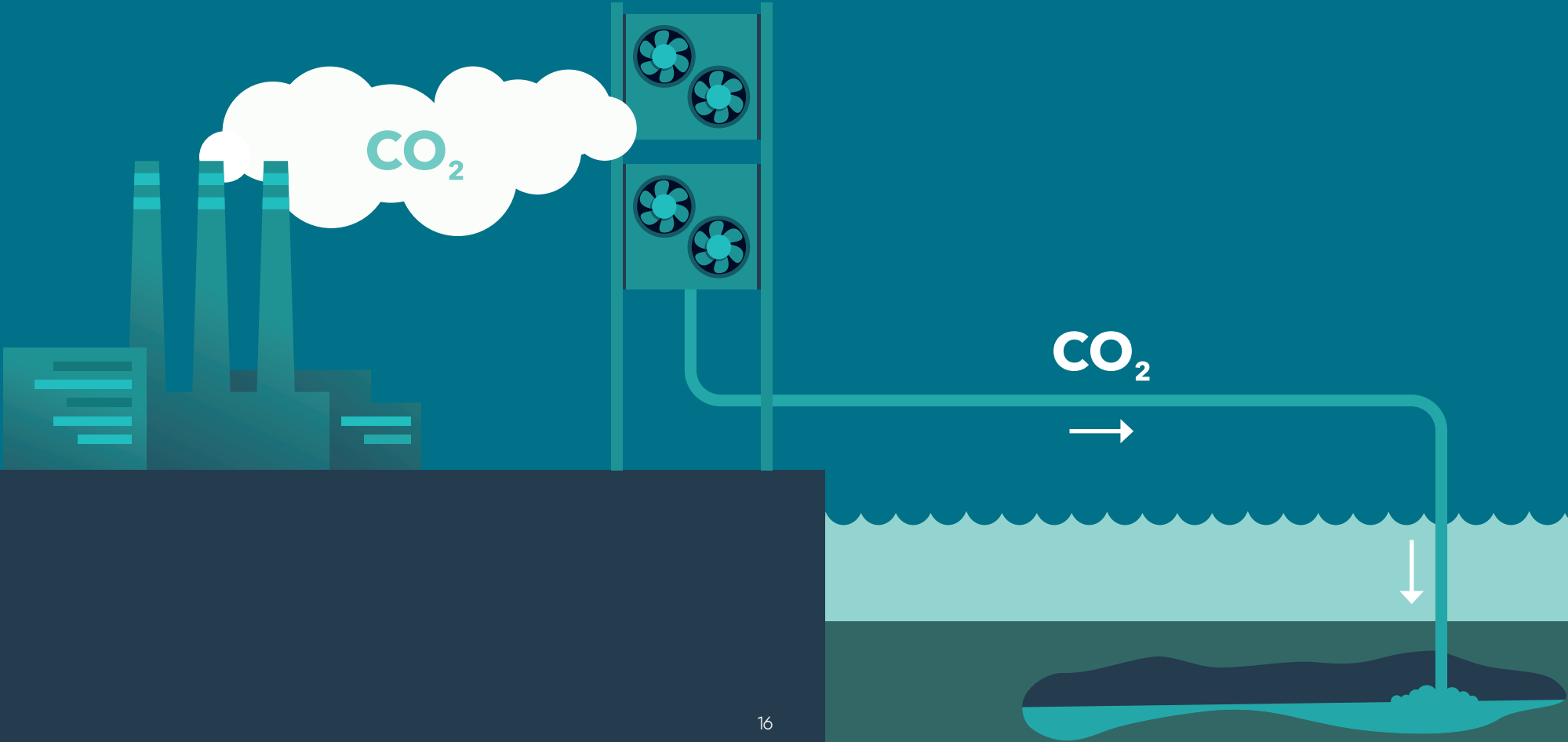


- **Morlais (Tidal Energy)**
Focused on marine energy deployment and monitoring, and will create roles in installation, maintenance, and environmental surveying - currently smaller-scale but growing.



Hydrogen and Carbon Capture Technologies (HyNet North Wales)

North Wales is at the forefront of developing **low-carbon hydrogen** and **carbon capture and storage (CCS)** technologies through major projects like **HyNet**. These innovations are essential for decarbonising heavy industry, transport, and energy systems.



- HyNet is expected to create **thousands of jobs** across the hydrogen and Carbon Capture and Storage (CCS) value chain, supporting Wales' net zero ambitions.

KEY ROLES IN RENEWABLE ENERGY AND CARBON CAPTURE & HYDROGEN		
Skill Area	Example Roles	Typical Entry Level
Engineering & Design	Civil, mechanical, electrical, chemical engineers; control & instrumentation.	Level 3-6+ (Apprenticeship to Degree)
	Essential for building and maintaining Renewable energy systems.	Most roles require a Level 6 qualification or higher
Electrical & Instrumentation	Electricians, electrical fitters, instrument technicians	Level 3-6 (Apprenticeship to Degree)
	Essential for building and maintaining Renewable energy systems and plants.	Most roles require a Level 6 qualification or higher
Welding & Pipefitting	Welders, pipefitters, fabrication specialists.	Level 2-6 (Apprenticeship to Advanced)
	Essential for building pipelines and plants.	Welders are needed at all levels
Rigging & Construction Trades	Riggers, mechanical trades, demolition operatives	Level 2-4 (Apprenticeship or College) Many roles accessible via apprenticeships.
Planning & Project Management	Planners, project managers, site managers, quantity surveyors	Level 4-6+ (Higher Apprenticeship or Degree)
	Ensure projects are delivered safely on time, and within budget.	The sector is growing and needs new talent to replace retiring workers.
Managerial & Support Roles	Health & Safety Managers, technical administrators, finance, procurement and compliance.	Level 4-6+ (Higher Apprenticeship or Degree. Many roles require upskilling in energy systems.



Construction, Built Environment & Retrofit

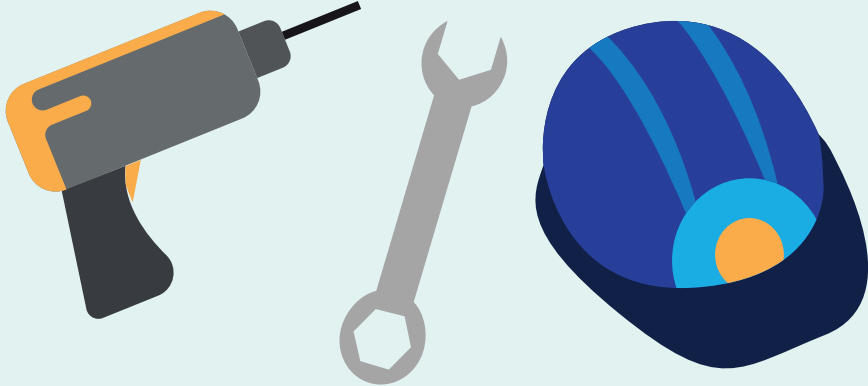
Green construction isn't just about new jobs, it's also about updating the skills of people already working in the industry.

- Construction plays a crucial part in the supply chain of greening industries and renewable energy projects, Awel y Môr (Offshore Wind) alone forecasts up to 2,000 supply chain jobs during construction, including logistics, fabrication, and support services.
- **Electricians, plumbers, welders, bricklayers, engineers, and metal workers** are high demand for skilled trades in renewable energy



KEY ROLES IN CONSTRUCTION, BUILT ENVIRONMENT & RETROFIT

Hands-On Roles



Insulation Installer – Installs loft, cavity wall, and internal/external insulation.

Heat Pump Technician – Fits and maintains low-carbon heating systems.

Electrician & Plumber – Installs and maintains energy systems like solar PV and heat pumps.

General Builder & Roofer – Works with low-carbon materials and supports structural upgrades.

Pipefitter & Rigger – Assembles and positions retrofit systems and equipment

Technical & Management Roles:



Retrofit Assessor – Surveys buildings and recommends energy upgrades.

Retrofit Coordinator – Oversees retrofit projects and ensures compliance with PAS 2035.

Project Manager – Leads construction and retrofit projects, managing budgets and timelines.

Civil Engineer – Designs and oversees infrastructure upgrades for energy-efficient buildings.

Quantity Surveyor – Manages costs and contracts for retrofit and green construction projects.

As Wales moves toward net zero, tradespeople need to learn how to install energy-efficient systems like insulation, heat pumps, and solar panels.

This process is called **retrofit**, and its key to making homes and buildings more energy efficient. Programmes like the **Optimised Retrofit Programme (ORP)** are leading the way, and colleges in North Wales are training workers in **insulation, heat pumps, and low-carbon materials**.

KEY RETROFIT UPSKILLING AREAS:

ELECTRICIAN

- Solar PV Installation
- Energy Storage Systems
- Electrical Retrofit & Controls
- Smart Home Technologies
- Heritage Building Electrical Upgrades

PLUMBER

- Air & Ground Source Heat Pumps
- Biomass Heating Systems
- Solar Thermal Systems
- Low-Carbon Plumbing Retrofit
- Moisture Management in Heritage Buildings

GENERAL BUILDER & ROOFER

- Roofing & Construction for Solar PV
- Insulation & Building Treatments (EWI, IWI, loft)
- Air tightness and moisture management
- Heritage Building Retrofit Techniques
- Energy Efficiency & Assessment

ENERGY EFFICIENCY

- Domestic Energy Assessor
- Retrofit Assessor
- Retrofit Coordinator
- PAS 2030 Installer Specification knowledge
- PAS 2035 Retrofit Coordination Specification knowledge

Environmental Management & Natural Resources

From **Eryri National Park** to the **Clwydian Range**, North Wales is rich in natural assets. Local authorities, national parks, and landowners play a key role in protecting and managing these landscapes. As climate change increases risks like flooding, habitat loss, and biodiversity decline, demand is growing for skilled professionals in **conservation, flood management, forestry**, and **environmental monitoring**.



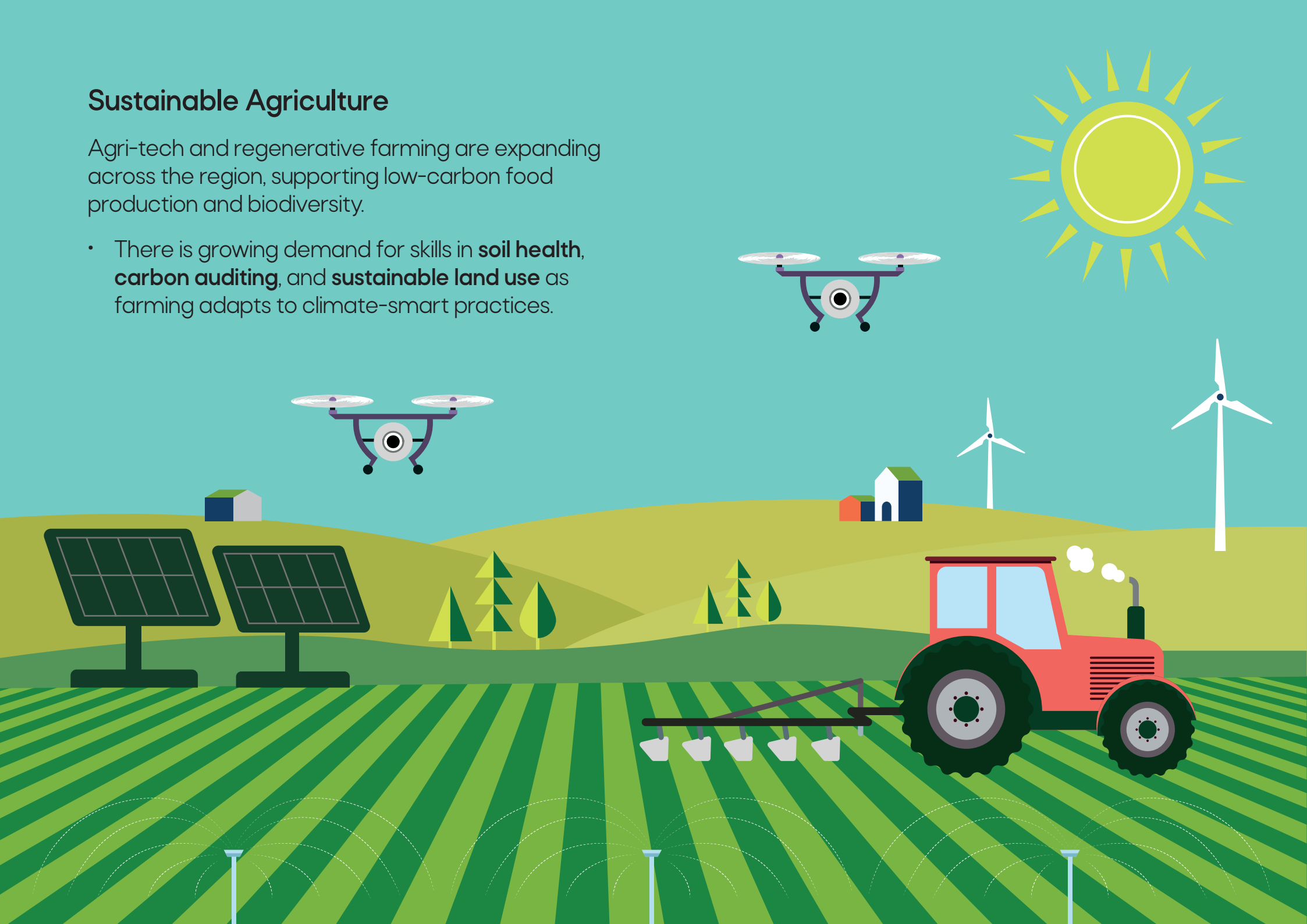
CATEGORY	EXAMPLE ROLES & ACTIVITIES	RELEVANT UPSKILLING AREA
Field-Based Roles Practical sitebased environmental work	• Habitat management • Tree planting & woodland operations • Biodiversity surveying • Flood and water management	• Practical Conservation & Woodland Management • Biodiversity Monitoring • Sustainable Timber Production & Processing • Tree Safety & Arboriculture • Flood risk awareness, climate adaptation and resilience
Rolau Technegol a Dadansoddi Dadansoddi data, cydymffurfiaeth a chymorth gwyddonol	• GIS mapping • Environmental monitoring • Water, soil & habitat analysis • Environmental assessment	• GIS & Mapping • Environmental Health & Legislation • Soil & Water Quality • Environmental Impact Assessment
Rolau Rheoli a Pholisi Strategaeth, cynllunio a llywodraethiant	• Environmental planning • Climate & nature recovery strategy • Woodland management consultancy • Landuse policy • Project Management	• Climate Adaptation & Resilience • Environmental Impact Assessment • Environmental Health & Legislation • Project Management • Leadership & Management



Sustainable Agriculture

Agri-tech and regenerative farming are expanding across the region, supporting low-carbon food production and biodiversity.

- There is growing demand for skills in **soil health**, **carbon auditing**, and **sustainable land use** as farming adapts to climate-smart practices.



CATEGORY

EXAMPLES OF ROLES/ACTIVITIES KEY UPSKILLING AREAS

Farm-Based Roles

- Sustainable farming
- Managing biodiversity
- Day-to-day land use decisions
- Sustainable Farming Practices
- Biodiversity in Farming
- Soil & Water Management



Technical & Advisory Roles

- Advising on carbon reduction
- Supporting land use planning
- Environmental consultancy
- Carbon Auditing
- Land Use Strategy & Planning
- Environmental Literacy



Innovation & Research Roles

- Developing / implementing Agri-tech tools
- Researching carbon capture
- Improving soil health
- Agri-Tech Tools & Data
- Soil & Water Management
- Carbon Sequestration (removing CO2 from the atmosphere and storing it)



Circular Economy, Waste Management and Climate Resistance

Local authorities and social enterprises in North Wales are leading the way on reuse, repair, and recycling. They're encouraging people to **borrow everyday items instead of buying new**, helping households save money and cut carbon emissions. Community-led **Repair Cafés**, supported by councils and volunteers, teach repair skills and reduce waste across the region.

- Wales aims to become a **zero-waste nation by 2050**, driving demand for circular economy roles across the region.

Skills in **product design, logistics, and materials recovery** are increasingly in demand creating opportunities for people who want to make a real impact on sustainability.



KEY ROLES IN THE CIRCULAR ECONOMY

CATEGORY	EXAMPLE ROLES & ACTIVITIES	RELEVANT UPSKILLING AREA
Hands-On & Operational Roles	- Sorting and processing recyclable materials - Repairing and restoring goods for resale - Collecting and transporting waste for recycling	- Waste Management & Recycling - Repair & Maintenance Skills - Health & Safety in Waste Operations
Technical & Design Roles	- Designing products for durability and recyclability - Tracking material flows and reducing waste - Ensuring compliance with environmental standards	- Sustainable Product Design - Data Analysis & Material Flow Tracking - Environmental Legislation & Compliance
Management & Innovation Roles	- Leading circular economy projects - Developing sustainability strategies - Managing community-led reuse businesses	- Project Management - Circular Economy Strategy - Leadership & Social Enterprise Management

Green Careers in Local Authorities

Local authorities (Councils) in **North Wales** are leading the way on climate action and sustainability. They're putting local climate plans into action, creating green spaces, and supporting community projects to help reach net zero and protect the environment.

The public sector is also investing in **low-carbon transport, energy-saving projects, biodiversity, and recycling initiatives**, creating more green jobs – from hands-on roles to planning and policy work.

These roles offer job security, community impact, and career progression, with opportunities to upskill staff and recruit new talent to meet growing demand for green skills.



KEY GREEN ROLES IN LOCAL AUTHORITIES

CATEGORY	EXAMPLE ROLES & ACTIVITIES	RELEVANT UPSKILLING AREA
Planning & Infrastructure	• Urban planning for sustainable development • Transport planning for low-carbon mobility • Environmental planning and compliance • Civil engineering	• Sustainable Construction and Urban Design • Low-Carbon Transport Systems • Environmental Impact Assessment
Environmental & Climate Action	• Environmental monitoring and compliance • Developing sustainability strategies • Climate change adaptation and mitigation • Community engagement on climate action	• Climate Adaptation & Resilience • Environmental Health & Legislation • Carbon Accounting & Reporting • Community Engagement for Sustainability
Waste & Circular Economy	• Refuse collection and recycling operations • Waste reduction and resource recovery • Street cleansing and litter reduction • Circular economy program management	• Waste Management & Recycling • Circular Economy Principles • Environmental Compliance • Resource Efficiency
Procurement & Social Impact	• Buying goods and services in a way that helps the environment and supports local communities • Embedding sustainability and low-carbon requirements in contracts • Ensuring social value in contracts	• Sustainable Procurement Practices • Social Value (Supporting local people and businesses) • Understanding carbon monitoring and reporting

Useful resources:

Ready to take the next step? Green careers are growing fast, and the right skills will open doors to exciting opportunities across North Wales.

Use these resources to explore pathways, find training, and plan your future:

 **North Wales Skills Portal** - Discover apprenticeships, sector insights, training, events and local opportunities.

 **Careers Wales** - Get careers information, advice, and guidance tailored to your goals.

 **'Go Gwyrdd' RCS** - Practical support for 16-30-year-olds with disabilities, additional needs, or who might face extra barriers, helping them explore sustainable careers and develop skills needed for green jobs.

Not sure what's next and want to explore your options? Check out the **Young Person's Toolkit** from the North Wales Regional Skills Partnership (RSP). It's packed with practical advice to help you plan your future.

The RSP also offers other useful resources including guides on **degree apprenticeships in North Wales** and a **Digital Skills Toolkit** to help you stay ahead in a changing job market.

Your journey starts here, use these tools to discover opportunities and build the skills for a sustainable future.





FOR MORE INFORMATION
info@rspnorth.wales
helo@portal-gogledd.cymru

www.partneriaethsgiliaugogledd.cymru
www.portal-gogledd.cymru



**Partneriaeth Sgiliau Rhanbarthol
Gogledd Cymru
North Wales
Regional Skills Partnership**